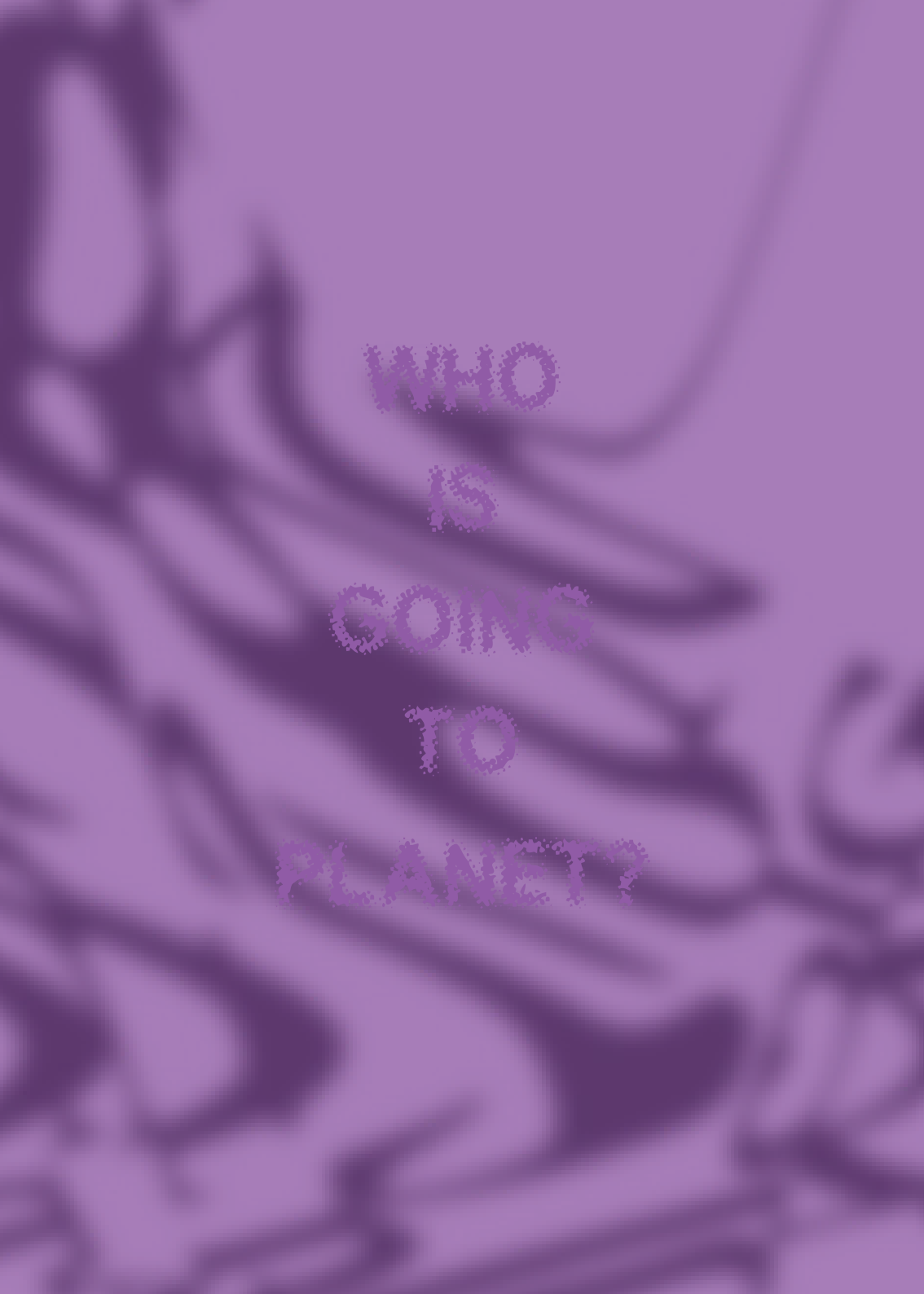
WHO
IS
GOING
TO
PLANET?

Who is going to planet ?

Towards a Critical Curation of Outer Space in the New Space Age

Vienna, June 2026
Under the supervision of Prof. Dr.in, Mag.a Nora Sternfeld and
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Abstract

/ Deutsch

Die Masterarbeit *„Who is going to plan it?“* beziehungsweise *„Who is going to planet?“* untersucht die Darstellung des Weltraums in Museen und in der zeitgenössischen Kunst mit einem Fokus auf die Konstruktion und Aushandlung von Zukunftsimaginationen. Sie analysiert dominante institutionelle Narrative sowie deren anthropozentrische, koloniale und ideologische Implikationen und zeigt zugleich, dass auch Gegennarrative in bestehende Macht- und Wissensstrukturen eingebettet bleiben.

Durch die Analyse kuratorischer und künstlerischer Strategien versteht die Arbeit Kuratieren als situierte epistemische Praxis, die von der Positioniertheit sowohl der Institutionen als auch der Kurator*innen geprägt ist. Ausstellungen werden dabei nicht als neutrale Repräsentationen verstanden, sondern als aktive Akteurinnen in der Gestaltung planetarer Imaginationen, Beziehungen und möglicher Zukünfte.

/ English

This master's thesis, titled *"Who is going to plan it?"* or *"Who is going to planet?"*, investigates how outer space is represented in museums and contemporary art, focusing on the construction and negotiation of future imaginaries. It critically examines dominant institutional narratives and their anthropocentric, colonial, and ideological implications, while showing that counter-narratives remain embedded within existing structures of power and knowledge.

Through the analysis of curatorial and artistic strategies, the thesis positions curating as a situated epistemic practice shaped by the positionality of institutions and curators alike. It argues that exhibitions do not merely represent outer space, but actively participate in shaping planetary imaginaries, relations, and possible futures.

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To the human and non-human agents alike, to the stars — from the smallest particles of star dust to the grand galaxies — I would like to thank all entities that have been accompanying me in the ideation and writing process of this thesis.

Introduction

0.1 Research Questions and Objectives of this Thesis

Let's begin with a small mistake.

Or perhaps with a suspicion disguised as a typo: Who is going to *plan it?* Who is going to *planet*?[1]

The title is a wordplay that opens a critical space of inquiry. But this slip is productive. The joke lingers, but its implications are far-reaching and possibly serious. It allows an exploration on how futures are drafted, authorized, and staged — and asks who is entitled to project themselves onto Earth and beyond. This play on words[1] gestures not only to the power relations embedded in the act of planning futures — intra- and interplanetary alike — but raises fundamental questions. It folds administration as project management and into planetary destiny. Suddenly, *planning* no longer concerns exhibition schedules, but the orchestration of worlds. To plan is to allocate resources, define timelines, designate experts and delegate tasks. To *planet* is to claim futures. The proximity of the two verbs *plan it* and *planet* exposes the quiet authority and ideologies embedded in both. This borrowed joke, when merely used as such, reveals something: planets today are being treated as projects. Projects however are not neutral, they *want* something and reveal more about the barrier of them than about the participants. Just as this thesis unfolds, it reveals something about the person writing it.

In an era marked by intensified efforts to explore, colonize and commercialize outer space — driven by both private corporations such as *SpaceX*, *Blue Origin* or *Virgin Galactic* and various national space programs — this research explores how these endeavours are represented, mediated, and contested within institutional museum contexts, contemporary artistic practices. It investigates what this correspondence could generate for new curatorial perspectives in exhibition making.

1 A defined origin of this play on words could not be identified. It can however be found in various *subreddits* and appears to be a combination of popular internet memes, puns, and comedic skits regarding planets.

The central research question lies therefore in ways in which outer space is being represented in institutional museum contexts and contemporary artistic practices. The thesis is guided by this central inquiry, further broken down into three sub-questions.

> Who is, or feels, entitled to represent space?
> Which narratives and aesthetics shape our public understandings of outer space?
> What kind of ideologies are inherent to these narratives and understandings?

The final objective of this thesis is to examine how curatorial and artistic strategies either reproduce or contest hegemonic discourses surrounding outer space. Transgressing the assumption that artistic practices automatically generate counter-narratives, this study analyzes how such alternatives are constructed: through shifts in vocabulary, narrative framing, aesthetic strategies, spatial dramaturgies, and various modes of knowledge production. Counter-narratives may emerge, for example, by displacing nationalist heroism with ecological interdependence, by replacing techno-solutionist futurity with speculative relationality, or by foregrounding marginalized cosmologies over universalist space imaginaries.[2] The term *imaginaries* is used here to describe collectively produced frameworks of meaning through which futures are rendered thinkable, visible, and negotiable. It is used not only referring to individual acts of imagination but also to denote socially and culturally embedded constellations of images, narratives, and expectations that shape what is perceived as possible, desirable, or inevitable. In the context of this thesis, *space imaginaries* encompass the ways in which outer space is constructed across institutional, artistic, and curatorial discourses. These imaginaries are understood as inherently ideological: they not only reflect but actively participate in the production of knowledge, power relations, and projections of planetary futures. This usage draws on theoretical approaches to the social imaginary, notably developed by Cornelius Castoriadis and Arjun Appadurai, while extending their implications to the field

2 See: Castoriadis, Cornelius. *The Imaginary Institution of Society*. Translated by Kathleen Blamey. Cambridge, MA: MIT Press, 1987. (Original work published 1975.) and Appadurai, Arjun. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press, 1996.

of exhibition-making and curatorial practice.

The working hypothesis is that certain contemporary artistic practices destabilize the dominant institutional framing of outer space as a domain of progress, extraction, and geopolitical competition. They do so not only thematically, but methodologically: through research-based practices, sensory translation, speculative fabulation[3], and alternative exhibition formats.[4] These strategies may function as modes of *cosmic negotiation*[5], reconfiguring how outer space is narrated and who is authorized to imagine.

At the same time, the thesis critically interrogates the ideological assumptions embedded within these artistic positions themselves. Counter-narratives are themselves ideologically tainted in ideology; they are differently structured ideological formations. Therefore, a further objective is to examine the curatorial position — "Who curates?"[6] — as a site where representation, authority, and worldview intersect, and to reflect on how the researcher's own positionality shapes the construction of the proposed models.

The research is based on a series of concepts and theories under which *imaginaries* and *ideologies* are the two central terms. Ideology is understood as a set of meanings, assumptions, and power relations that become stabilized through cultural practices of representation.[7] Following

3 By *fabulation*, this thesis refers to Gilles Deleuze's interpretation of the term. Deleuze focused on the productive dimension of fabulation as this method can constitute an opposing force to dominant and world-shaping discourses. Furthermore, *fabulation* can not only reveal the *Lücke* (gap) — e. g. what is missing — but simultaneously detach itself from the *actuel vécu* (actual lived experience). Since *fabulation* acts as a perturbator of relations between reality and fiction, it encourages viewers to engage in a new way of relating to the world.

4 In recent decades, the critical examination of dominant narratives through plural, situated, and marginalized perspectives has become increasingly central within the humanities, art theory, and curatorial studies. Against this backdrop, the continued predominance of universalizing and technocratic representations of outer space appears increasingly insufficient, making the application of such critical perspectives to space representation an urgent necessity.

5 The term *cosmic negotiation* is a reference to the strategic board game *Cosmic Encounter* (first published in 1977) that established itself among the game community as an emblematic game about diplomacy, alliances and treason among extraterrestrial species. It is also used in the science-fiction community to fantasize about inter-spatial, intra- and extra-terrestrial relations.

6 Curating is here understood in the expanded exhibition field as the praxis of taking care or the role of the *custode*; referring to the ensemble of practices and ways of putting theories and concepts into being.

7 Hall, Stuart. "The Work of Representation," in *Representation: Cultural Representations and Signifying Practices*, ed. Stuart Hall (London: Sage, 1997), p. 13–74.

Louis Althusser, ideology operates through institutions that function as "Ideological State Apparatuses," shaping subjects not only through content but through forms, rituals, and modes of addressing.[8] Museums, in this sense, do not merely transmit knowledge but rather participate in the production of ideological consent. Building on the sociologist Stuart Hall's theory of representation, ideology is therefore understood as embedded in the processes through which meaning is constructed, circulated, and stabilized — through language, images, classification systems, and narrative structures.[9] From a museological perspective, Tony Bennett's concept of the exhibitionary complex highlights how display regimes, spatial organization, and temporal sequencing operate as technologies of governance, rendering certain worldviews visible, intelligible, and authoritative.[10] Ideology is therefore approached as something that materializes in exhibition design, curatorial framing, and temporal narratives of progress, rather than as an overt political message.

Furthermore, this thesis draws on Antonio Gramsci's concept of hegemony to understand the relationship between ideology and counter-narrative.[11] For Gramsci, ideology is not simply imposed from above but maintained through consent and cultural leadership. Hegemony prevails precisely because dominant worldviews become common sense. Counter-narratives, in this framework, do not exist outside ideology; rather, they intervene within hegemonic formations by contesting what appears natural, inevitable, or universal. They function as sites of struggle regarding meaning.

Within Cultural Studies, particularly in the work of Stuart Hall, representation is understood as a terrain of negotiation.[12] According to this perspective, meaning is never fixed but constantly articulated and re-articulated.

8 See: Althusser, Louis. "Ideology and Ideological State Apparatuses," in *Lenin and Philosophy and Other Essays*, trans. Ben Brewster (New York: Monthly Review Press, 1971), p. 127–186.

9 Hall, Stuart. "The Work of Representation," in *Representation: Cultural Representations and Signifying Practices*, ed. Stuart Hall (London: Sage, 1997), p. 13–74.

10 Bennett, Tony. *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995).

11 Gramsci, Antonio. *Selections from the Prison Notebooks*, ed. and trans. Quintin Hoare and Geoffrey Nowell Smith (New York: International Publishers, 1971).

12 Hall, Stuart. "Signification, Representation, Ideology: Althusser and the Post-Structuralist Debates," *Critical Studies in Mass Communication 2*, no. 2 (1985), p. 91–114.

A counter-narrative, therefore, is not merely an alternative story, but a reconfiguration of representational codes: it shifts emphasis, reframes temporality, redistributes visibility, and destabilizes taken-for-granted assumptions. By doing so, it interrupts the naturalization of power.

Applied to the museum context, this implies that critiques aren't extrinsic to the institutions but operate inherently through its structures. Institutional critique and critical curatorial practices demonstrate that exhibition-making itself can become a site where hegemonic narratives are exposed, displaced, or re-coded. However, such interventions remain entangled within the institutional frameworks they seek to challenge.[13] The question is therefore not whether institutions can free themselves from ideology, but how it can be rearticulated.

In methodological terms, a counter-narrative within this thesis is defined as a representational strategy that makes visible the ideological underpinnings of dominant space imaginaries—whether nationalist, techno-progressivist, colonial, or extractivist. It further proposes alternative framings of futurity, relationality, and planetary belonging. These counter-narratives may operate through discursive shifts[14], aesthetic strategies[15], temporal reorientation[16], or epistemic repositioning[17].

Counter-narratives are assumed to be emancipatory. Critically, they are conceived as inherently alternative ideological formations whose political implications must themselves be examined.

13 As Niklas Luhmann noted in *Protest* (1996), each protest movement that claims to be outside the system is actually part of the larger system itself. Protest against something is never positioned or operating outside of the system it opposes. See: Luhmann, Niklas. *Protest: Systemtheorie und soziale Bewegungen*. Frankfurt am Main: Suhrkamp, 1996.

14 Such as language and metaphors.

15 Such as sensory displacement, scale, and affect.

16 Such as non-linear futures and deep time.

17 Such as decolonial, multispecies, or situated perspectives.

0.2 Structure and design of the Thesis

The thesis is divided into five chapters following the introduction briefly outlined here. The introduction outlines the research context, questions, methodology, brief theoretical framework, as well as the materialization and positioning in the field: cosmos versus outer space.

The first chapter outlines the historical construction of space flight narratives in public museums, tracing how they reflect nationalist and progress-oriented ideologies. This chapter traces the developments of how space has been visually and discursively represented; from the Cold War to present-day private space ventures. It investigates how early space imagery shaped public imagination and institutional exhibitions. Thus, it elaborates on the role of public museums in constructing hegemonic narratives about space, often reinforcing national pride and narratives of technological dominance.

Situating the debate outlined in the first chapter, the second chapter within the institution of the museum. Through two case studies of national space museums in France it illustrates the boundaries of institutional narrative in outer space representation and ideologies.

Opening the field to artistic perspectives, the third chapter presents projects that cover these narratives, offering alternative ways of imagining outer space. It presents artists and curators who challenge dominant narratives of space through speculative, decolonial, and critical approaches.

Moving from analysis to proposition, the fourth chapter examines speculative and experimental curatorial strategies that reconceptualize the museum as a space of planetary reflection.

Following this, the final and fifth chapter illustrates the potential of curatorial practice to reshape public imaginaries of outer space and postulates potentials for future curatorial and artistic engagement.

The final printed master thesis was realized in collaboration with Aure Baucher and Raphaël Lods. It aims to be a hybrid publication combining the academic guidelines given by the University of Applied Arts of Vienna adhered to by graphic design exploration and material experimentation. The printed master thesis was conceived as a continuation of the writer's reflections opened in the two last chapters regarding the possible materiality of curating with the *Other*. Vessel, it aims to offer a sensory reading experience through editorial design.

To make a monument of predominant outer space ideologies in the editorial realm would have gone against what this thesis aims to demonstrate. The final resulting form tries to propose one of the contra-canon editorial possibilities; it follows the personal reflections of the author and her position within larger contemporary positions she holds.

The result is a French-bound hardcover volume containing the main text of the thesis with images and footnotes appearing as a network of constellations within it, as well as an appendix containing the transcripts of interviews, relevant notes, and materials referenced throughout the thesis. In summary, the project developed in close exchange with Aure Baucher and Raphaël Lods aims to combine text and image, theory and artifact, representing the produced research in physical form. The aim is to enable readers to explore the ideological, cultural, and speculative dimensions of the researcher's own outer space and future imaginaries.

0.3 Methodology and Theoretical Framework of the Research

The research is based on a critical engagement with current exhibitions, institutions, and artistic projects that relate to outer space as a cultural and political domain. By investigating avant-garde museology[18] and experimental curatorial formats, this study aims to illustrate how the relationship between humanity, Earth, and outer space is being reshaped in museum practices. Rather than treating exhibitions and artworks as neutral mediators of scientific knowledge, the research understands them as sites of ideological production, where narratives of progress, conquest, futurity, and planetary destiny are articulated, reinforced, or contested. The methodological approach is therefore designed to follow ideology across different representational realms — national institutions, curatorial frameworks, and artistic imaginaries — while also opening space for speculative and alternative modes of worldmaking.

To address this complexity, the thesis adopts a mixed-methods. The methods are not employed in a hierarchical but complementary way; together, they enable a critical reading of existing representations as well as to propose alternative curatorial imaginaries.

Methodologically, the thesis operates through three distinct but interrelated modes of inquiry: (A) analytical exhibition analysis, (B) discursive-empirical investigation through discourse analysis and interviews, and (C) speculative curatorial fabulation. Each method addresses a different layer of representation: institutional framing, discursive production, and imaginative intervention.

A. Methodological Approach

The methodological framework of this thesis is structured around three complementary modes of inquiry, as summarized in the Method Table (see Appendix, Table 1).

18 Zhilyaev, Arseny. *Tracing Avant-Garde Museology*. e flux classics, 2015.

Across its three methodological axes — analytical, discursive, and speculative — this thesis approaches both institutional exhibitions and contemporary artistic practices as ideological formations. Rather than treating museums and artworks as neutral representations of outer space, it examines how they actively produce and stabilize specific imaginaries of futurity, progress, and planetary belonging.

Methodology is not understood here as a pre-given framework but as a process that emerges in response to the research question itself: how outer space is represented, by whom, and to what ideological ends. Close reading, discourse analysis, and speculative fabulation are positioned as complementary tools, allowing the research process to move between critical description and imaginative intervention.

By situating exhibition-making and artistic practice within the tension between science, fiction, and speculation, the thesis treats curation as a form of negotiation: one that both reflects and reshapes narratives of outer space. In doing so, it understands methodology as a curatorial practice capable of opening alternative planetary futures, not only as a means of analysis.

B. Analytical Methods: Theories and (critical) Exhibition Analysis

The first methodological axis consists of a critical exhibition analysis, drawing on approaches developed by Luise Reitstätter[19] and Mieke Bal[20], as well as on approaches stemming from visual culture studies and the concept of the *exhibitionary complex*.[21] The latter method is applied to institutional museums of outer space, where representation is closely tied to national, technological, and ideological narratives.

19 Reitstätter, Luise and Schorr, Carla-Marinka (Hg.). *Methoden der Ausstellungsanalyse. „Narrative – Strukturen – Widersprüche. Ausstellungen einer kritischen Lektüre unterziehen”*, 2025, p. 220–227.

20 Bal, Mieke. “Sagen, Zeigen, Prahlen”. In: Thomas Fechner-Smarsly, Sonja Neef (Hg.). *Kulturanalyse* (Frankfurt am Main, 2002), p. 72-116.

21 Bennett, Tony. “The Exhibitionary Complex”. *New Formations*, n° 4 (Spring 1988), p. 73–102.

Drawing on theoretical perspectives from the visual arts exhibitionary complex (VAEC)[22], science and technology studies (STS), decolonial thought, and speculative aesthetics, the research examines how museums and artists not only represent but actively shape imaginaries of outer space.

The reasons that museums have been chosen is that they are understood as producers of public knowledge, legitimizing infrastructures and interfaces between science, state, and public imagination[23], foregrounding specific ideologies. Thus, ideology appears not only in curatorial language but also in spatial dramaturgy, the selection or exclusion of artifacts, the metaphors employed — such as frontier, conquest or destiny — and the temporal framing — such as that of progress, future or inevitability).

The analysis of the case studies focuses on curatorial framing, spatial organization, display strategies, textual mediation, and visual regimes. Particular attention is paid to how exhibitions construct authority, who is allowed to speak, what is rendered visible or invisible, and which temporalities and futures are implied. Exhibition analysis is thus not limited to form or content but includes the implicit ideologies embedded in museographic choices.[24]

For instance, attention is paid to how timelines stabilize linear progress, how interactive displays frame participation as inevitability, or how labels suppress geopolitical conflict.

This analytical method is applied to two institutional case studies: *La Cité de l'espace* in Toulouse and the *Musée de l'Air et de l'Espace* in Le Bourget. These museums are examined as sites where national narratives of space flight intersect with scientific authority, technological display, and geopolitical imaginaries.[25] The choice to focus on French institutions is deliberate and methodologically grounded: unlike the United States of

22 Smith, Terry. *Curating the Complex & The Open Strike*. Thoughts on Curating, volume 1. Sternberg Press, 2021.

23 See: Bennett, Tony. "The Exhibitionary Complex". *New Formations*, no. 4 (Spring 1988), p. 73–102.

24 Bal, Mieke. Double Exposures: *The Subject of Cultural Analysis*. New York: Routledge, 1996.

25 Damjanov, Katarina. *Of Defrosted Cosmonauts and Other Spectacles: Museums of Space Exploration. Science as Culture* 21, no. 2 (2012): 239–268, https://dx.doi.org/10.15180/160508 (consulted 03.01.2026).

America or the former Soviet Union, where extensive collections of iconic space artefacts enable museums to rely heavily on object-based spectacle,[26] most European countries possess comparatively limited material remains of space flight. As a result, exhibition-making in Europe depends more strongly on narrative construction, scenography, and mediation, rendering representation itself a key ideological and curatorial tool.[27]

However within the European context, arguably France occupies a singular position as it has historically been the driving force behind Europe's autonomous access to space, notably through the development of the *Ariane* launch program and its central role in the *European Space Agency* (ESA).[28] France's investment in space infrastructure — ranging from launch capabilities in Kourou to major research and the funding of aerospace industry — has translated into a distinctive national space imaginary that oscillates between European cooperation and national technological sovereignty.[29] This specificity is reflected museologically in the early institutionalization of space within French museums. In 1983, France inaugurated *Hall F* at the *Musée de l'Air et de l'Espace* at Le Bourget Airport in Paris, one of the first museum spaces in Europe dedicated exclusively to space objects and technologies.[30]

Last but not least, as in recent years curatorial and museological practices have increasingly engaged with speculative, decolonial, ecological, and more-than-human approaches, reflecting a broader institutional shift toward pluralizing narratives and questioning inherited Eurocentric and technocratic frameworks. This transformation however appears unevenly distributed across different thematic fields. While such approaches have become relatively common in contemporary

26 Gorman, Alice. *Dr Space Junk vs the Universe: Archaeology and the Future*. Sydney: NewSouth Publishing, 2019.

27 Bennett, Tony. *The Birth of the Museum: History, Theory, Politics*. London: Routledge, 1995.

28 European Space Agency. *Europe's Access to Space: Ariane and Beyond*. Paris: ESA Publications, 2019, https://www.esa.int/About_Us/50_years_of_ESA/History_of_Europe_in_space (consulted 03.01.2026).

29 Krige, John. *American Hegemony and the Postwar Reconstruction of Science in Europe*. Cambridge, MA: MIT Press, 2006.

30 Musée de l'Air et de l'Espace. *Le Hall de l'Espace (Hall F): Histoire et Collections*. Paris: MAE Publications, 2024, https://www.museeairespace.fr/wp-content/uploads/sites/2/2024/07/DPMuseeAirEspace2024-BD.pdf (consulted 03.01.2026).

art contexts and in museum discourse more broadly, their integration within exhibitions dealing with outer space remains strikingly limited. This raises a central question that underlies this research: why do space-related institutions continue to rely so strongly on linear, progress-oriented and national-heroic narratives, even at a moment when curatorial practice elsewhere has begun to critically dismantle precisely these frameworks?

Framing space as a particular blind spot within otherwise evolving museological paradigms allows this study to situate its intervention within a broader institutional landscape, while also highlighting the specificity and urgency of rethinking how outer space is curated today.

C. Discursive–Empirical Method: Discourse Analysis and Artistic Interviews

The second methodological axis combines discourse analysis with two qualitative interviews, particularly in relation to contemporary artistic practices. Here, the research shifts from institutional authority to artistic subjectivity, while still treating artworks and exhibitions as discursive formations.[31]

The analysis concentrates on three contemporary artistic practices that occupy distinct positions within France's contemporary art ecosystem and engage with space-related imaginaries through different creative and methodological lenses. These artists have been selected because they operate at the intersection of artistic research, institutional visibility, and critical engagement with scientific and technological discourse. All three maintain sustained relationships with major cultural institutions, research platforms, or international exhibition circuits. This permits their work to circulate within — and reflect upon — the same representational frameworks as in the institutional case studies.[32] The artists were interviewed about their own practices, with a specific focus on how they articulate and mobilize counter-narratives in relation to dominant scientific,

31 Bal, Mieke. *Double Exposures: The Subject of Cultural Analysis*. New York: Routledge, 1996.

32 This approach can be further found in: Borgdorff, Henk. *The Conflict of the Faculties: Perspectives on Artistic Research*. Leiden: Leiden University Press, 2012.

technological, and institutional discourses.

The case studies selected for this thesis — ranging from speculative research practice to documentary, technological, and a sensory approach — were chosen to enable a comparative examination of how outer space is reimagined in contrast to institutional and state-driven narratives. These practices are analyzed as sites in which specific ideological positions are articulated, reproduced, or contested. The selection presents a plurality of artistic narratives through which outer space is negotiated as a cultural, ecological, and speculative domain, thereby revealing the assumptions, power structures, and worldviews that underpin these approaches.[33] The goal of including perspectives that challenge anthropocentrism, techno-solutionism, and Eurocentric futurity allows the author to explore the possibility for a curation of outer space in novel ways.

The interviews have been conducted in person and recorded for approximately 40 minutes each. They have been transcribed using the help of contemporary transcription tools based on artificial intelligence and edited manually. One scheduled interview could not take place due to the recent accelerating pace of the institutional career of the artists SMITH (b. 1985 in Paris, they/them). An analysis was alternatively conducted based on their doctoral thesis, a selection of their artworks and one of their exhibitions the author visited in 2024.

Methodologically, these artistic practices are examined through a combination of visual analysis, contextual reading, and semi-structured interviews. The interviews serve to foreground the artists' own vocabularies, conceptual frameworks, and positionalities. They also allow the research to trace how these artistic visions of outer space are constructed, negotiated, and circulated within institutional contexts. Together, these case studies function as analytical material for rethinking curatorial approaches to the representation of outer space, as well as speculative resources to construct different paths.[34]

Discourse analysis is employed to identify recurring concepts, metaphors, and ideological positions such as in exhibition texts, institutional narratives, and

33 Bishop, Claire. *Artificial Hells: Participatory Art and the Politics of Spectatorship*. London: Verso, 2012.

34 Zhilyaev, Arseny, ed. *Avant-Garde Museology*. New York: e flux classics, 2015.

artists' vocabularies. This method allows the author to trace how ideas such as exploration, extraction, colonization, care, multispecies futures, or planetary coexistence circulate across different contexts.[35] The aim is to situate artistic practices within broader discursive and ideological fields.[36] Understood as situated articulations of broader ideological formations within contemporary art and science, interviews aren't understood as subjective statements. While studying contemporary artistic practices, the interviews were employed as a social-science-informed qualitative method, conducted in a semi-structured way in order to analyze which ideology registers emerged. These interviews provide insight into the artists' conceptual frameworks, motivations, and critical positions, and are analyzed in conjunction with visual analysis of the works.

The first case study analyzes the practice of artist-researcher Guillaume Pascale (b. 1979 in Aix-en-Provence) whose work explores notions of interplanetary being through generative musicology and computational systems. Pascale's approach transgresses visual representation, engaging outer space as a sonic, relational, and temporal field. By translating astrophysical data and speculative cosmologies into sound-based compositions, his practice interrogates the epistemic dominance of visuality in space imaginaries and proposes alternative sensory modes of access to the cosmos.[37]

The second artist is Vincent Fournier (b. 1970 in Ouagadougou) whose photographic practice offers a critically interesting engagement with space-related infrastructures in a medium that holds a canonical position when it comes to space-related representations. Fournier's large-format photographs document space stations, training facilities, and research laboratories through a carefully aestheticized and superficially (presented as) neutral documentary visual language. His work operates in close proximity to institutional and scientific environments, revealing how photographic

35 Laclau, Ernesto and Chantal Mouffe. *Hegemony and Socialist Strategy*. London: Verso, 1985.

36 Bourdieu, Pierre. *The Field of Cultural Production*. New York: Columbia University Press, 1993.

37 Sterne, Jonathan. *The Audible Past*. Durham, NC: Duke University Press, 2003.

38 Sekula, Allan. "The Body and the Archive". *October* 39 (1986): 3–64, https://monoskop.org/images/6/65/Sekula_1986_The_Body_and_the_Archive.pdf (consulted 03.01.2026).

representation contributes to the normalization and mythologization of technological progress.[38] Fournier's practice serves as a productive entity of tension within the corpus of institutional representations, as it mirrors various visual strategies employed by museums while subtly aestheticizing the ideological conditions of space research.[39]

The third case study centers on the collaborative project *Desiderare Nunca* by SMITH, presented as part of the *Rencontres Internationales de la Photographie d'Arles* in 2021 at Monoprix. SMITH's work introduces a decisive shift in both positionality and methodology as it draws on queer, trans, and *post-anthropocentric turn*[40] frameworks.[41] *Desiderare Nunca* engages desire, mutation, and speculative embodiment as potential tools for rethinking cosmic belonging.[42] In contrast to the other artists positions, which remain comparatively closely tied to scientific discourse, SMITH's approach centers fiction, affect, and corporeality as tools for dismantling normative projections of humanity into outer space.

While this selection inevitably reflects structural limitations — most notably the overwhelming prevalence of male positions within space-related artistic discourse — this lack of diversity is not negated but instead critically considered within the thesis.[43] The choice of voices examined, with the inclusion of SMITH as a trans man, still underscores the persistence of exclusionary frameworks which also expands into

39 Tagg, John. *The Burden of Representation*. Minneapolis: University of Minnesota Press, 1988.

40 The *post-anthropocentric turn* refers to a shift in contemporary theory and cultural practice that questions and displaces the human as the central reference point of knowledge, ethics, and representation. Emerging across posthumanism, new materialism, and environmental humanities, it reorients attention toward the entanglement of human and non-human agencies. It decenters anthropocentric models of meaning-making. In this framework, *post-anthropocentric* does not imply the disappearance of the human, but rather its repositioning within broader relational assemblages, where agency is distributed across multiple forms of life and matter. The relevance of this turn lies in its capacity to reconfigure fields such as aesthetics, curating, and spatial theory by challenging human exceptionalism and opening up alternative modes of world-making beyond the human-centered paradigm. See: Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press), 2016.

41 Halberstam, Jack. *The Queer Art of Failure*. Durham, NC: Duke University Press, 2011.

42 Preciado, Paul B. *Testo Junkie*. New York: Feminist Press, 2013.

43 Mirzoeff, Nicholas. *The Right to Look*. Durham, NC: Duke University Press, 2011.

the artistic institutional realm and imaginaries.[44] The scientific imaginaries mobilised in the analysed practices are approached as historically embedded within masculinised regimes of epistemic legitimacy, while the analysis itself adopts a situated and partial perspective that acknowledges its own conditions of enunciation. This noted gap reinforces the need for a pluralist vision on outer space representation. Multiperspectives could emerge from speculative, decolonial, and queer methodologies addressed predominantly in the later chapters.[45]

D. Curatorial Fabulation and Imaginative Practice as Speculative Method

The third methodological nexus is speculative and explicitly acknowledges the situatedness of the author's position as a curator. Drawing on speculative museology, speculative aesthetics, and critical fabulation, after Hartman and Haraway, this speculative method treats imagination as a critical epistemic tool,though it is sometimes under suspicion to be employed as an escape from analysis.[46] Speculation is mobilized as a critical response to the limits of analytical description when confronting hegemonic futures, not as fiction detached from reality.[47] Theoretical foundations include postcolonial theory,[48] speculative museology[49] and critical fabulation.[50]

The term *speculative fabulation* is used to reveal

44 It has been established that the public addressed by space-related-communication and spectacles was majoritively that of white-cis-males. This (at least partly) explains why they equally prevail in the field of artistic practices related to outer space, and why they nowadays still commonly address the "scientific gaze" on outer space.

45 Mbembe, Achille. *Critique of Black Reason*. Durham, NC: Duke University Press, 2017.

46 Deleuze, Gilles. *Cinema 2: The Time-Image*. Minneapolis: University of Minnesota Press, 1989.

47 Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016.

48 Bennett, Tony. *Pasts Beyond Memory: Evolution, Museums, Colonialism*. Routledge, 2004.

49 Phillipson, Tacye. "Alien collecting: speculative museology," in: *Scotland in Space, Creative Visions and Critical Reflections on Scotlandlands Space Futures*. New Curiosity Shop, 2019, https://www.shorelineofinfinity.com/product/scotland-in-space/, National Museums Scotland (consulted on 10.10.2025).

50 Hartman, Saidiya. "Venus in Two Acts". *Small Axe: A Caribbean Journal of Criticism*, vol. 12, no 2, June 2008, p. 1-14. DOI.org, https://doi.org/10.1215/-12-2-1 (consulted on 05.10.2025).

what is missing, silenced, or foreclosed in dominant representations of outer space — and to imagine alternative modes of exhibiting, narrating, and relating to outer space. *Critical fabulation* in this thesis refers both to Saidiya Hartman's method of engaging photographic archives and to Donna Haraway's concept of *speculative fabulation*.

Hartman's method emerges from her work with archives of the Atlantic slave trade — a historically specific context of extreme violence and epistemic erasure — where critical fabulation seeks to reconstruct silenced lives by combining archival research with narrative imagination, thereby challenging the limits of dominant historiography.

Haraway's method consists in thinking about the critical and creative potential of narratives as a practice of *thinking-with* and *worlding-with*: fabulation is understood as a situated, relational practice that resists extractive, colonial, and anthropocentric modes of knowledge production. In this sense, *speculative fabulation* can be mobilized as an alternative epistemological approach to outer space — one that does not seek to master, appropriate, or rationalize it, but instead engages with it through relationality, plurality, and forms of situated co-existence, opening toward less violent and more-than-human imaginaries of planetary futures.

Post-colonial theory is understood here not only as an urgent necessity to question historical discourses, violent oppressive pasts and remaining oppressive structures but also as a method to reshape and fracture past and present discourses based on a critical perspective.[51] Key frameworks informing this postcolonial perspective include analyses of the geopolitics of space flight, in which are examined how outer space has historically functioned as an extension of terrestrial power relations, nationalism, and colonial imaginaries based on theories by Katarina Damjanov[52], David Valentine[53] and

51 Bhabha, Homi K. *The Location of Culture*. London: Routledge, 1994.

52 Damjanov, Katarina. "Of Defiant Satellites and Other Space Oddities". *Science as Culture* 26, no. 1, 2017, p. 1–24.

53 Valentine, David. *Imagining the Future of Climate Engineering*. Cambridge, MA: MIT Press, 2019.

Alice Gorman[54].

Post-colonial curating is never about undoing the horrors of the past; rather it is about othering and hybridity of discursive methods and practices alike. This has been coined as *curating tangentially*,[55] which relates to critiques of anthropocentrism and extractivism. These critiques can be used to reveal how space futures often replicate exploitative models of resource use and human exceptionalism under the guise of technological progress. The theories underlying these concepts have been developed by María Puig de la Bellacasa[56], Donna Haraway, Frédéric Neyrat and Anton Vidokle[59] among others.

Under the term *speculative museology* this thesis refers to experimental curatorial strategies that envision museums as spaces for critical fiction, future-making, and alternative world-building. Such approaches utilize exhibition-making as an active process of imagining other possible futures, capable of intervening in dominant temporalities and epistemologies. Theories underlying this approach have been developed by Claire Bishop[60], Boris Groys[61], Greg Hainge[62] and Arseny Zhilyaev[63].

The speculative method is particularly employed in the last two chapters, where curatorial projects, speculative exhibitions, and non-hegemonic perspectives — such as Afrofuturism and other non-white, non-cis-male futurities — are analyzed and activated.[64] *Speculative fabulation* is primarily used in chapters four and five,

54 Gorman, Alice. *Dr Space Junk vs the Universe: Archaeology and the Future*. Sydney: NewSouth Publishing, 2019.

55 Bonaventure, Soh and Bejeng, Ndikung. *Pidginization as Curatorial Method: Messing with Languages and Praxes of Curating*. Thoughts on Curating, volume 3. Sternberg Press, 2023.

56 Puig de la Bellacasa, María. *Matters of Care*. Minneapolis: University of Minnesota Press, 2017.

57 Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016.

58 Neyrat, Frédéric. *The Unconstructable Earth*. New York: Fordham University Press, 2018.

59 Vidokle, Anton. *Cosmic Resistance*. Berlin: Sternberg Press, 2019.

60 Bishop, Claire. *Radical Museology*. London: Koenig Books, 2013.

61 Groys, Boris. *Art Power*. Cambridge, MA: MIT Press, 2008.

62 Hainge, Greg. *Noise Matters: Towards an Ontology of Noise*. New York: Bloomsbury, 2013.

63 Zhilyaev, Arseny, ed. *Avant-Garde Museology*. New York: e flux classics, 2015.

64 Eshun, Kodwo. *More Brilliant than the Sun*. London: Quartet Books, 1998.

in which analytical findings thus far are transformed into curatorial propositions. The thesis is positioned as a curatorial perspective into how outer space could be represented, narrated, and inhabited otherwise.[65]

65 Nelson, Alondra. “Afrofuturism: Past-Future Visions”. *Social Text* 20, no. 2, 2002, p. 1–15.

0.4 Terminological Clarification – On the difference Between Outer Space and Cosmos

> Cosmos is enclosed, all-encompassing, while space is endless and open. The cosmonaut travels in a harmonious and humanized sphere, while the astronaut travels to the distant stars.[66]

During the process of developing a more precise thematic framework for this thesis, a clear choice between *the cosmos* and *outer space* became necessary. The topic focuses on outer space rather than the cosmos, as primary concerns tended towards the comparison between practices employed by science-spatial museums that explored the vast universe and not merely on the metaphysical and philosophical implications of *the cosmic*. While often used interchangeably, the terms *cosmos* and *outer space* evoke distinct epistemological and cultural registers.

The author's sustained fascination with the cosmos can be traced back to an encounter with Russian Cosmism during the 2017 exhibition at the *Haus der Kulturen der Welt* (HKW) in Berlin, titled *Art without death: Russian Cosmism*[67]. As the cosmos is not the research subject, an exploration of it lies beyond the focus of this thesis.

The term cosmos designates a philosophical and relational understanding of the universe as an ordered totality in which human existence participates. As Oxana Timofeeva puts it, "The context of human existence is the cosmos,"[68] as cosmos implies harmony,

66 Turkina, Olesya and Mazin, Victor. *In Between Space and Cosmos | Olesya Turkina and Victor Mazin*. https://cabinetmagazine.org/issues/14/turkina_mazin.php (consulted 05.10.2025).

67 Haus der Kulturen der Welt. "Art Without Death: Russian Cosmism". *HKW*, January 28, 2022, https://www.hkw.de/en/programm/projekte/2017/art_without_death_russian_cosmism/ausstellung_3/artwithoutdeathausstellung_1.php (consulted 05.10.2025).

68 Timofeeva, Oxana. *Another End of the World Is Possible*, e flux Notes, https://www.e-flux.com/notes/589795/another-end-of-the-world-is-possible (consulted 06.10.2025).

meaning, and interconnection rather than distance or otherness. Historically, it has stemmed from the domain of metaphysics, theology, and cosmology rather than human made space flight and science. In accordance, it can be defined as a finite yet wide metaphysical realm that inspired, among other developments, the movement of the Russian cosmists and their conception of the museal institution.[69]

In contrast, *outer space* is understood as the physical realm beyond Earth's atmosphere, as framed by both scientific and popular discourses based in the physical. *Outer space* refers primarily to the scientific and technological conception — an object of exploration, measurement, and conquest. It is embedded in the modern history of astronomy, astronautics, and geopolitical competition, particularly since the mid-twentieth century.

Yet, its potentiality as a symbolic and political site of imagination, projection, and contestation, is not

69 Russian Cosmism and early Soviet conceptions of the cosmos share a utopian impulse toward transcendence but diverge sharply in their philosophical premises and their understandings of the museum's role in this process of transcendance. Both currents — Cosmist thought as articulated by Nikolai Fedorov, and Marxist Cosmism as elaborated by Alexander Bogdanov and the *Proletkult* — conceived outer space not as a distant frontier, but as the following site for the realization of human potential. Yet, while the Cosmists sought a spiritual and metaphysical reconciliation of humanity and the cosmos, the *Proletkult* imagined space as the extension of social revolution into the cosmic domain. For the Cosmists, the museum held a central, quasi-religious position — it was to be the institution through which the memory of every human being was preserved and resurrected. Fedorov's understanding of a museum was not a repository of the past but a laboratory of cosmic regeneration, a synthesis of archive, church, and scientific institute. It was to "register every new life and every new death" (Zhilyaev, Arseny. "Avant-Garde Museology." Avant-Garde Museology, 2015.), collecting and reconstructing the traces of humanity in order to achieve universal resurrection. The Cosmist Museum thus transcended its bourgeois function of memorialization to become an instrument of cosmic justice, a mechanism for overcoming both death and entropy. In contrast to this, Bogdanov's Marxist Cosmism secularized and collectivized these aspirations. In *Red Star* (1908), Bogdanov's Martian society demonstrates how communism extends beyond Earth into a rationally organized cosmos. The Martian Museum has survived, but its function has been fundamentally transformed: it no longer sanctifies dead art but serves as a "scientific research institute" devoted to studying the evolution of humanity through its artistic and technological production. Here, outer space is not the metaphysical site of resurrection but the terrain of social transformation — an expanded arena for the continuous education and development of humankind. The museum, stripped of its sacral function, becomes a pedagogical apparatus embedded within the rhythms of production and everyday life. *Proletkult*'s "avalanche exhibitions" and El Lissitzky's *Cabinet of Abstraction* exemplify this shift: from static conservation to dynamic participation, from contemplation to transformation.
Thus, both cosmologies — religious and revolutionary — understood the museum as a cosmic technology of memory and transformation, though their purposes diverged: Fedorov's museum sought to overcome death and time, while Bogdanov's museum sought to overcome alienation and class division. In both visions, the museum functions as a site where humanity rehearses its future beyond Earth — whether as resurrected ancestors or as interplanetary communists.

negated in this thesis. This idea was well phrased in the 2011 exhibition text of Space. About a Dream presented at Kunsthalle Wien, as follows:

> Outer space is not only a physically extending sphere, but also a symbol. For centuries, man's dreams and visions have been concerned with conquering the 'extraterrestrial zone,' with getting to know worlds beyond Earth, and even with colonizing other planets. 'Space is the Place,' proclaimed the musician Sun Ra, and thousands of science fiction novels and movies testify to this yearning for the other, for the unknown, the 'high frontier' that became a scene of geostrategic position fights.[70]

Outer space nowadays thus remains a place of fascination and an exit row of contemplation and cosmic dreams. It has largely been popularized by *astrocapitalism*,[71] a term coined by Parker to describe the capitalistic complex that translated into space. There, the space race of the Cold War rendered visible not only to economic power displays, but also to the construction of ideological consent through means of popular culture. In the so called *astroculture*[72], a term referring to cultural debates around the subject of the extra-planetary, there exists a large variety of symbolic conceptions surrounding outer space. As the outcome of the Space Race has outlined, before conquering outer space, the mind and the imaginaries had to be conquered to allow the creation of popular consent surrounding these missions and fundings. As Régénauld and Saint-Martin explain it:

> It is exactly this paradigm of space race structures in sociotechnical imaginaries that implies that outer space is the ultimate and logical destination for humankind, the last step of his evolution.[73]

In summary, while the term *outer space* belongs

70 Press release of the exhibition *Space. About a Dream*, Kunsthalle Wien, 2011, https://kunsthallewien.at/en/exhibition/space-about-a-dream (consulted 06.10.2025).

71 Parker, Martin. *Capitalists in Space*, The Sociological Review, vol. 57, suppl. 1, 2009, p. 83-97.

72 As used in: Ma, Haitian. Tagungsbericht: *Thinking Outer Space: Philosophy, Astroculture and the Histories of Planetarity*, in: H-Soz-Kult, 01.11.2023, https://www.hsozkult.de/conferencereport/id/fdkn-139615 (consulted 26.04.2026).

73 In original French: "*L'astroculture a joué ce rôle: faire de l'espace la destination ultime et obligée de l'humanité, la dernière étape de son évolution*," in: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale. Des fusées nazies aux astrocapitalistes du New Space*, Editions La Fabrique, 2024, p. 13.

to the vocabulary of the technological gaze and physical expansion, the term *cosmos* belongs to the realms of world-making and imagination, encompassing ethical, poetic, and spiritual dimensions. This distinction is the root of a second hypothesis this thesis employs: that contemporary artistic and curatorial practices transgress from representing space as an external physical frontier to envisioning the cosmos as a shared and relational condition.[74]

Furthermore, this hypothesis allows the research to critically examine if museums tend to frame outer space as a site of conquest, while artistic and speculative practices tend to reintroduce the cosmos as a relational condition.

74 The relational condition inherent to these stances will be discussed in more depth in the last two chapters of this thesis.

It's silly, no? When a rocket ship explodes and everybody still wants to fly.[75]

75 Prince, *Sign O'the Times*, 1987.

1. Histories of Representation: From Space Race to Planetary Imaginaries

Having outlined the methodological tools and distinctions used to analyze representation as an ideological process, the following chapter situates these tools within a historical genealogy of space imaginaries. By tracing the evolution of representations of outer space — from Cold War spectacle to planetary consciousness — it examines how museums and visual culture have historically participated in the construction of technological, national, and colonial narratives that continue to shape contemporary exhibition practices.

1.1. *The Apollo Gaze*: The Earth from Afar

In December 1972, the Apollo 17 crew captured what would become one of the most reproduced images in human history[76]: a fully illuminated Earth suspended in the unlit expanse of space (see fig. 1). Coined the *Blue Marble*, this photograph immediately entered global circulation[77] as a symbol of planetary totality and fragility. The *Apollo gaze* designates a transformative and often affective mode of perception reported by astronauts when observing the Earth from the distance of outer space. The Earth was seen both as fragile, tiny, and insignificant compared to the vastness of space; and at the same time, it was singular, awesome, and miraculous. The novel images of the Earth from space prompted an urgent sense of protectiveness for our planetary habitat — invoking a planetary consciousness[78] that fueled ecological movements and a new ethic of care. For some,

fig. 1

76 Petsko, G.A. "The blue marble," *Genome Biol* 12, 112, (2011), https://doi.org/10.1186/gb-2011-12-4-112 (consulted 24.04.2026).

77 Latham, Katherine. *How 50 years of climate change has changed the face of the ' Blue Marble' from space*, BBC, 25.04.2025, https://www.bbc.com/future/article/20250422-how-50-years-of-climate-change-has-changed-the-face-of-the-blue-marble (consulted 24.04.2026).

78 As Frank White, author of "The Overview Effect", phrased it: *"And I thought, if I lived in a place like that, I would always have an overview of the Earth. I would see it from a distance. And I would see it's a unified whole. There are no borders or boundaries. All of these things would become knowledge. Which, living on the surface, we find it very hard to philosophically grasp, or mentally grasp. And the term overview effect came to me,"* Podcast *Houston we have a podcast*, Season 1, Episode 107, 30.08.2019, https://www.nasa.gov/podcasts/houston-we-have-a-podcast/the-overview-effect/ (consulted on 06.10.2025).

they inspired the longing to leave Earth behind and find new homes beyond the planet perceived as precarious we inhabit. The images reinforced dreams of ascendancy in search of new planetary homes.

These contradictory readings illustrate what has since been termed the *overview effect*[79]: a sudden awareness of Earth's uniqueness that oscillates between humility and hubris or in other words between solidarity and escapism.

Yet the Apollo gaze had not come as a neutral depiction. The *blue marble*[80], as it has come to be commonly referred to, was produced under the conditions of Cold War rivalry, staged as both scientific triumph and geopolitical spectacle. Just as Yuri Gagarin's orbital flight in 1961 and Valentina Tereshkova's journey two years later had served as icons of Soviet prowess — afterwards presenting their superstars look with victorious smiles (see fig. 2 and fig. 3) — the Apollo 11 landing in 1969 became the centerpiece of the US-American's own narrative of technological superiority in outer space.[81] The photographs of Earth circulated globally as emblems of national unity, while also being deeply entangled with the nationalist rhetoric of conquest and with the military-

fig. 2

fig. 3

79 White, Frank. *The Overview Effect – A study of the impact of space exploration on individual and social awareness*, American Institute of Aeronautics and Astronautics, 1987.

80 The *Blue marble* is a photograph of Earth taken in December 1972 by Harrison Schmidt during the Apollo 17 mission from a spaceship on its way to the moon. The name of the photograph refers to the perception of the Earth resembling the size and look of a glass marble when viewed from deep space.

81 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 9.

industrial complex.[82] This complex consisted among other participants of Boeing, General Electric, Thiokol, Chrysler, Rocketdyne etc. As scholars of astroculture have theorized, before space could be materially conquered, it had to be symbolically appropriated.[83] The Apollo gaze thus formed part of a broader ideological apparatus, one that sought to build public consent for space flight through wonder, entertainment, and spectacle.[84] The first US-American astronauts were celebrated as national heroes and acclaimed as movie stars in their public appearances while living enclaved in the research stations in New Mexico and Utah with their families.[85]

Furthermore, the Apollo mission's legacy cannot be disentangled from the problematic aspects of rocketry history: the same technologies that propelled astronauts to the Moon had their origins in the German national socialist, nazi V-2 program. Developed by Wernher von Braun and his team on the Baltic island of Usedom, forced labor from concentration camps was exploited under often lethal conditions.[86] Transferred to the United States after 1945, under the program name *Operation Paperclip*,[87] the German engineers brought not only their expertise but also the organizational and ideological frameworks of *Big Science*,[88] which had been shaped within militarized and hierarchical, ideologically tainted frameworks. The USSR's

82 Ibid, p. 31.

83 Ibid, p. 33 ff.

84 As Régnauld and Saint Martin put it: "space remains a place of fascination, the escape point of all contemplations. This representation is largely constructed by myths and legends always brought up in school manuals and Hollywood movies" (translated by the author from the original French: "l'espace reste un lieu de fascination, le point de fuite de toutes les contemplations. Cette représentation est largement façonnée par des mythes et des légendes ressassés de manuels scolaires en blockbusters hollywoodiens.") In: Ibid, p. 9.

85 See *Arte* Documentary cycle *La conquête de la Lune: toute l'histoire*, episodes 1, 2, and 3, 2025, https://www.arte.tv/fr/videos/078141-001-A/la-conquete-de-la-lune-toute-l-histoire-1-3/ (consulted 03.11.2025).

86 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 97.

87 Ibid.

88 The term *Big Science* refers to a mode of scientific research that emerged during and after the Second World War, characterized by large-scale, state-funded or transnationally funded projects requiring substantial financial investment, advanced technological infrastructures, and the coordination of specialized teams. It marks a shift from individual or small-scale research practices to institutionalized, bureaucratic, and collective forms of knowledge production, exemplified by initiatives such as the *Manhattan Project*, the *Apollo* program, the *Human Genome Project*, or the *Large Hadron Collider*. See: Ibid.

equivalent to the *Operation Paperclip*[89], secret operation Osoaviakhiim in 1946 had similar political, ideological and strategical histories and implications.

The militarized roots of spaceflight complicate the narratives of progress attached to imagery from the Apollo imagery, revealing how visions of planetary unity coexisted with histories of violence, domination, and exploitation. Still, one can't idealize the United States of America's context of racial discrimination and segregation as well as its expansionary tendencies where these engineers and their ideologies felt settled. Additionally, in the Space Race context the contributions of German specialists was for a long time as treasured as it was unspoken about. It was not only put to use in the USA, but also in the creation of France's *Centre National d'Études Spatiales* (CNES).[90] Seen in this light, the Apollo gaze was entangled in a broader ideological apparatus that sought both to inspire wonder and to thereby secure consent of the public for expansive and expensive technological projects.

In this sense, critiques of the *overview effect* and the colonial gaze embedded in space flights, have already been discussed at length. Scholars like Lisa Messeri, for example, argued how outer space is culturally constructed through practices of simulation and mediation.[91]

As Donna Haraway reminds her readers, it matters what stories tell stories and what "worlds world worlds".[92] From a curatorial and theoretical perspective, the *Apollo gaz*e raises the question of how images "world worlds".[93] The Apollo images do not simply depict Earth; they participate in shaping imaginaries of fragility, conquest, or departure and others. To revisit them today is to confront not only their aesthetical implications but also their

89 Ibid, p. 41.

90 Ibid, p. 44.

91 Messeri, Lisa. *Placing Outer Space: An Earthly Ethnography of Other Worlds*, Durham: Duke University Press, 2016.

92 The more extended quote by Haraway specifies: "It matters what thoughts think thoughts. It matters what knowledges know knowledges. It matters what relations relate relations. It matters what worlds world worlds. It matters what stories tell stories". In: Haraway, Donna J., *Staying with the Trouble. Making Kin in the Chthulucene*, Duke University Press, 2024, p. 35.

93 Quote taken from British social anthropologist Marilyn Strathern: "It matters what ideas we use to think bother ideas (with)" In: Strathern, Reproducing the Future, p. 10; quoted by Donna Haraway, in: Donna J. Haraway - *Staying with the Trouble. Making Kin in the Chthulucene*, Duke University Press, 2024, p. 12.

complicity in hegemonic histories of spaceflight and what they can mean in terms of potentially further reproducing violence today. Simultaneously, the Apollo images offer an opportunity to reframe planetary imagination: away from fantasies of control and colonization, and toward practices of "staying with the trouble"[94], cultivating sympoietic and situated modes of thinking an *interplanetary condition*.[95]

Furthermore, it matters how the *overview effect* and its related imagery and affects are exhibited. The choices about framing, context, and intended audience shape whether these images encourage ethical reflection, narratives of transcendence or evoke different effects all together. The aesthetic and rhetorical strategies of display can either challenge or reproduce assumptions about human centrality, technological inevitability, and the desirability of interplanetary futures.

The *overview effect* was and still is neither a universal experience nor a simple call to collective care. The image's representations in media, exhibitions, and scientific discourse are deeply ambivalent. Outer space's iconographical history mirrors a dynamic tension between scientific objectivity and national narrative, moving from raw technological assertion to cosmic self-reflection and self-(re)presentation.[96] Related outer space imagery, ranging from Soviet postage stamps to high-resolution photos from *NASA* and *ESA*, also reveals a parallel to how technology and related ideological positions evolved over time.

Space discovery or conquest in the early stages of the 1950s and 1960s seems to be structured around the question of "how?" rather than that of "why?".[97] In light of contemporary marketing strategies surrounding spatial tourism — that appeal to the same ideological framework than that of the *Apollo gaze* — one has to ask: Whom does the duality of the overview effect serve?[98]

94 Ibid.

95 Neyrat, Frédéric. *La condition planétaire*, Les Liens qui libèrent, 2025.

96 Kretschmer, Wolfgang. *Expérience de l'espace et sentiment de la totalité*, in Liberté Volume 20, n° 2 (116), March-April 1978, p. 28–38; https://id.erudit.org/iderudit/60047ac (consulted 22.02.2026).

97 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 51.

98 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 86.

1.2 From Wonder to Control: Scientific Imaginaries and National Narratives in Space Representation

> What is this 'civilization' in which we find ourselves?[99]

As mentioned briefly previous in the subchapter, the early modern European visual culture of space was shaped by a tightly woven nexus of scientific authority, national narratives, and public spectacle. From early representations ranging back to the imagery of the representations in cave paintings, which are discussed to depict constellations to contemporary representations a notable shift appears: one from wonder to control. A statement made by the *NASA*'s National Commission of Space in 1986 underlies a further shift in understanding and relation to outer space as domain:

> The Solar System is our extended home. Five centuries after Columbus opened access to 'The New World' we can initiate the settlement of worlds beyond our planet of birth. 'The promise of virgin lands and the opportunity to live in freedom brought our ancestors to the shores of North America. Now space technology has freed humankind to move outward from Earth as a species destined to expand to other worlds. Our Purpose: Free Societies on New Worlds.[100]

99 Woolf, Virginia. *Three Guineas*, 1938, p. 63.

100 NASA, National Commission on Space, *PIONEERING THE SPACE FRONTIER*. The Report of the National Commission on Space, 1986, https://www.nasa.gov/wp-content/uploads/2023/03/383341main_6020-2020090814.5.the20report20of20the20national20commission20on20space.pdf (consulted 17.03.2026).

Although a comprehensive analysis of all visual, scientific and national narratives in space representation is beyond the scope of this thesis, it is anchored in a selection of specific examples of images, discourses and representations. The examples have been selected as they address contemporary debates and the related time frames that surround them.[101] The time frame chosen starts with the date of the Apollo Mission. It was chosen as it marked the first atmospheric technological-human-driven flight. Closely related historical milestones — such as *Sputnik 1* and prior collective shared visions on outer space — can appear as references. For an overview of the historical timelines please refer to the Appendix (see Table 3). It seems necessary to additionally propose a counter-position to the previously quoted statement by *NASA* on its report as formulated by Anibal Quijano in *Coloniality and Modernity/Rationality*:

> There is nothing less rational, in the end, than to pretend, as a situated ethnicity, that its particular vision of the cosmos represents the universal rationality — and regardless if this ethnicity calls itself 'Occidental Europe' — because it comes down to imposing a provincialism disguised as universalism.[102]

Scientific imagery — from imagery of rocket launches to lunar maps — is often framed or at least perceived as the culmination of humanity's progression, reason and technical mastery. But these visual products have always been embedded in narratives of supremacy that privileged particular forms of knowledge, citizenship, and geopolitical belonging.[103]

The 1957 launch of *Sputnik 1* and the mission on which the dog Laïka was sent to space established the initial image of scientific Space Race imagery: a scientifically rationalized, technological victory achieved under urgency by the USSR (see fig. 4). The early marvel surrounding space imagery quickly shifted to center on the human hero, exemplified by Yuri Gagarin's victorious smile, which symbolized Soviet success and prestige.

101 The examples chosen can be found in the literature listed in the Biblio- and Webography of this thesis. They were chosen by the author without any claim of completeness.

102 Quijano, Anibal. "Coloniality and Modernity/Rationality," *Cultural Studies*, vol.21, n°23, 2007, p. 168-178.

103 Vacheron, Joël. *Cosmovisions - Une étude visuelle des fondements coloniaux de l'exploration spatiale*, MetisPresses, 2025, p.18 ff.

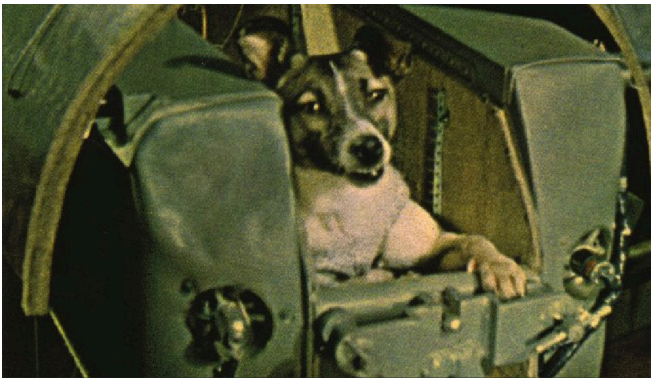


fig. 4

fig. 5

It introduced the era of manned space flight. Choosing Gagarin as a worker coming from a modest background exemplified the USSR's ideal of a sovietic man. In comparison, the first seven US-American astronauts were "superman ordinaire"[104] corresponding to the image of "white patriotic males".[105] Soon the status of astronauts was raised to that of the stars they were trying to reach through mediatization to the masses. This idealized vision was accentuated by the use of visual strategies aimed to amplify US-American superiority over the USSR. For example, the space-suits of the USA's *Mercury* program team that were inherited from a prior mission aboard the plane-rocket *X-15*, were spray-painted with silver paint to give them a more futuristic visual appearance.[106] *NASA* also started to display the astronauts' scaphanders next to the armors of knights (see fig. 5) and cinema soon followed in this romanesque representation.[107] For example, the 1971 James Bond movie *Moonraker* featured astronauts who appeared to be professional fighters using laser beams (see fig. 6). Another notorious example of this vanishing of reality-fiction duality between space organization and cinema is the commission by *NASA* to artist Robert McCall. The artist had worked on the film *2001. A Space Odyssey* from 1968 and was charged with

104 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 67ff.

105 Ibid.

106 De Monchaux, Nicolas, *Spacesuit: Fashioning Apollo by Nicholas de Monchaux*, Cambridge, The MIT Press, 2021, p. 95.

107 Launius, Roger D., "Heroes in a Vacuum: The Apollo Astronauts as Cultural Icon," *The Florida Historical Quarterly*, vol. 87, n°2, 2008, p. 174-209.

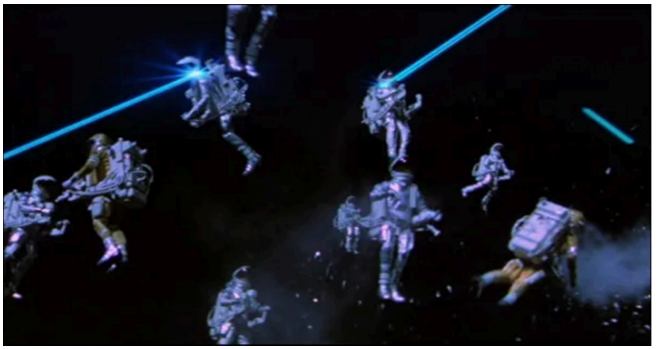


fig. 6

fig. 7

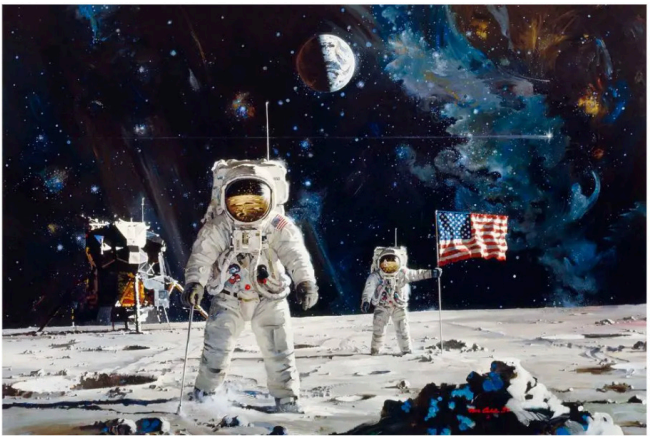


fig. 8

fig. 9

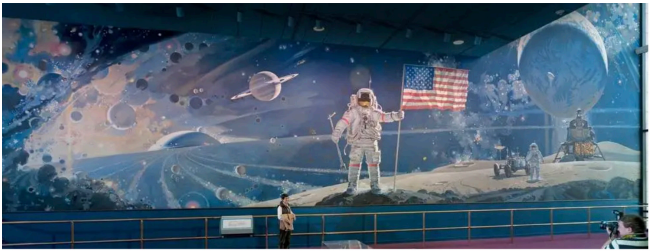


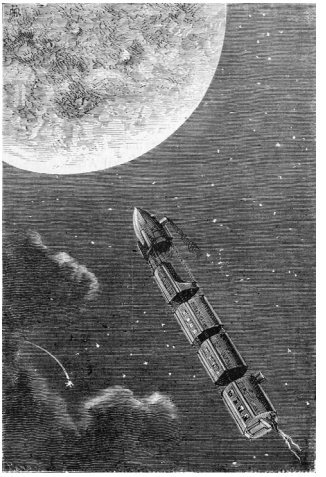
fig. 10

fig. 11

fig. 12

fig. 13

fig. 14



the creation of a series of colored illustrations rendering the work and habits of astronauts on rockets (see fig. 7). He was also commissioned for a soon abandoned stamp project (see fig. 8).[108] The artist went on to have a long lasting collaboration with *NASA* through the painting of larger than life murals in *NASA's* headquarters and aerospatial museums and institutions (see fig. 9 and fig. 10).[109]

Scientific images of space served as proof not only of technological achievement but also of political legitimacy. Even though the history of people engaged in the history of space flight seems to be majoritively male, politics opened, despite not without difficulty, doors for women. Well aware of the US-American public's interest in female astronauts, the head of USSR's cosmonaut training programme Nikolai Kaminin included women in cosmonaut training early on, stating "We cannot allow that the first woman in space will be American".[110] Meanwhile, it took twenty years before the first US-American woman, Sally Ride, was launched into space. This can however not only be understood as ordinary sexism but is largely documented as such. For example, in a conference Werner von Braun made a questionable joke to throw out the window the possibility of enrolling women in astronaut training. He stated that "a useless 50kg charge" — his estimated weight of a woman — would only be considered interesting if it served recreational purposes, going so far as to call women astronauts "leisure equipment".[111] It seemed obvious whose pleasure this equipment was intended to serve.

In 1963, Valentina Tereshkova's space travel and televised successes were put to use thanks to the recognizable inscriptions on her helmet (see fig. 11) that went on to become a recognizable pattern in the USSR and put to use in Soviet propaganda posters promoting the "women workers" of the world (see fig. 12).

108 Neal, Valerie. *Spaceflight in the Shuttle Era and Beyond*, Yale University Press, 2017, p. 43.

109 See NASA's article "100 Years Ago: Birth of Space Artist Robert McCall," https://www.nasa.gov/history/100-years-ago-birth-of-space-artist-robert-mccall/ (consulted 19.04.2026).

110 Quote taken from the article *Discover the story of how Valentina Tereshkova became First Woman in Space*, Millard, Doug, Science Museum Blog, 08.03.2017, https://blog.sciencemuseum.org.uk/valentina-tereshkova-first-woman-in-space/ (consulted 26.02.2026).

111 Maher, Neil M. *Apollo in the Age of Aquarius*, 2017, p. 161.

In the United States and the Soviet Union alike, space imagery was deployed to reinforce narratives of national pride and ideological superiority. Televised launches, staged press events, and carefully curated photographic releases circulated visions of space as a domain of orderly progress and human triumph. In that sense, the Cold War was not only a geopolitical standoff but a visual contest over the meanings of space. Images of rocket launches, orbits, and lunar landings became potent symbols in rival imaginaries of modernity and power. Propaganda posters, news reports, and televised events rendered a theater of competition, where technological expertise was utilized as proof of ideological superiority.

In these contests, national narratives shaped not only what was visible but also how it came to be interpreted. The United States and the Soviet Union produced distinct visual vocabularies that aligned space flight with narratives of destiny, mastery, and cultural legitimacy.[112] These visual regimes contributed to two realms of nationalized cosmic imageries — shared sets of symbols through which each public understood space as both a scientific domain and a site of political struggle.

The visual economy of space[113] produced a sense of *cosmic order* that rested on the same rationalizing logic that endorsed national and scientific authority. Thus, the rhetoric of scientific neutrality often masked the deeply cultural and political propaganda they supported. The epistemic framing of outer space as an object of *universal* knowledge through which outer space was constructed as a realm of technoscientific mastery, aligned with narratives of modernity and the power of national states.[114]

Nevertheless, the conquest of space and related planets orbiting the sun such as the Moon and Mars have long been the object of dreams. For example, that of people such as Georges Meliès (see fig. 13) and Jules Vernes' famous *From Earth to the Moon*[115] (see fig. 14). These fiction brought their dreams to the existing visual

112 Vacheron, Joël. *Cosmovisions - Une étude visuelle des fondements coloniaux de l'exploration spatiale*, MetisPresses, 2025, p.18 ff.

113 From rocket photography to orbital panoramas or meticulously staged astronauts portraits.

114 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023, p. 2 and p. 6, https://www.canalprojects.org/media/site/b76f36324c-1704487195/digital_cp_gallery_booklet_backtoearth_final.pdf (consulted 25.04.2026).

115 In the original French titled "*De la Terre à La Lune*".

language of their times. But the rational materialization of those dreams has followed the technological ruptures and evolutions brought about by military research. The Nazi roots of Space conquest, as displayed in the figure of von Braun and the paradigm that *NASA* named after him (Shuttle › station › Moon › Mars)[116] functioned for a long time as a *Polichinelle secret*[117]. These unspoken implications and their implications found their way into popular culture. A notorious example can be seen in the satire persona of *Dr Strangelove* in Stanley Kubrick's eponymous film in 1964 (see fig. 15). The character was directly inspired by von Braun and John von Neumann[118 & 119] . Furthermore, conspiracy theories surrounding the *V-7*[120] or *NASA = NAZI* theories raised in popularity in

fig. 15

116 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 46.

117 A *Polichinelle secret* is a secret known by all but not spoken about. The name originates from the figure of *Polichinelle* in the *Commedia dell'arte*.

118 Von Neumann was a Hungarian-American mathematician, who became an important figure of the Space Race. His calculations were put to use in the *Manhattan Project*.

119 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 45.

120 The *V-7* theory is a conspiracy theory according to which high Nazi dignitaries fled aboard flying saucers.

the 1970s.[121] The US-American softpower[122] thus needed to rebrand its image and put astroculture to use through Hollywood-style blockbusters. It seemed like this time was again used by agencies such as *NASA* to stimulate individual and collective imagination under the umbrella

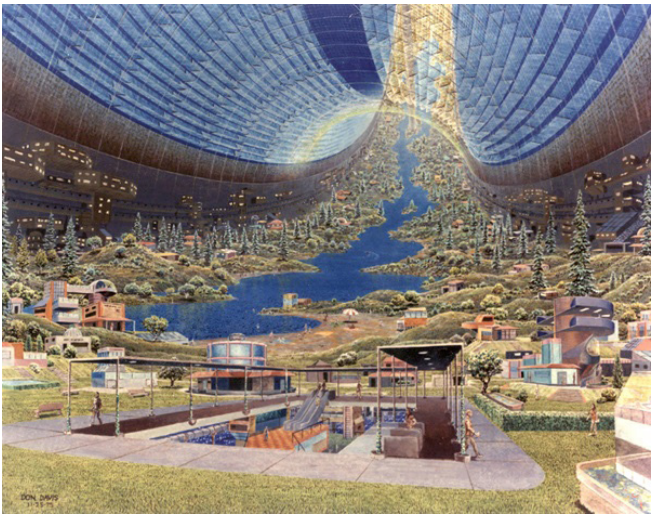


fig. 16

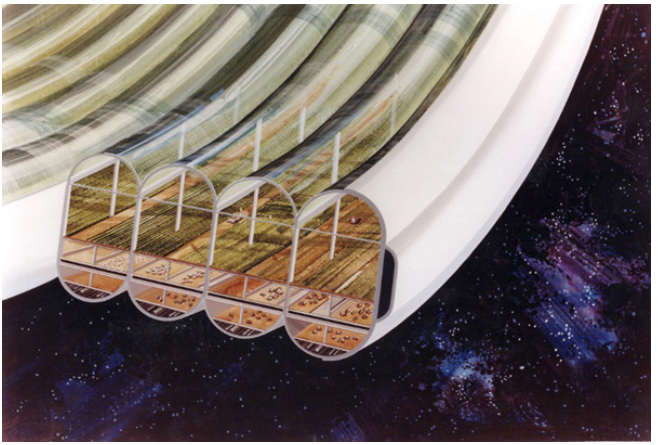


fig. 17

121 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 45.

122 The concept of *soft power* used throughout this thesis refers to Joseph S. Nye Jr.'s notion. He introduced the concept of *soft power* in 1990 to describe a country's capacity to shape the preferences of others through attraction rather than coercion. This relied heavily on the appeal of culture, political values, and foreign policies. Emerging in the context of late Cold War debates about an alleged decline of the USA, the concept was developed to articulate a non-coercive form of influence that operates alongside, and in contrast to, traditional *hard power* such as military and economic force. See: Nye Jr., Joseph S. "Bound to Lead: The Changing Nature of American Power," *Foreign Affairs* 68, no. 4, 1990, p. 153–171.

term *libido astronautica*[123] to serve ideological purposes.[124]

Through the work of famous authors, such as by the Russian writer Tsiolkovski,[125] contributions to the power of astroculture also began to spread from the USA to the USSR. A famous quote by Tsiolkovski goes as follows: "Earth is the cradle of humanity, but mankind cannot stay in the cradle forever"[126] continues to reverberate today in the New Space Race. In the USA, the utopian style settlement dreams in the style of John O'Neill[127] (see fig. 16 and 17), Mars terraformation dreams by John Zubrin[128] in the late 1960s (see fig. 18) or the Dyson spheres[129] continue to be further expanded. Such socio-technical imaginaries displayed and continue to display an occidental, white and technist tropism (see fig. 19).[130]

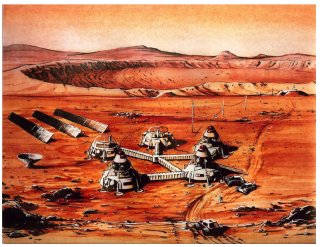


fig. 18

123 *Libido Astronautica* is a term that describes the attraction to the conquest of outer space, inspired by Pierre Bourdieu's concept of Libido Scientifica, See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 48.

124 Geppert, Alexander C. T. "European Astrofuturism, Cosmic Provincialism: Historicizing the Space Age," in: *Imagining Outer Space*, p. 6-9.

125 Konstantin Tsiolkovski was the author of multiple science-fiction anticipation books that helped shape the scheme entitled 16 step plan for outer space conquest. His plan would have allowed Earthlings to leave the solar system once the sun exploded. See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 50.

126 This quote is thought to stem from a letter written by Konstantin Tsiolkovsky in 1911, Source: European Space Agency, https://www.esa.int/Science_Exploration/Human_and_Robotic_Exploration/Exploration/Konstantin_Tsiolkovsky#:~:text=Russian%2Dborn%20scientist%20and%20mathematician,far%20ahead%20of%20his%20time. (consulted 18.04.2026).

127 Gerard Kitchen O'Neill (1927-1992) was a physicist who in 1976 published *The High Frontier: Human Colonies in Space*, in which he imagined building outer space colonies resembling the US-American pavilion-style sub-urban "dream". In the 1970s, he teamed up with *NASA* and *Princeton University* to develop a series of workshops to think about efficient ways for off-world human settlements. See: *NASA* website and Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 51.

128 Robert Zubrin was an engineer and leader of *Mars Society* which aimed to render Mars' ecosystem viable for human life. See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 51.

129 So called *Dyson spheres* are imaginary agro-engineering structures that wrap around a star in order to harvest its energy for industrial purposes. See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 51.

130 Ibid.

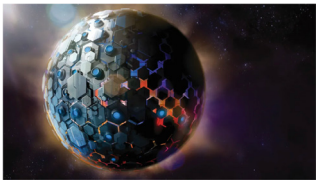


fig. 19

From the end of the 1940s on – if not before – a "disneylandification" of astrofuturism took place not only in the USA[131] but in the USSR alike. The Soviet youth magazine *Tekhnika Molodezhi* for example, produced, from 1933 onwards, a multitude of illustrations in this iconographical lineage (see fig. 20 and 21).[132] Meanwhile in the USA, the illustrations of Chesley Bonestell were so realistic that they were often thought to be photographs and were used throughout NASA Centers (see fig. 22).[133] The *age of rocket* designates a marketing strategy initiated in 1952 with a series of publications in the very popular magazine *Collier's*. It led to an edutainment movie trilogy produced by Walt Disney[134] and TV program animated by the renowned illustrator Ward Walrath Kimball (see fig. 23 and 24).[135] The aim of this project was to depict outer space to be an object of "esthetical fascination and an inspiration of the technical sublime".[136] Echoes of these space-related visions continue to be present at Disney even today: in 1986, Disney opened an attraction called "Tomorrowland" in its Californian park, which takes visitors on a short trip 31 years into the future[137]. A certain form of "disneylandification" also took place in the scientific and journalistic realm. For example in the advent of *Apollo 11* Lunar landing. Impatiently awaiting the images, some media published their own sequences with the help of computer-generated images on the

131 The authors of science-progress-driven-fiction, who contributed to this trend, are numerous. To name a few of the most relevant works: Clarke, Arthur C. *Exploration of Space* (1951); Ley, Willy. *The conquest of Space* (1949), *The conquest of the Moon* (1951) and *Rocket Missiles and Space travel* (1957),which he wrote in collaboration with von Braun. The 1957 fiction has been illustrated by the renowned illustrator Chesley Bonestell.

132 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 202, p. 55.

133 Ibid, p. 56.

134 The Walt Disney trilogy on outer space was realized as part of Disney's educational program and consisted of:
1. *Man and the Moon*, 1955 (https://www.youtube.com/watch?v=S_N3EYMgya4, consulted 18.04.2026).
2. *Man in Space*, 1955 (https://www.youtube.com/watch?v=WFXza9RH7-E, consulted 18.04.2026).
3. *Mars and Beyond*,1957 (https://www.youtube.com/watch?v=dk7lf2D848I, consulted 18.04.2026).
It has to be noted that former Nazi von Braun was a counselor on the show as an "expert".
See: PicsandPortraits, Ward Kimball's Space Trilogy | Retrofuturism and Animation, Youtube, https://www.youtube.com/watch?v=OhQF9-A3vFk (consulted 18.10.2026).

135 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 202, p. 56.

136 Ibid, p. 57.

137 Constructed after *Fantasyland, Frontierland and Adventureland*. See: Ibid.

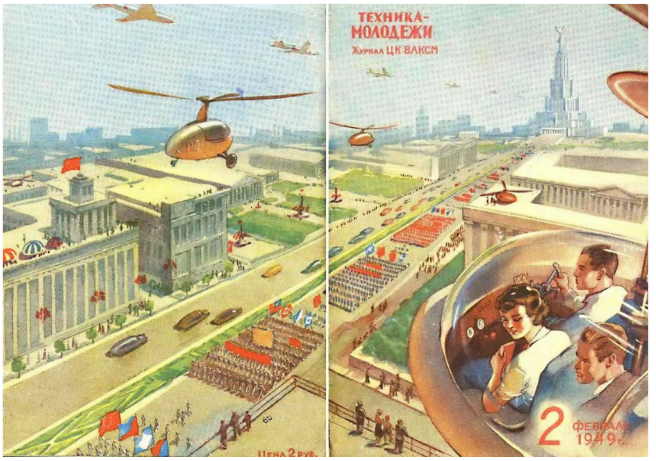


fig. 20

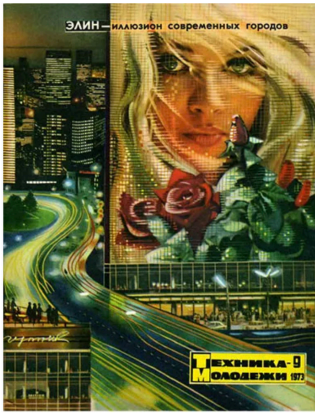


fig. 21.1

fig. 21.2

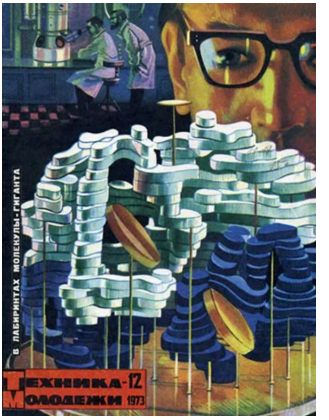


fig. 21.3

fig. 22

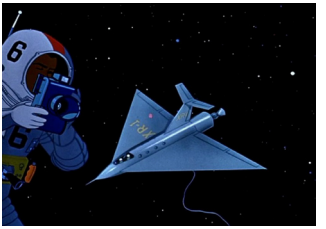


fig. 23

fig. 24

topic, using technological innovation to the advantage of fast-paced media production and spectacle. This practice continued until the late 1980s[138], so much so that Günther Anders coined the term "images of images"[139] for it.

As Régnauld and Saint-Martin put it: "It is not exaggerated to state that *Apollo* was, in some regards, the biggest public relation operation of History".[140]

In subsequent decades after the *Apollo* mission, the focus in imagery was organized on sustained presence. This was highlighted by images of space stations like *Mir* (see fig. 25) and space shuttles. This visual culture implied maintenance and logistical capacity for international collaboration without recurring to the previously described visual strategy tricks. In the 1980s, the USA tried to convince European leaders of the necessity of a shared orbital station — which would later become the *ISS* (International Space Station) — and the Reagan team used the technological aesthetic wonders of their artists and architects to their advantage when trying to convince the Europeans. For example, they commissioned NASA with the construction of a model of the space station ISS for 40 000$.[141] The model was then transported to the *old continent*.[142] The goal was to convince the reluctant representatives of European countries to have their photo taken in front of the model — making it a successful soft power visibility strategy the USA used.

During this modern era, leveraging revolutionary telescopic imagery like Hubble's data visualizations (see fig. 26), continued the negotiation during which

fig. 25

138 Ibid, p. 59.

139 Anders, Günther. *Der Blick vom Mond: Reflexionen über Weltraumflüge*, Munich, C. H. Beck, 1970, p. 113-114.

140 In the original French: *"Il n'est pas exagéré de dire que Apollo fut, à certains égards, la plus grande opération de relations publiques de l'histoire"* (translation by the author). See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 59.

141 Ibid, p. 61.

142 The author uses this term the way it was long used in the context of this *soft-power* operation, but condemns the related colonialist and western-centric views it implies. The phrasing on the ages of continents, implies that the European continent was older than others, specifically America. Not only is it empirically false, relating to the emergence of Earth's continents, but it even more so negates, through the cultural lens, the longstanding lineage of non-western cultures.

143 Logsdon, John M. *Ronald Reagan and the Space Frontier*, Cham, Palgrave Macmillan, 2029, p.159.

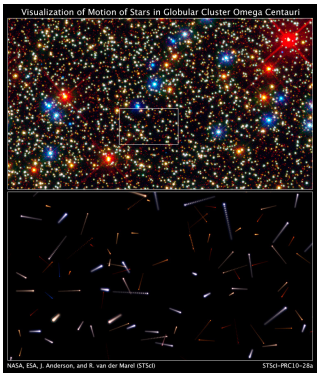


fig. 26

scientific representation confronted national narratives.[144] As Barney Warf notes, satellite data are in fact highly influenced by a long tradition of occidental thought that privileged the sense of the view; controlling it and shaping it through the lens of cultural presuppositions. In this light, satellites not only have and continue to bear a profound ecological and social impact, they also bear an epistemological one.[145] They contribute to establishing specific regimes of visibility and knowledge production, determining what can be seen, known, and legitimized as "objective" truth. In doing so, they reinforce a distanced, observational paradigm that abstracts and totalizes the Earth and outer space, often aligning with technocratic and extractive modes of understanding.

This historical shaping of visual language around other space continues to reverberate in contemporary space imaginaries into contemporary times, particularly as new national and commercial actors enter the field. The legacy of Cold War imagery persists in how space is narrated, visualized, and institutionalized.

144 Rabah, Khalil. *The End of Neonationalism: On the Comparative certainty of Extraterrestrial Life and Its Significance for Humankind*; e flux Journal, Issue 41, Jan 2013, https://www.e-flux.com/journal/41/60223/the-end-of-neonationalism-on-the-comparative-certainty-of-extraterrestrial-life-and-its-significance-for-humankind-earth-and-the-solar-system-sectio (consulted 22.02.2026).

145 Warf, Barney. "Dethroning the view from above: towards a critical social analysis of satellite ocularcentrism". In: Lisa Parks and James Schwoch (dir.), Down to Earth, New Brunswick (NJ), Rutgers University Press, p. 42-60, https://www.researchgate.net/publication/288216882_Dethroning_the_view_from_above_Toward_a_critical_social_analysis_of_satellite_ocularcentrism (consulted 17.03.2026).

1.3 From State to Capital: Cultural Imaginaries related to the Rise of Private Space Enterprises

"We are

enamored

so

with

progress that we leave it to a tiny fraction of the population to create the narratives that shape our world,"[146] as the Indigenous[147] philosopher Ailton Krenak noted in his environmentalist theory book from 2023. In the twenty-first century, the cultural imaginaries of space are increasingly shaped by private space enterprises. In 2009, under the administration of the US-American President Barack Obama, the *Audit Committee for the Spatial Habitat*, also called *Augustine Commission* was created. Its goal was to thoroughly rethink the long term strategy of *NASA*.[148] The committee's official advisory report concluded that the time to entrust the transport services into space to the private and commercial sector had come.[149] Their report opened a new era of space conquest and entrusted

146 Krenak. Ailton. *Life Is Not Useful* (A Vida Não É Útil), Companhia Das Letras, 2023, p.3.

147 The capitalized term *Indigenous* is used in accordance with conventions in contemporary anthropology and Indigenous Studies: It functions as a political and epistemic category referring to populations who maintain distinct cultural, territorial, and epistemological relationships to land and colonial histories. The capitalization signals respect, recognition of collective identity, and the refusal of assimilation into generic descriptors. This usage follows scholarly practice in fields such as anthropology, postcolonial studies, and Indigenous methodologies, and is also extended in this thesis to other racialized and historically marginalised positional categories (e.g. Black, Asian, etc.), in order to foreground the situated and power-laden nature of identity labels within knowledge production. See: Smith, Linda Tuhiwai. *Decolonizing Methodologies: Research and Indigenous Peoples* (London: Zed Books), 1999.
This format and thereby its inherently conveyed position, are also applied to the terms *Other* and *Alien*.

148 Vacheron, Joël. *Cosmovisions - Une étude visuelle des fondements coloniaux de l'exploration spatiale*, MetisPresses, 2025, p.19.

149 Ibid.

outer space to private corporations.[150] As of 2026, various organizations are competing to ensure that, within the next two decades, humans will become an interplanetary species by establishing a presence on Mars. Companies such as *SpaceX*, *Blue Origin*, and others, articulate visions of the future that intertwine exploration with commercial ambition. Elon Musk's SpaceX is among the most visible competitors working towards achieving this goal. Musk argues that either "we stay on Earth forever and then there will be an inevitable extinction event," or "become a spacefaring civilization, and a multi-planetary species".[151] Narratives like this often frame interplanetary settlement as both inevitable and imperative — offering salvation from Earth's ecological and political crises through expansion. Such rhetoric reframes planetary futures as the domain of entrepreneurial innovation rather than collective, democratic deliberation.

The *astrocapitalist* imaginary[152] that is entailed in such statements produces new forms of spectacle, investment, and cultural aspiration. Rocket launches are now broadcast with commercial branding and corporate narratives that shape public affect and desire.[153] For example, in April of 2025, Katy Perry became the first pop star to travel to the edge of space. The flight reached over 100km altitude and was set out for the passengers to experience weightlessness. This *BlueOrigin* sponsored

150 Valentine, David. "Exit Strategy: Profit, Cosmology, and the Future of Humans in Space," *Anthropological Quarterly*, vol. 85, n°4, The Washington University Institute for Ethnographic Research, 2012, p. 1045-1067.

151 Woolf, Nicky. "SpaceX founder Elon Musk plans to get humans to Mars in six years," *The Guardian*, September 28, 2016, https://www.theguardian.com/technology/2016/sep/27/elon-musk-spacex-mars-colony (consulted on 31.03.2025).

152 The term *astrocapitalist* refers to actors — primarily private companies, investors, and entrepreneurs — who extend capitalist logics into the domain of outer space, particularly within the so-called "new space economy". As theorized by Régnauld and Saint-Martin, *astrocapitalism* designates a critical framework for understanding the expansion of capitalism beyond Earth, driven by speculative ambitions of profit, accumulation, and market creation in orbital and extraterrestrial environments. This ideology is characterized by the commercialization and privatization of space activities (such as satellite infrastructures, space tourism, or resource extraction), and is often accompanied by narratives of technological progress, frontier expansion, and planetary escape. Rather than marking a radical break, astrocapitalism continues historical dynamics of militarization, industrialization, and economic exploitation, reframed through contemporary entrepreneurial discourse. It thus reflects a broader *spatial fix* of capitalism [See David Harvey's *Spatial Fix Theory*], in which outer space is constructed as a new frontier for resolving terrestrial economic contradictions while simultaneously generating new ecological, political, and epistemological tensions. See: Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024.

153 Ibid., p. 61.

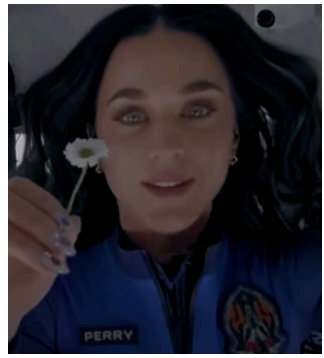


fig. 28

fig. 27

flight was composed of a women-only crew (see fig. 26). The resulting social media coverage and editorials felt more like a fashion editorial or marketing stunt than a moment of scientific or exploratory significance. The pop star felt inspired to sing the famous *What a Wonderful World* song by Louis Amstrong upon reaching weightlessness while holding a daisy. She later posted a now viral video of this on social media. This promotional campaign and Perry's involvement as a mere celebrity in the first place sparked animated controversies worldwide however (see fig. 27).

In museum shows, planet-themed attractions and media campaigns, space imagery is commonly repurposed to sustain fantasies of mastery and frontier conquest under the guise of innovation. The television series Mars (2016–present) for instance, produced by National Geographic, can be read as a docu-fiction-infomercial for Musk's *SpaceX* company (see fig. 29 and 30). This porosity of advertisement disguised as science was noted by the Dutch artist Jonas Staal in his article *Comrades of Deep Future*:

> Its documentary component shows SpaceX's present-day tests of reusable rockets, aiming to enable travels back and forth to Mars, while its science-fictional Hollywood-styled segments visualize Musk's year-by-year plan to build a sustainable human presence on the planet.[154]

154 Staal, Jonas. *Comrades of Deep Future*, e flux Journal Issue #102, September 2019, https://www.e-flux.com/journal/102/283568/comrades-in-deep-future (consulted 25.04.2026).

fig. 29

fig. 30

Today, in an era where the *White House* never wore its whiteness more upfront, this porosity is not even questioned anymore by the USA's authorities. To exemplify this situation, the author inserts the thoughts of Belgian philosopher Isabelle Stengers, as she states: "The symbiosis between science and technical-industrial innovation has now flipped into a straightforward relation of capture"[155] As a result, the capture of science by industrial and political interests extends into the realm of representation, shaping how technological objects are aestheticized and consumed. Building on the notion of *libido astronautica*, modern technologies mobilize what can be described as so called "techno-porn"[156]: a set of visual and aesthetic strategies designed to generate fascination, desire, and affective attachment. As discussed by Susan

155 Stengers, Isabelle. *Another Science is possible - A manifesto for Slow Science*. Polity Press, 2018, p.74.

156 Lindee, Susan. *Rational Fog: Science and Technology in Modern War*, Cambridge (Mass.), Harvard University Press, 2020.

fig. 31

Lindee, these strategies operate through the stylization of technological objects — ranging from smartphones to missiles and space launchers — emphasizing smooth surfaces, aerodynamic curves, and polished finishes. Such visual regimes eroticize technology by foregrounding its sensual and seductive qualities, thereby obscuring the complex political, military, and industrial infrastructures in which these objects are embedded, and rendering them desirable commodities or spectacles rather than sites of critical inquiry.[157] For example, the double page in *The NASA Archives. 60 Years in Space*[158] (see fig. 31) presents a quote that demonstrates that expansionist worldviews are still being established through comparison with the myths of the heroic: "They have been as far as Achilles and Odyseus. As far as Magellan and Columbus, they have been far"[159] continue to establish filiations with the expansionist worldview.[160]

From a curatorial perspective it is crucial to engage critically with representations such as these. Exhibitions that uncritically or unbeknownst replicate visions promoted by private corporations of interplanetary futures risk reproducing the very logics of dominance that have long influenced imaginaries of spaceflight. The use of the term *spaceflight* is used rather than *space exploration*,

157 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 61.

158 Coffee-table book co-published in 2018 with the publishing house *Taschen*.

159 Quote inserted in the book *The NASA Archives. 60 Years in Space*, found in: Mailer, Norman. *Of a Fire on the Moon*, 1973.

160 Vacheron, Joël. *Cosmovisions - Une étude visuelle des fondements coloniaux de l'exploration spatiale*, MetisPresses, 2025, p. 26.

as "exploration" itself is not neutral. It is part of a broader expansionist rhetoric that frames outer space as a frontier to be discovered, occupied, and utilized. This vocabulary echoes earlier colonial imaginaries, particularly those underpinning the territorial expansion of the United States of America and its violent dispossession of Native American populations. Such historical precedents have shaped cultural narratives of conquest, progress, and manifest destiny, which continue to inform contemporary representations of spaceflight. Recognizing these genealogies is essential for critically assessing how dominant space imaginaries reproduce colonial and extractivist logics under the guise of exploration.[161] Instead, curatorial practices that consciously reflect these visions can open spaces for reflection on who gets to imagine, to belong, to decide and to act in planetary contexts — whether on Earth or beyond.

Today, echoes of the *Apollo gaze* resurface in new forms. *NASA*'s *Artemis* program, explicitly named after Apollo's mythological twin, seeks to reestablish a human presence on the Moon as a stepping stone toward a similar presence on Mars.[162] The Artemis rocket launch took place during the finalization of this thesis, on April 1st 2026 during a cosmic event called *pink moon*.[163] Worldwide, news started to afloat. But the US-American context was peculiar, and is addressed here. In fact, US-American media and US-American-owned social-media companies, used this occasion to celebrate and associate this

161 See: Turner, Frederick Jackson. *The Frontier in American History*. New York: Henry Holt, 1920 and McDougall, Walter A. *The Heavens and the Earth: A Political History of the Space Age*. New York: Basic Books, 1985.
Furthermore, recent forms of linguistic governance under Donald Trump, including the reported restrictions on institutional language in federal agencies, highlight how linguistic governance can shape knowledge production. When considered in relation to outer space, such interventions point to the political stakes of language in shaping not only terrestrial debates but also the imaginaries through which space is framed — delimiting what can be articulated, funded, and envisioned within institutional space discourse.

162 Arte Documentary, *Artemis: les défis d'un retour sur la Lune*, 2026, https://www.arte.tv/fr/videos/116870-000-A/artemis-les-defis-d-un-retour-sur-la-lune/ (consulted 02.04.2026).

163 The so-called *pink moon* is the first full-moon after the spring equinox and is used to determine the date of Easter. According to the *Old Farmer's Almanac*, full moon names arise from various sources of Native American, Colonial American, and European traditions. The corresponding pink-associated name of this full moon comes from the early spring bloom of a wildflower native to eastern North America — the *Phlox subulata*, commonly known as creeping phlox or moss phlox. This flower is often called "moss pink," and enters in full bloom around April's Full Moon. In: Boeckman, Catherine. *April 2026 Full Pink Moon: Paschal Moon Meaning, Folklore & Best Viewing Tips*, Almanac, March 26 2026, https://www.almanac.com/content/full-moon-april (consulted 13.04.2026).

astro_christina To all those reaching to new heights: yes you can. #AllWomanSpacewalk

338 sem Voir la traduction

fig. 32

convergence of events to the celebration of *Woman power*. This was personified by US-American astronaut Christina Koch, who was one of four astronauts on this mission. She was media-effectively presented as the "first woman to go to the moon". The astronaut seemed to gladly take on this role as posts on her *Instagram* profile in several instances became the vehicle for female empowerment statements which echo the US-American discourse based on neoliberal meritocracy (see fig. 32). Related humorous memes and posts relating to this started flooding social media platforms such as Instagram (see fig. 33). Koch's words: "Planet Earth, you are a crew"[164] became famous and further updated the ecological legacy of the *overview effect*.

But it is not only the effects of US-American soft power that influence today's *New Space* race endeavours. China's *Chang'e* program likewise mirrors similar ambition[165], while private actors such as *SpaceX* and *BlueOrigin* insert themselves into the *New Space* race[166], announcing their plans to build bases, extract resources and a future of interplanetary migration. This revival of the space race is not only framed as a technological achievement but also made into a media spectacle — watched by audiences globally with a similar fascination as once created by the *Saturn V* launches.[167] The desire to look back at Earth from afar remains, but it is now embedded in an astrocapitalist logic where spectacle, extraction, and futurist rhetorics intertwine. This also becomes evident in *Instagram* descriptions which often present these endeavours as a favor to "all humanity" (see fig. 34).

164 NASA Artemis Facebook Reel,Interview with Christina Koch after the mission, *Planet Earth You are a Crew*, https://www.facebook.com/reel/2062023361013366/ (consulted 13.04.2026).

165 Régnauld, Irénée and Saint-Martin, Arnaud. *Une histoire de la conquête spatiale - Des fusées nazies aux astrocapitalistes du New Space*, La Fabrique Éditions, 2024, p. 224ff.

166 Ibid.

167 Ibid.

Overall, the rise of private space enterprises marks a shift from state-led space programs toward an astrocapitalist regime in which planetary futures are increasingly articulated through corporate logics of investment, spectacle, and expansion. Within this framework, contemporary space imaginaries are shaped by a dominant aesthetic and rhetoric of technological sublime and entrepreneurial futurism, where exploration is reframed as innovation, and interplanetary life is mobilized as both inevitable horizon and marketable narrative.[168]

fig. 33

fig. 34

168 Ibid., p. 87.

To build a museum, a nation is not necessary. But if nations are a way to organize time and space, so is the museum. And as times and spaces change, so do museum spaces.[169]

169 Steyerl, Hito. *Duty Free Art - Art in the Age of Planetary Civil War*, Verso, 2017, p. 76.

2. Museums and the Outer: Narratives of Space

2.1 Staging Futures: Heroism, Ideology, and the Processual Politics of Exhibition-Making

Since they emerged for the first time in the twentieth century, exhibitions dedicated to aviation and outer space have not only presented the technological achievements of their times but have in themselves influenced the construction of imaginaries about the future. Their displays do not merely recount past events, they stage and communicate narratives of what is to possibly come. In doing so, they mobilize specific figures, concepts, temporalities, and aesthetic strategies through which the future becomes thinkable, visible and potentially desirable.

According to Louis Althusser, museums can be understood as "Ideological State Apparatuses": institutions that shape subjects not only through the content they display but through the forms, rituals, and spatial arrangements they enact.[170] Therefore, ideology is not approached here not as simple political propaganda in this thesis, but as something that materializes in exhibition design, curatorial framing, and temporal narratives of progress.

One of the most persistent figures in these narratives is that of the astronaut or engineer, presented as an idealized (and mostly white male) subject embodying technological mastery, rationality, and courage. Within institutional exhibitions, these figures are frequently elevated to the status of heroic icons — national and even humanity's representatives who extend the legacy of exploration formerly bound to Earth into outer space. Their portrayal often draws on visual and narrative

170 Althusser, Louis. "Ideology and Ideological State Apparatuses (Notes towards an Investigation)," in *Lenin and Philosophy and Other Essays*, trans. Ben Brewster (New York: Monthly Review Press, 1971), p. 127–186.

tropes historically associated with colonial expansion: the lone pioneer, the conqueror of the unknown, the agent of progress advancing into uncharted territory. The analogy between astronauts and the pioneer figures — frequently evoked through metaphors of *new worlds* or *final frontiers* to be discovered[171] — reinscribes a genealogy of conquest. Herein, earlier colonial imaginaries of *terra nullius*[172], a domain available for human intervention in which space is framed as empty and awaiting human occupation are evoked.[173] Such representations are not incidental but rather operate within broader ideological frameworks of settler colonialism, manifest destiny, technoscientific modernism, and contemporary astrocapitalist and neoliberal expansionist logics, which collectively stabilize narratives of exploration, extraction, and territorial extension beyond Earth.

The glorification of astronauts and engineers for instance contributes to the creation of an imaginary of a subject that is aligned with technocratic progress and national ambition. This creation is further demonstrated by Stuart Hall's theory of representation in which he emphasized that meaning is actively constructed through images, narratives, and classificatory systems rather than simply reflecting it.[174] From a museological perspective,

171 The term *final frontier* draws on the broader U.S. Frontier ideology, historically associated with the westward expansion of the United States of America during the nineteenth century. Popularized in political discourse and later cultural imaginaries, the *Frontier* framed territorial expansion as a civilizing mission, often erasing Indigenous presence and legitimizing colonial settlers' violence under the rhetoric of progress and discovery. In contemporary space discourse, the metaphor of the *final frontier* extends this expansionist imaginary beyond Earth, reproducing narratives of conquest and manifest destiny in extraterrestrial terms. See, among others: McCurdy, Howard E. *Space and the American Imagination*. Baltimore: Johns Hopkins University Press, 2011.

172 Translated into English, the term *terra nullius* means *land belonging to no one* or *nobody's land*. It is a term in international law. As the *Legal Information Institute* of *Cornell Law School* notes: "*Terra nullius* is a term that refers to a 'territory without a master'. It is a term used in public international law to describe a space that can be inhabited but that does not belong to a state, meaning the land is not owned by anyone. In fact, when a State or an entity describes a land as a *terra nullius*, the land is in reality occupied — by a nation or a minority — but the term has oftentimes been used in order to legitimize state occupation and colonization. In international public law, when the definition *terra nullius* is given to a land, it can legally legitimize its occupation and acquisition of sovereignty by another nation, under the doctrine of discovery, which the ICJ [International Court of Justice, note by the author] has approved as a legal method of acquisition of territory." See: Cornell Law website, https://www.law.cornell.edu/wex/terra_nullius#:~:text=Terra%20nullius%20is%20a%20term,is%20not%20owned%20by%20anyone. (consulted 24.04.2026).

173 Aronowsky, Leah V. Of Astronauts and Algae. *Environmental Humanities*, 9(2), 2017. https://doi.org/10.1215/22011919-4215343 (consulted 24.03.2026), p. 359.

174 Hall, Stuart. "The Work of Representation," in *Representation: Cultural Representations and Signifying Practices*, ed. Stuart Hall (London: Sage, 1997), p. 13–74.

Tony Bennett's concept of the *exhibitionary complex* demonstrates how display regimes, spatial organization, and temporal sequencing operate as technologies of governance, rendering particular worldviews visible, intelligible, and even authoritative.[175] In exhibitions, ideology thus materializes in the very organization of space and time: in the sequencing of galleries, the framing of historical milestones, and the positioning of certain factors as central while others remain peripheral or invisible. In the context of museums specifically focusing on outer space for example, linear narratives of progress are a common mode of presentation. They present a storyline from early flight to orbital missions and future planetary exploration within which the figure of the astronaut commonly serves both as the protagonist and the vector of futurity.

Furthermore, as philosopher and art critic Boris Groys argues in *Comrades of Time*, contemporary art — and by extension curatorial practice — reveals the transitory character of the present itself instead of merely projecting the future as a continuation of the present. Groys poignantly stated that art "does not predict the future, but rather demonstrates the transitory character of the present — and thus opens the way for the new".[176] Informed by this perspective, exhibitions can be understood as temporal constructs that prefigure their own obsolescence. They do thus not constitute stable repositories of objective knowledge. The classic and common traditional art exhibition treats artworks as potentially everlasting within a neutral space. It stands in contrast to the curatorial concept commonly known as a

175 The *exhibitionary complex* is a critical concept developed by cultural theorist Tony Bennett, drawing on and extending the work of Stuart Hall. It broadened post-structuralist analyses of power, representation, and institutions. The term describes the network of museums, exhibitions, world fairs, and other display technologies that emerged in the nineteenth century as mechanisms for producing and regulating public knowledge. Rather than being neutral spaces of education or culture, these institutions are understood as technologies of power that organize visibility, shape collective perception, and reinforce dominant social and political orders by staging objects, bodies, and histories within specific regimes of display. See: Bennett, Tony. "The Exhibitionary Complex," *New Formations* 4, 1988, p. 73–102.

176 Groys, Boris. "Comrades of Time," in *Going Public*, Berlin: Sternberg Press, 2010, p. 3–7.

Gesamtkunstwerk[177] — an installation in which objects are mobilized to serve the exhibition as a broader conceptual and temporal framework in its own right.[178]

Applying this distinction to exhibitions thematizing space reveals a fundamental tension between supporting uncritical narratives of progress and actively developing their own novel narratives. On one hand, institutional displays often operate within a passive mode of presentation. In these, technological artifacts such as rockets, satellites, or space suits are presented as physical representations of milestones in a continuous narrative of advancement. The objects are usually treated as materialization of enduring achievements which hold the capacity to stabilize a vision of progress that seamlessly extends into the future. On the other hand, the curatorial potential of exhibitions lies in their capacity to function as *active* agents, creating activated spaces, in which the organization of the exhibition itself foregrounds the contingency and construction of narratives.[179]

What the predominance of heroic and technocratic figures within many space exhibitions reflects is a specific temporal logic: in these exhibitions, the future is imagined as the extension of present power structures rather than as a site of rupture or transformation or potentialities. This logic is further reinforced by gendered and anthropocentric assumptions deeply embedded in the figure of *The Astronaut*. As feminist critiques have pointed out, the narrative of the "ascent of Man" is not only exclusionary but constitutive of a broader epistemology that equates humanity with a particular, masculinized

177 The concept of *Gesamtkunstwerk* stands for "total work of art" in German. It refers to an aesthetic concept most prominently associated with the composer Richard Wagner in the mid-nineteenth century. The term designates an artwork that integrates multiple artistic disciplines — such as music, theatre, poetry, visual arts, and architecture — into a unified, immersive whole. In Wagner's formulation, the *Gesamtkunstwerk* aimed to dissolve the boundaries between art forms in order to produce a totalizing sensory and affective experience for the spectator. The concept has since been widely reinterpreted in modern and contemporary theory, often critically, to discuss forms of immersive spectacle and the synthesis of media within aesthetic and political regimes of perception. See: Wagner, Richard. "The Artwork of the Future," in *Prose Works*, 1849, trans. William Ashton Ellis, London: Kegan Paul, 1895.

178 Groys, Boris. "Comrades of Time," in *Going Public*, Berlin: Sternberg Press, 2010, p. 17. See also Szeemann, Harald. *Der Hang zum Gesamtkunstwerk*, 1983.

179 Lissitzky, Elizier. "Exhibition Design," in *El Lissitzky: Maler, Architekt, Typograf, Fotograf*, 1992, p. 366ff.

subject.[180] The ambiguity is already inscribed in the linguistic universalism of *Man*, as famously echoed in phrases such as "a small step for man...," where the term is ostensibly used in a generic sense while simultaneously centering a male-coded subjectivity. The heroic astronaut represents the embodiment of this subject: fully human, fully capable of rationality, and thus fully and uniquely entitled to occupy and transform new environments. Through these associations, *The Astronaut* has historically become a politicized and non-neutral figure inevitably carrying the biases of its past into the contexts it is uncritically introduced to.

At the same time, the narrative of the single Hero obscures both the collective as well as the material conditions that make space flight possible. This is true for the labor going into space flight's developments – the work of engineers and technicians to that of less visible and more marginalized workers. It likewise obscures the ecological and geopolitical infrastructures underpinning space programs, which remain largely invisible. Exhibitions on space likewise selectively curate the conditions of possibility and foreground certain actors, narratives and facts while erasing or simply withholding others. As author Ursula K. Le Guin adequately phrased it:

> The society, the civilization they were talking about, these theoreticians, was evidently theirs; they owned it, they were human, fully human, bashing, sticking, thrusting, killing. Wanting to be human too, I sought for evidence that I was but if that's what it took to make a weapon and kill with it, then evidently I was either extremely defective as a human being, or not human at all.[181]

That's right, they said. What you are is a woman. Possibly not human at all, certainly defective. Now be quiet while we go on telling the Story of the Ascent of Man the Hero.

Groys' reflections on the museum as a space that "institutionalizes [...] the past as incurably dead" further deepens the understanding of the dynamic, complicating the inevitability of truth-making and of erasure through

180 See also scholars of feminist critiques of technoscience, such as: Haraway, Donna. *A Manifesto for Cyborgs*, 1985.

181 Le Guin, Ursula K. *The Carrier Bag Theory of Fiction*, cosmogenis, 2019, p. 28ff.

presentation.[182] If to present contemporaneity is to transform it into a kind of *dead past* — thereby rendering it obsolete — then exhibitions of space technology can be understood as paradoxical sites in which the (potential) future is already historicized. Rockets, spacecrafts and other technologies are presented as relics, thereby embodying a future that has simultaneously already passed even as they are mobilized to sustain narratives of continuous progress. This temporal disjunction reveals the instability of the very futures being proposed: they are at once promised yet already exhausted of possibilities and thereby defined.

Another aspect of Groys' theory that can deepen this perspective is his emphasis on the impossibility of total destruction — and by extension total renewal of futures It suggests that possible futures being presented are never entirely new ideations and never entirely contemporary. They inherently remain *haunted* by the residues of past ideologies connected to them[183], including colonial expansion, technological determinism, and anthropocentric mastery in the case of space flight. Even counter-narratives that seek to challenge dominant imaginaries are themselves inherently embedded within their ideological frameworks, operating within the same field of representation and contestation. As Groys puts it, the aesthetic field is not a space of neutral contemplation but a battleground of competing gazes, where different visions of the future confront and negotiate one another.[184]

From this perspective, exhibitions of outer space can be understood as sites where futures are actively imagined, staged, contested, and materialized. The figure of the astronaut, the narrative of progress, and the spatial organization of the exhibition all contribute to the construction of a particular framing of possibilities while simultaneously containing a potential for narrative disruption. By foregrounding the transitory nature of the present and exposing the ideological structures that underpin dominant narratives, curatorial practice can

182 Groys, Boris. "Comrades of Time," in *Going Public*, Berlin: Sternberg Press, 2010, p. 49.

183 Ibid, p. 35.

184 Ibid, p. 130.

open space for alternative temporalities[185] — futures that are not predetermined by the logics of conquest and mastery, but remain open to reconfiguration.

The question, then, is not only how exhibitions represent the future, but how they could render its contingencies visible. In doing so, they create a shift away from affirming a singular trajectory of progress to postulating a plurality of possible worlds — each shaped by different assumptions about what it means to be human, to inhabit a planet, and to imagine a future beyond Earth's boundaries.

From a museal and curatorial point of view, Nikolai Fedorov's theories can still provide an informative perspective today. The Russian philosopher conceived the museum not merely as a repository of objects but as a living grave that preserves the dead and offers the hope of resurrection. According to him, the museum is a moral-cultural engine that reconciles progress with memory.[186] When this definition is transferred to technical museums — spaces that showcase tools, machines, and industrial artifacts — this aspect becomes evident: the technical display emphasizes utility and the triumph of engineering, while Federov's conception of museums focuses on the useless remnants of the past that survive because they embody collective conscience.[187] In his view, even the most utilitarian artifacts acquire sacred value when they are preserved despite a utilitarian world that otherwise would discard them.

Outer space displays and observatories, however, fit neatly into Fedorov's schema. He argues that an observatory is an essential "organ" of the museum, as it links "external senses" to memory and reason. He postulated that astronomy unites humanity's quest to "control" nature with the museum's mission to resurrect and regulate life.[188] The celestial focus thus transforms the

185 See: Avanessian, Armen and Malik, Suhail. *Der Zeitkomplex - Postcontemporary*, Merve Verlag, Berlin, 2016.

186 Federov, Nikolai. *The Museum, Its Meaning and Mission*, e flux journal #65 SUPERCOMMUNITY — may–august 2015, p. 3. https://www.e-flux.com/journal/65/336461/the-museum-its-meaning-and-mission (consulted on 17.10.2025).

187 Ibid, p. 1.

188 Ibid, p. 5.

museum from a static archive into an active locus of *astro-control*[189] that monitors the universe and thereby restores a cosmic order.[190] Accordingly, while technical museums risk reducing the museum to a showcase of functional progress, outer space displays embody Fedorov's ideal of the museum as a conduit between past memory and future cosmic stewardship.

Observatories and technological artifacts generally function as both tools of knowledge and symbols of aspiration. Exhibitions of these objects all the more shape how publics conceptualize outer space and humanity's place within it. So despite technical museums often emphasizing utility and engineering achievements, these exhibits can evoke a profound sense of collective belonging and connection when placed in dialogue with photographs and multimedia representations. This layered role underscores the museum as a site where science, history, and imagination can intersect, creating the potential to mediate planetary imaginaries for diverse audiences.

Museums also played a key role in shaping how space imagery was perceived, interpreted and internalized when it began to be circulated globally by mass media. Museums of science and technology, such as the *Smithsonian's National Air and Space Museum* or the *Science Museum* in London, translated space technologies and imagery into narratives of progress, innovation, and national accomplishment as most exhibitions did at the time. But fascination for outer space related imagery also found its way into contemporary museal institutions.

189 The term *astro-control* refers to a critical conceptualization of the ways in which contemporary scientific, institutional, and cultural apparatuses seek to observe, regulate, and render outer space legible. It operates through systems of monitoring, visualization, and governance. The term extends Foucault's notion of *biopolitics* into a cosmological realm. Thus, *astro-control* describes how space is not merely explored but also symbolically and technically organized through satellite infrastructures, orbital surveillance, data extraction, and exhibitionary practices. Within this framework, outer space becomes a managed epistemic field in which visibility and knowledge production contribute to the ordering and stabilization of a *cosmic environment* aligned with terrestrial, political and technological regimes. See also: Foucault, Michel. *Security, Territory, Population: Lectures at the Collège de France*, 1977–1978.

190 Federov, Nikolai. *The Museum, Its Meaning and Mission*, e flux journal #65 SUPERCOMMUNITY — may–august 2015, p. 6. https://www.e-flux.com/journal/65/336461/the-museum-its-meaning-and-mission (consulted on 17.10.2025).

fig. 35

There, counter-narratives based in *Indigenous Futurism*[191] and critiques of neo-nationalism among others, utilized these visual constructs to question technocratic ideas of progress. They proposed that the pursuit of extending space frontiers often hides terrestrial colonization and dispossession. For example, the Iranian-American artist Siah Armajani produced two space-related pieces in

191 *Indigenous Futurism* refers to a contemporary artistic and theoretical movement that reimagines Indigenous pasts, presents, and futures through speculative, science-fictional, and decolonial frameworks. Emerging in the early twenty-first century within Indigenous studies, art, and media practices, it challenges colonial narratives of time, progress, and technology by foregrounding Indigenous epistemologies, cosmologies, and modes of world-making. Rather than positioning Indigenous peoples as figures of tradition or historical displacement, *Indigenous Futurism* asserts their presence within technologically and cosmologically complex futures. See: Dillon, Grace. *Walking the Clouds: An Anthology of Indigenous Science Fiction* (Tucson: University of Arizona Press, 2012) who first researched the term within literary and cultural theory. See also: Wang, Xing. *The Cosmos Flickers in You*, e flux journal, Issue #142, April 2024, https://www.e-flux.com/journal/142/585345/the-cosmos-flickers-for-you (consulted 10.04.2026).

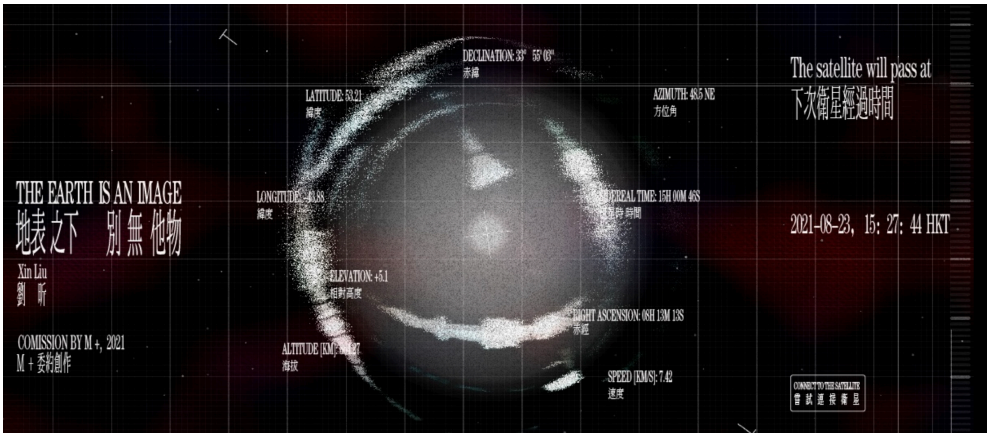


fig. 36

1969 which provided an exacting yet humorous scientific attitude. In *Moon Landing*, Armajani preserved the portable TV with which he tuned in to watch the entirety of the *Apollo 11* mission — from the launch to the safe return of the crew eight days later — inscribing the meaning of this historic and personal event into a long-since defunct technological object (see fig. 35), a strategy still employed as artistic strategy today. As the curator Xin Wang notes in an article for *e flux*:

> The work registers the event in its transient media spectacle as much as in its nostalgic material support: a site at once authentic and untrustworthy. Moon Landing finds a recent echo in Xin Liu's "The Earth Is an Image," a 2021 digital commission for Hong Kong's *M+ Museum*. The work's interface allows web visitors to tap into soundscapes, coordinates, and glitchy geo-imaging from retired weather satellites that continue to orbit the earth, transmitting information to dwindling numbers of receivers.[192] [see fig. 36]

All of these examples demonstrate that space imagery and narratives circulate across a wide spectrum of institutional contexts, ranging from national science museums to contemporary art spaces, where they are variously mobilized to reinforce, question, or reframe dominant ideas of technological progress and planetary expansion. Taken together, they underline that exhibitions are active sites in which cultural imaginaries of outer space are produced, negotiated, and contested. It is precisely these entanglements — between science,

192 Ibid.

aesthetics, politics, and ideology — that need to be taken into account when analyzing how space is curated and exhibited, as the following section will now examine through selected institutional case studies.

2.2 How Space is Exhibited: Institutional Case Studies

In

Europe

, national space museums started to be developed in the 1990s. The *EuroSpaceCenter* near Redu in the Belgian Ardennes region was followed by the integration of the space department in Le Bourget, France. In Toulouse, the French aerospace capital, a discovery center focused on the theme of *Space: its exploration and its impact on our daily lives* was inaugurated in 1997 called the *Cité de l'espace*. With four institutions (re)presenting outer space located in France, the country is the European Union's leader in this field. This concentration of institutions makes the French context particularly significant for analysis, as it offers a dense and influential museal landscape through which dominant European space imaginaries are articulated and disseminated. Other noteworthy space museums in Europe include the *Museum* in East Lothian, the *Technik Museum* in Germany and the *Eurospace Center* in Belgium.[193] Corporate companies working in the space industry also have a few space *relics*.[194] The following chapter will present two analyses of museal space institutions in France which were based on field observations and literature published on the institutions and their exhibitions. The focus lies on discussing how curatorial decisions and the resulting presentations position the institution ideologically.

193 See the list on Capcom Espace: http://www.capcomespace.net/dossiers/expositions/europe/index.htm (consulted on 07.10.2025).

194 The term *Space relics* is common vocabulary used in outer space museums. It refers to objects, fragments, or material remains associated with space exploration that have been removed from their original functional context and reclassified as cultural, historical, or commemorative artifacts.

2.2.A Musée de l'Air et de l'Espace – Le Bourget, France

The *Musée de l'Air et de l'Espace* was founded with a collection that deliberately mixed technical objects and artistic works. Founded in 1921 under the name *Collections de l'Aéronautique*, the *Musée de l'Air et de l'Espace* is one of the oldest institutions and most comprehensive collections globally that are dedicated to the history of flight both on Earth and in space.[195]

The 1953 exhibition hall, built by architect André Granet, was intended as a provisional structure to replace the inadequate *Grand Palais* venue in Paris for hosting the *XX Salon* at Le Bourget, a response to post-war growth in air-show attendance[196] (see fig. 37). Its semi-circular central space and two wing-like extensions evoked the silhouette of an aircraft. The only part of the building that was completed however was the north-facing curve, leaving a temporary steel-clad façade visible (see fig. 38) that soon proved insufficient

195 See the website of the *Musée de l'Air et de l'Espace*: "Presentation and History". https://www.museeairespace.fr/le-musee/linstitution/presentation-et-histoire/ (consulted 30.11.2025).

196 See: In Situ, 35, 2018, *Patrimoines de l'aéronautique*, p.53, https://journals.openedition.org/insitu/16219 (consulted on 14.10.2025).

for the expanding aeronautical technical evolutions and that of the aeronautic market.[197] By the late 1950s, rising numbers of exhibitors at the fair as well as larger aircraft being shown demanded more space and permanent lighting. It prompted the replacement of the original pitched roofs with shed-type roofs providing natural light from above, a southern façade fully out of glass (see fig. 39), and the demolition of the provisional wings to make space for more spacious replacements.[198] The renovations took place from 1961 to 1967 and resulted in a stylistically homogeneous, high-ceiling hall capable of accommodating the transport and exhibiting of medium-size aircraft through an axial glass door. The public side entrances (see fig. 40), further reflected the industry's need for on-site flight demonstrations and larger displays.[199] Later restorations taking place in 2003 attached uniform metal cladding to the building concealing many original elements[200] (see fig. 41 and 42).

From its inception, the museum followed an approach that departed from otherwise common narrow technical framings: founder Albert Caquot deliberately intertwined technological artefacts with historical documents and artistic works. The 1921 inauguration brochure listed, alongside seventy-two engines and twenty-two aircraft, a rich iconographic and artistic section containing prints, drawings, engravings and assorted "objects of art"[201] among the objects exhibited.[202] By 1923, the museum's promotional materials also highlighted numerous "historical pieces"[203] including paintings, drawings, and artistic objects (see fig. 43). This curatorial approach affirmed that aviation has always been understood not merely as a technological domain but likewise as a cultural and visual field.

197 Ibid, p. 58.

198 Ibid, p. 61.

199 Ibid, p. 60.

200 Ibid, p. 68.

201 Translated by the author from the original French *objets d'art*. This term treats art as an object rather than as artwork, in contrast to the common French vocabulary for a work of art being *œuvre*.

202 Raynaud, Clémence. "Un musée technique, d'histoire et de société: l'apport des collections iconographiques du musée de l'Air et de l'Espace", In *Situ*, 2018, p.2, https://doi.org/10.4000/insitu.16851 (consulted on 14.10.2025).

203 In the original French: *Pièces historiques*.

fig. 37

fig. 38

fig. 39

fig. 40

fig. 41

fig. 42

fig. 43

RÉPUBLIQUE FRANÇAISE

SOUS-SECRÉTARIAT D'ÉTAT DE L'AÉRONAUTIQUE ET DES TRANSPORTS AÉRIENS

Service Technique de l'Aéronautique

MUSÉE DE L'AÉRONAUTIQUE

Le Musée, organisé par le Service Technique de l'Aéronautique, constitue la plus riche documentation existant sur l'histoire et la technique de la navigation aérienne.

PRINCIPALES PIÈCES EXPOSÉES :

18 AVIONS, parmi lesquels on remarque notamment :

Biplan VOISIN ayant effectué le premier vol d'un kilomètre en circuit fermé, piloté par Henri FARMAN (1908) ;

Monoplan de SANTOS-DUMONT dit « Demoiselle » (1909) ;

Monoplan NIEUPORT de 1910, d'une conception remarquable pour l'époque ;

Monoplan BLÉRIOT ;

Monoplan DEPERDUSSIN (1912-1913), premier avion ayant dépassé les 200 kilomètres à l'heure ;

Hydravion FABRE (1910), premier appareil ayant décollé de l'eau ;

Avions de la guerre : NIEUPORT et SPAD du type employé par GUYNEMER et les grands pilotes de chasse, BREGUET, CAUDRON, MORANE, FARMAN, etc...

Fuselages d'avions, ANTOINETTE, R. E. P. etc...

Nacelles de ballons libres et captifs.

5 NACELLES DE DIRIGEABLES, dont celle du LEBAUDY, premier dirigeable ayant effectué un voyage de 100 kilomètres (1903) ;

Une des nacelles d'un grand ZEPPELIN de bombardement.

100 MODELES RÉDUITS D'AVIONS reconstituant l'histoire complète de l'aviation de 1896 à 1923.

10 MODÈLES RÉDUITS DE BALLONS DIRIGEABLES (1852 à 1922).

6 Modèles de ballons captifs d'observation.

1 réduction de la première MONTGOLFIÈRE de PILATRE de ROZIER (1783).

80 MOTEURS A EXPLOSIONS FRANÇAIS & ÉTRANGERS, notamment :

Le premier ANTOINETTE (1904), WRIGHT (1908), ANZANI (première traversée de la Manche (1909), GNÔME (1910), etc...

Les moteurs récents CLERGET, RHÔNE, RENAULT, SALMSON, HISPANO-SUIZA, LORRAINE-DIETRICH, BRÉGUET, la plupart présentés en coupe accompagnés d'un tableau de pièces détachées.

2 Moteurs de démonstration.

Collection des pièces mécaniques provenant des études du Colonel Ch. RENARD et de J. MAREY.

Collection d'instruments de bord, d'appareils photographiques.

Nombreuses PIÈCES HISTORIQUES :

Parachutes de Mme POITEVIN (1851) et de GODARD (1850) ;

Hélicoptères de PONTON d'AMECOURT (1863) et de PENAUD (1870). — Aéroplane de TATIN (1879).

Dessins, Peintures, Estampes et Objets d'art se rapportant à l'histoire de l'aéronautique.

Le Musée de l'Aéronautique est ouvert gratuitement au public les Jeudi et Dimanche de **14** heures à **16 h. 30**, du **25** Novembre au **15** Avril ; de **14 h. 30** à **17 h. 30** du **15** Avril au **3** Octobre. Fermeture annuelle du **3** Octobre au **25** Novembre. Le Musée est fermé les jours fériés.

ÉTABLISSEMENT DE CHALAIS-MEUDON

Téléphone : Ségur 76-70

9, Avenue de Trivaux, MEUDON (Seine-et-Oise)

Chemin de fer électrique Paris-Invalides à Versailles R. G. (Station de Meudon-Val-Fleury) ;
Ligne de Paris-Montparnasse à Versailles R. G. (Station de Meudon).

This early curatorial hybridity was formalized by curator Charles Dollfus in the 1930s and undermines the reductive classification of the institution as a "technical museum" later commonly proposed. Instead, the hybridity aligns the *Musée de l'Air et de l'Espace* with broader traditions of social, cultural and anthropological museology, where machines are only one element in a complex ecosystem of representation, imagination and historical narration. Today, the museum's iconographical collections exceed 24.000 items ranging from paintings to graphics like engravings, posters and postcards, toys, models, and extensive archival materials. Each object offers insight into the social, economic, political and aesthetic imaginaries surrounding aviation and outer space.[204]

Crucially, the museum's decision to treat "air and space" as a single epistemic field produces a distinctive cultural effect: it places space flight not in an exceptionalistic or purely futuristic register, but within the long lasting desire of humanity to transcend terrestrial limits. In doing so, the institution reveals the shared ideological trajectories that link early aeronautical fantasies to later outer space imaginaries such as technological utopianism, national prestige, militarization, and spectacular narratives of progress. The *Musée de l'Air et de l'Espace* thus becomes a key site for studying how outer space is visualised, mediated and stabilized through museological display.

The museum's current museographic layout reinforces this narrative of continuity between aviation and spaceflight, in which the conquest of air and the exploration of outer space are framed as successive stages of a unified trajectory of technological progress, national ambition, and human transcendence of terrestrial limits. Its nine permanent gallery exhibits, complemented by an extensive exhibition area outdoors, are arranged chronologically and thematically. Visitors thematically move from early ballooning and pioneering experiments, through the militarization of flight during the World Wars, to the jet age and eventually to human space travel. This spatial sequencing implicitly constructs a temporal arc of technological progress, presenting the history of flight as a linear ascent culminating in contemporary outer space

flight. As seen in other examples across Europe, such a narrative structure is not unique to this institution but recurs across many science and space museums.

The *Pioneers Hall* presents the earliest attempts at flight in balloons, with gliders, and proto-aircraft interwoven with visual representations like diagrams and engravings, as well as artworks that narrate the cultural fascination with human ascension. The First and Second World War galleries shift the subject toward militarization, focusing on reconnaissance aircraft, fighters and bombers, thereby implicitly revealing the entanglement between technological development and international conflict. The interwar and postwar halls document commercial aviation's emergence, the symbolic *economy of speed*[205], and the rise of mass air travel. They are presented on the basis of various aircraft, posters, advertising, design objects, and documentary photography.

The *Space Hall* extends this trajectory into extraterrestrial realms, exhibiting components of launch systems, models of *Ariane* rockets, a *Soyuz capsule*[206], satellites and other artefacts from European and global spaceflight history. Collectively, these displays make the industrial, political and technological infrastructures underpinning humanity's spatial ambitions visible. Yet, they also foreground an imagination of space tightly bound to national achievement, scientific heroism and monumental engineering as is commonly the case in space themed exhibitions.

The recent expansions of a media library and various archival spaces indicate the museum's

205 The term *economy of speed*, as used here, refers to a socio-technical and cultural regime within which acceleration becomes a primary value, shaping the production, circulation, and consumption of goods, information, and experiences. Within this framework, *speed* is not merely a technical parameter but an organizing principle tied to efficiency, competition, and power, often privileging immediacy and continuous innovation while marginalizing slower, more reflective processes. In the context of spaceflight, it also describes the shift toward reusable launch technologies, rapid production cycles, and reduced costs. These developments in the late 1970s were largely driven by the private industry, enabling more frequent launches and faster satellite deployment. This acceleration reconfigured the global space economy, reinforcing speed as a key concept in the neoliberal ideals of efficiency, competition, and technological power. Parallels to nowadays can be drawn. See: Virilio, Paul. "Vitesse et Politique: essai de dromologie" (Speed and Politics: An Essay on Dromology), Édition Galilée, Paris, 1977.

206 The term *Soyuz capsule* is referring to a crewed spacecraft module used in the Russian *Soyuz* program during the Cold War. It was designed to transport astronauts — or rather, as the USSR called them, cosmonauts — to and from orbit. It was known for its durability and long operational history since the 1960s. To this day, the *Soyuz capsule* remains one of the most technologically reliable systems for human spaceflight. See: Siddiqi, Asif A. *Challenge to Apollo: The Soviet Union and the Space Race, 1945–1974*. Washington, D.C.: NASA History Division, 2000.

commitment to making the visual culture of aviation and space flight accessible to research. Herein lies a significant potential resource for future re-reading and reconsideration of the cultural construction of outer space imaginaries.

Temporary exhibitions play a critical role in updating and challenging these narratives at the *Musée de l'air et de l'Espace*. The exhibition Flight presented in 2024–2025, for instance, examined the principles of flight through a multispecies lens, juxtaposing birds, bats, insects and fish with human-built aircraft (see fig. 44 and 45). By destabilizing human exceptionalism and foregrounding ecological continuities, this exhibition introduced a rare speculative and biological re-reading of flight — opening conceptual space for non-anthropocentric imaginaries and narratives, for example by presenting artworks of contemporary artists depicting human-animal problematic relations (such as in fig. 46).

Similarly, *The Golden Age of Aviation*, presented in 2023–2024, revisited the interwar years through an explicitly aesthetic and cultural lens, situating aviation within the visual languages of *Art Déco*, early tourism, transnational concepts of elegance, and the spectacularization of modernity (see fig. 47 and 48). Exhibitions like these suggest that the museum is increasingly aware of its role as a mediator of cultural imaginaries rather than a neutral archive of technological artifacts.

Despite the richness of its collection, the museum's museography overall still largely reproduces the Western-centric narrative of linear progression of air and space history. The chronological ordering reinforces the notion of aviation and spaceflight as almost inevitable achievements of progress rather than historically contingent, politically instrumentalized or environmentally and socially destructive developments. The dominance of aircraft hardware and space technologies risks overshadowing the cultural, ecological, social, and labour histories that underpin aeronautical and outer space infrastructures, which seems to especially apply to the large-scale hall exhibitions.

More significantly, the museum's framing of outer space equally remains largely aligned with national and European space imaginaries: heroic exploration, technological triumph, scientific modernity, logistical

mastery. Absent, or minimally present, are alternative cosmologies, non-Western spatial epistemologies, or other critical planetary perspectives that have become central to decolonial and speculative museology throughout the last few years.[207]

The *Musée de l'Air et de l'espace* nonetheless provides a productive tension. On the one hand, its continued reliance on linear technological narratives does not simply reveal the normative power of aerospace heritage institutions to stabilize progress, conquest, and cosmic expansion; rather, it exposes the extent to which these institutions themselves remain embedded in and shaped by such normative frameworks, reproducing the very logics they stage. On the other hand, it offers a model of institutional hybridity that acknowledges the cultural, artistic and historical dimensions of aerospace history. Its iconological collections with artefacts transgressing technology-centered narratives and its thematic exhibitions demonstrate the potential of the museum to re-frame space as a complex socio-technical field shaped by visual cultures, political forces and social desires. As such, the *Musée de l'Air et de l'Espace* offers both a foundational precedent for more progressive curatorial narration as well as a critical mirror for imagining curatorial futures capable of transforming how outer space is represented and thus collectively understood.

As a result, this case study underscores the need for more curatorial approaches that expand beyond technocratic or nationalistic imaginaries, embracing speculative, ecological, plural and decolonial perspectives that re-situate outer space not as a frontier to be conquered but as a relational, contested and culturally diverse domain.

207 Recent museological discourse has increasingly positioned decolonial and speculative approaches as valuable to the field, emphasizing the need to address colonial legacies, diversify epistemologies, and reimagine institutional futures. Numerous scholars have thematized this shift, among them Thomas C. Jeffery, Leilani Wong, and Uzma Z. Rizvi to name just a few.
See, for example: Jeffery, Thomas C. "Critical Realist Philosophy and the Possibility of an Eco-Decolonial Museology," *Museum & Society 19*, no. 1, 2021, p. 48–70.Wong, Leilani. "Museums as Social Action: Building Equity in Marginalised Communities". *ICOFOM Study Series* 53, no. 1–2, 2025. Rizvi, Uzma Z. "Archaeological Encounters: The Role of the Speculative in Decolonial Archaeology". *Journal of Contemporary Archaeology* 6, no. 1, 2019, p. 154–167.

fig. 44

fig. 45

fig. 46

fig. 47

fig. 48

2.2.B Cité de l'espace – Toulouse, France

Opened in 1997 in Toulouse, the *Cité de l'espace* describes itself as one of Europe's leading cultural institutions dedicated to space flight, astronomy, and the scientific imaginaries of outer space. Designed as both a museum and an experiential science park, it combines large-scale spacecraft replicas, interactive exhibitions, and immersive environments. The *Cité de l'espace* occupies a distinctive position within Europe's landscape of science museums though its location in Toulouse, a city that serves as base for France's aerospatial programs and technical research. While it naturally offers accessible and pedagogical entry points into astronomy and space flight, its curatorial strategies present deep ideological, epistemic, and aesthetic implications.

The *Cité de l'espace* was visited for this thesis' analysis in November 2025. After the site visit, what stood out was the observation that immersive planetarium shows, high-resolution cosmic imagery, and monumental spacecraft replicas construct an experience of the *technological sublime*. Visitors — at least the very few encountered — are invited to visit exhibits intended to create a feeling of awe, wonder, and emotional uplift — affective responses historically also tied to rhetorics of progress and transcendence. While such experiences are undoubtedly compelling to a wide audience, they risk subordinating critical reflection to emotional effectiveness. The aesthetic of sublimity, combined with clearly high-cost museography afforded through private funding reinforce the narrative of technological mastery, in turn naturalizing the perception of humanity as a species destined to expand beyond terrestrial boundaries (see fig. 49). Consequently, emotional intensity becomes intertwined with ideological persuasion, subtly aligning visitors with utopian imaginaries promoted by scientific and industrial stakeholders (see fig. 50).

Through its exhibitions, scenographic strategies, and institutional partnerships, the *Cité de l'espace* produces a specific vision of outer space — one that deserves careful scrutiny when considering how museums contribute to the cultural construction of the extraterrestrial. The first imaginary to point out is an omni-present anthropocentrism. Much of the narrative architecture is built around the presence, experience, and

fig. 49

fig. 50

achievements of human beings in space. Full-scale replicas of the *International Space Station*, astronaut training simulations, and didactic materials on life in microgravity all foreground the human body as the central protagonist of the cosmic story. Planets, environments, and celestial bodies become the backdrop against which human ingenuity unfolds, manifesting itself in exploration. This narrative framing reinforces the long-standing cultural imaginary in which space is construed as a frontier instead of as a domain with its own material agency and ecological specificities. From this perspective, the *Cité de l'espace* participates in reproducing an anthropocentric cosmology that positions humanity not only as the interpreter of the universe but also as its rightful inhabitant and potentially equally rightful colonizer.

Closely linked to anthropocentrism is the institution's alignment with techno-utopian imaginaries

that sometimes border on propaganda. Many of the exhibitions celebrate large-scale technological achievement: the engineering of launch vehicles, the sophistication of satellites, the promises of future planetary missions (see fig. 51). While this narrative aligns with the museum's mandate to communicate scientific progress, it also mirrors the ideological priorities of the European and international space-industrial complex. In doing so, the museum implicitly endorses a worldview in which technological innovation is presented as inherently beneficial and ethically generally unproblematic. The ecological, geopolitical, and economic dimensions of space flight, such as the environmental cost of rocket launches, the extractionist logics underlying asteroid mining, or the growing militarization of orbital space, hardly receive attention, much less critical investigation. The resulting narrative establishes the museum as a powerful soft power apparatus which contributes to the cultural legitimation of space flight as an inevitable and desirable horizon of human activity.

As a cultural institution, the *Cité de l'espace* gradually reveals its strengths and limitations: it excels in producing accessible, engaging, and scientifically correct exhibitions addressing a younger audience. Yet, the institution is anchored in a Western, technoscientific cosmology that is inevitably influenced by its partnerships with the *Centre National d'Étude Spatiales* (CNES), *European Space Agency* (ESA) and *NASA*, contributing to the predominance of language stemming from the fields of engineering, physics, and mission-based exploration. This stands in contrast to curatorial approaches that mobilize vocabularies drawn from fields such as ecology, cosmology, Indigenous epistemologies, or speculative fiction, where outer space is often framed less as an object of technical mastery than as a relational, multispecies, or cosmological condition — sometimes even distinguishing between "space" as an operational domain and "cosmos" as a more expansive, philosophical or relational understanding of existence beyond purely instrumental logics.

While this scientific rigor ensures accuracy, it also promotes the idea of a singular, authoritative mode of knowing outer space, often presented as universal and neutral. Other positionings — be they Indigenous, philosophical, speculative, or artistic — aren't presented.

Ecological perspectives meanwhile are sometimes mentioned but nonetheless remain largely absent; included only in marginal, didactic[208] formats. The result is a museological realm that effectively presents outer space scientifically but rarely complicates its narratives to widen the horizon for potential discoveries.

Thus, the museum risks reinforcing an epistemic monologue: it proposes an understanding of other-space that is measurable, shapable, data-driven, and technically conquerable. This reduces the imaginative multiplicity of outer space to one dominant narrative: space as an object of study and conquest rather than a plural field of meaning, relation, or speculation.

As the *Cité de l'espace*'s exhibitions are deeply intertwined with the European space-industrial complex (see fig. 52 with partners), they present exploration as an inherently progressive, innovative, and desirable endeavor. Through its scenography and discourse, it supports narratives of space as a site of technological salvation (e.g. satellites saving Earth, orbital solutions for climate monitoring — see fig. 53); of space as an economic opportunity (industry, innovation, future markets — see fig. 54 and 55) and space as a destiny for humanity (imaginaries of the "pioneers" of outer space, lunar bases, or spatial tourism (see fig. 56 and 57).

In summary, the exhibitions at *Cité de l'espace* exemplify the broader challenge faced by institutions that mediate between their scientific authority on outer space and the public's imaginaries beyond scientific facts. As such, they have the responsibility not only to disseminate knowledge but also to reconfigure how societies imagine their place in the universe. Yet this transformative potential remains only partially realized when the museum reproduces the narrow, techno-centric cosmologies of the past that have become the standard rather than opening up the narration of the universe to plurality, uncertainty, and critical inquiry. A more reflexive curatorial model — one that critically acknowledges the political, ethical, and epistemological stakes of outer space representation — could allow institutions like the *Cité de l'espace* to move beyond celebration and toward

208 Here, the term *didactic* refers specifically to simplified, instructional modes of display that aim to communicate predefined scientific knowledge in a linear and explanatory manner, rather than engaging visitors through open-ended, critical, or interpretive frameworks that would allow for alternative epistemological or speculative readings.

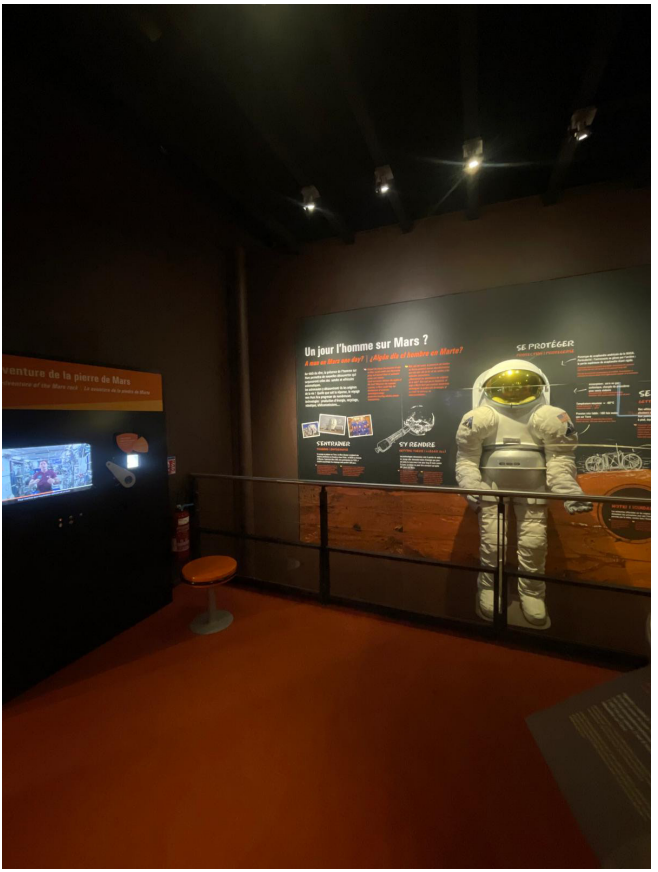

Un jour l'homme sur Mars ?
SE PROTÉGER
SE RENDRE

fig. 51


TOULOUSE
Cité de l'espace

fig. 52

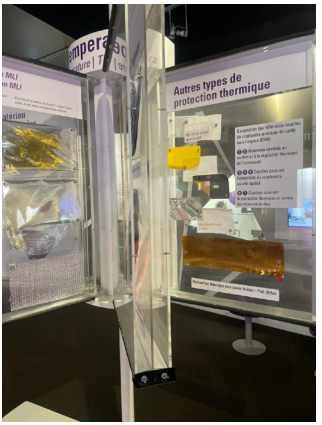


fig. 53

fig. 54

fig. 55

fig. 56

fig. 57

a genuinely plural understanding of what it means to encounter outer space as a means of reflecting on how it is inhabited, perceived, and made meaningful from a terrestrial, human perspective.

2.3. Blind Spots and Common Limitations in Institutional Space Representation

One observation that exhibits the illustrated was that in contemporary exhibition design, representations of outer space rely heavily on immersive, technologically mediated environments. Planetariums and dome theatres for example, utilize high-resolution astronomical projections to create a visualization which surrounds and as much as possible envelops visitors. The wider technological toolkit that contemporary museums employ goes beyond immersive dome projections however. VR/AR portals and AR-enhanced outdoor displays for instance are currently gaining popularity in museum contexts. In the case of space communication, virtual-reality installations commonly enable audiences to navigate simulated cosmic landscapes by themselves — thereby projecting them into a kind of astronautical perspective in which they perceive themselves as active agents, or at least participants. Online platforms extending the exhibition into the digital (and at-home) realm, exhibits utilizing interactive touch screens and even scenographic technologies like modern lighting technologies likewise belong to the toolkit that museums employ to represent outer space while maintaining a tangible, visitor-centered experience.

Both institutions, the *Cité de l'espace* and the *Musée de l'Air et de l'Espace* are situated in France and at least partly funded by the state (and the European Union).[209]

209 Both institutions are embedded within broader European cultural and research funding frameworks, including EU programmes such as Horizon Europe and related cultural heritage initiatives, which support museums, science communication, and transnational projects as part of the Union's long-term policy for innovation, education, and cultural production.
See: European Commission. Horizon Europe: The *EU's Key Funding Programme for Research and Innovation (2021–2027)*. Brussels: European Commission, Directorate-General for Research and Innovation, 2021–2027. https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en (consulted 24.04.2026) and European Commission. *Funding Opportunities for Cultural Heritage*. Brussels: European Commission, Directorate-General for Education, Youth, Sport and Culture, 2021–2027. https://culture.ec.europa.eu/cultural-heritage/funding-opportunities-for-cultural-heritage (consulted 24.04.2026).

They therefore function not only as sites of science communication but also as cultural apparatuses through which France, as a nation, articulates its historical, political, and symbolic investment in outer space, as well as its own role and relevance in space flight.[210]

A more central blind spot in these exhibitions concerns the limited communication of the ways in which space technologies are inherently embedded in histories of military development, geopolitical rivalry, and broader asymmetrical power relations. Moreover, the emphasis on national and European achievements reinforces a geographically and culturally bounded narrative of spaceflight, obscuring the global and uneven distribution of knowledge production, labour, and impact within the space sector. Both museums' exhibitions provide a curatorial fruitful terrain for analyzing how space is framed as a domain of progress, expertise, and national prestige. The predominance of these institutional narratives, therefore in turn means that the exhibitions contain significant limitations in their engagement with broader critical debates surrounding topics such as space commercialization[211], planetary extraction, and post-national or decolonial futures.[212]

One of the most notable blind spots concerns the insufficient engagement with the colonial genealogies of space flight. Since both institutions tend to frame outer space within a narrative of technological progress and human ingenuity, presenting linear chronologies of innovation and conquest, they reproduce the logic of expansion, which furthermore remains largely unexamined. To illustrate this point, idioms like "frontiers," "exploration," and "conquest," were frequently used in the exhibitions, echoing outdated colonial imaginaries that conceptualized land as empty, available, and destined for occupation. In this sense, both the exhibition at the *Cité de l'espace* and the *Musée de l'Air et de l'Espace* implicitly construct outer space as a *terra nullius*. A critical interrogation of how these imaginaries are historically entangled with terrestrial processes of

210 Bennett, Tony. "Civic Seeing: Museums and the Organization of Vision". In *A Companion to Museum Studies*, edited by Sharon Macdonald, 263–281. Oxford: Blackwell, 2006.

211 Parker, Martin. "Capitalists in Space". *The Sociological Review* 57, suppl. 1, 2009, p. 83–97.

212 Puig de la Bellacasa, Maria. *Matters of Care: Speculative Ethics in More Than Human Worlds*. Minneapolis: University of Minnesota Press, 2017.

colonization, dispossession, and extraction remains largely absent in both institutions.

Similarly, the merely superficial treatment of ecological questions constitutes a blind spot within which a significant limitation to critical exhibition making is constituted. While both institutions successfully convey the vastness and complexity of the universe, they tend to predominantly aim to create what can be described as a *technological sublime*. Earth is either framed as a point of departure or as an object of observation, rather than as a deeply entangled and vulnerable ecological system. Crucially, the environmental costs of space activities remain underrepresented. The ecological impact of rocket launches, the accumulation of space debris, and the extractive infrastructures required to sustain the space industry are rarely addressed in depth. This omission contributes to a narrative in which space flight is implicitly framed as immaterial or detached from terrestrial ecological crises.

What is however present in the exhibitions is the (increasing) focus on habitable exoplanets and potential future planetary settlements. Their presentation in tandem with the aforementioned omissions risks reinforcing the logic of displacement, according to whichEarth is conceived as a problem to be overcome rather than a site of perpetual collective responsibility. Such representations inadvertently nourish a form of "cosmic escapism" that undermines the urgency of climate justice on and ecological care for Earth as the sole inhabitable planet currently known. To summarize, these sustained emphases in framing in turn create a lack of engagement with ecological interdependence and planetary fragility, which would constitute a valuable narrative in the context of space flight.

Another critical blind spot in the exhibitions is the very limited inclusion of non-Western perspectives and alternative cosmologies. Both institutions are deeply rooted in a Western technoscientific framework that prioritizes engineering, empirical observation, and mission-based exploration as the primary modes of knowing outer space. While this approach provides accuracy when it comes to science as well as accessibility, it again stabilizes the singular common epistemological perspective.

Perspectives emerging from Indigenous, Black, queer, feminist, or other *intersectional*[213] decolonial scholars have critically examined in other contexts and institutions how narratives of spaceflight extend structures of dominance beyond Earth. While these analyses are not yet systematically reflected in the exhibitions under discussion, they nonetheless remain crucial for understanding how outer space is framed and contested. These alternative ways of understanding outer space — whether rooted in Indigenous cosmologies, non-Western astronomical traditions, or speculative artistic practices — are largely absent or appear only in limited, didactic segments. This absence ultimately produces a curatorial framing in which outer space is rendered as a neutral, universal domain, rather than as a contested epistemic field shaped by historically situated and divergent worldviews.

Since relational, spiritual, or multispecies understandings of the cosmos that could challenge anthropocentric assumptions and open alternative imaginaries of coexistence are missing from the exhibitions, they (re)produce an epistemic monoculture.

It is at this stage important to sum up that the absence of these alternative narratives is not merely representational but also conceptual. By excluding plural cosmologies, the exhibitions limit the range of possible relationships visitors develop to space.

Moreover, in the wider context of ever evolving societal debates, these limitations of engagement are inevitably growing in relevance over time, creating widening blind spots. A lack of critical engagement with these topics and a social negotiation with the public through exhibition making on part of the museums is therefore increasingly critical in itself.

In this sense, the limits of current institutional representations also point toward their potential transformation. Museums, as sites of mediation between knowledge and imagination, are uniquely positioned to reframe outer space not as a distant frontier, but as

213 The concept of *intersectionality*, introduced by legal scholar Kimberlé Crenshaw, describes how different axes of social differentiation — such as race, gender, class, and sexuality — intersect to produce specific and overlapping systems of inequality and structural disadvantage that cannot be understood in isolation from one another. It has since become a foundational analytical framework in feminist, critical race, and decolonial theory for examining how power operates across multiple, interdependent dimensions. See: Crenshaw, Kimberlé. "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color". *Stanford Law Review* 43, no. 6, 1991, p. 1241–1299.

a relational and politically charged domain — one that demands new forms of accountability, plurality and awareness.

Identifying and criticizing these blind spots does not however diminish the significance of these institutions; rather, it highlights the unrealized need for a more reflexive and critical curatorial approach. Integrating colonial histories, foregrounding ecological interdependence, and embracing epistemic plurality would allow space exhibitions to move beyond the reproduction of dominant imaginaries toward a more nuanced and contested understanding of the cosmic.

2.4. The Museum as Site for Imaginaries of Space Futures

> To re-member, to com-memorate, is actively to reprise, revive, retake, recuperate.[214]

As mentioned in the precedent sub-chapter, museums, as state-sponsored structures, function as ideological apparatuses by explicitly and implicitly communicating specific worldviews — often purportedly as neutral. This way, they perpetuate ideologies, particularly within the context of humanity's varying relationships with the topics presented to an audience. Museums thus also play a role in constructing national narratives, frequently linking national identity to technological advancement and progress, thereby reinforcing state interests and its economic systems.[215]

The concept of the Anthropocene, as presented in museum exhibitions, can be critically examined for its tendency to normalize certain ideologies humans encounter within it. For instance, museums commonly present the Anthropocene by telling the "history of technology," thereby potentially overlooking to thematize critiques of capitalism and environmental injustices that are more or less obviously connected with the topic at hand.[216] This can lead to an intentional or unintended

214 Haraway, Donna. *Staying with the Trouble. Making Kin in the Chthulucene*, Duke University Press, 2024, p. 24.

215 Warf, Barney. GEOPOLITICS OF THE SATELLITE INDUSTRY, 2007, *Tijdschrift voor Economische en Sociale Geografie*, 98(3), p. 386, https://doi.org/10.1111/j.1467-9663.2007.00405.x (consulted 04.04.2026).

216 Thorsson, Bergsveinn. *Walking through the Anthropocene*, Nordic museology 2020, n°1, s. 103–119, 2016, https://scispace.com/pdf/walking-through-the-anthropocene-encountering-2wx5h58xbj.pdf (last consulted 04.04.2026).

"technowashing"[217] of these topics as omitting the challenges supports the preservation of energy-intensive, capitalist political economies while projecting nationalist aspirations carried into the future.[218]

Museums become sites where dominant ideologies concerning technology, nationhood, and human exceptionalism are actively (re)produced and disseminated, shaping collective understanding and political imagination.[219] Likewise, museums reinforce anthropocentric perspectives when framing humanity as the central agent on Earth and in the universe alike when they overlook the significance of non-human actors or more inclusive perspectives on multispecies relationships.[220] By focusing on technological control and idealized pasts – as in the biblical narrative of the *Edenic Earth*[221] in which humans were the guardians and rulers over everything except God himself –, museums tend to contribute to a sense of detachment from the immediate ecological realities and the consequences of human actions.[222]

217 *Technowashing* refers to the practice of framing technologies, particularly in high-impact sectors such as military, space, or surveillance industries, as neutral, innovative, or universally beneficial in order to obscure or soften their political, economic, or ecological implications. It describes how technological narratives are used strategically to produce legitimacy, fascination, and public acceptance, while displacing critical attention away from underlying structures of power, extraction, or control.
See: Noble, Safiya. *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: NYU Press, 2018, https://files.commons.gc.cuny.edu/wp-content/blogs.dir/6105/files/2019/01/SAFIYA-NOBLE.pdf (consulted 18.03.2026).

218 Koch, Nathalie. *Scientific nationalism and museums of the future in Germany and the UAE*, Political Geography, Volume 113, August 2024, https://www.sciencedirect.com/science/article/abs/pii/S0962629824000933?via%3Dihub (consulted 04.04.2026).

219 Hall, Stuart. "The Work of Representation," in *Representation: Cultural Representations and Signifying Practices*, ed. Stuart Hall (London: Sage, 1997), p. 6.

220 Olson, Valerie, and Messeri, Lisa (2015). *Beyond the Anthropocene: Un-Earthing an Epoch. Environment and Society*, 6(1). https://doi.org/10.3167/ares.2015.060103 (consulted 04.04.2026).

221 The narrative of the *Edenic Earth* refers to a cultural and ideological imaginary that frames planet Earth as a pristine, self-contained, and life-sustaining paradise — often implicitly original or harmonious prior to human disruption. Within environmental, space, and ecological discourse, this trope can function ambivalently: on the one hand, it expresses ecological concern and a desire for preservation; on the other, it risks naturalizing an idealized, ahistorical vision of Earth that obscures histories of colonial extraction, uneven development, and planetary degradation. In space-related imaginaries, this figure is often contrasted with outer space as a site of escape or renewal, reinforcing binaries between a pure Earth and an external frontier.
See: Cosgrove, Denis. *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination*. Baltimore: Johns Hopkins University Press, 2001.

222 Messeri, Lisa. *Gestures of Cosmic Relation and the Search for Another Earth. Environmental Humanities*, 9(2), p. 325-340, 2017, https://doi.org/10.1215/22011919-4215325 (consulted 04.04.2026).

For example, the mentioned idea of an *Edenic Earth* has been deeply rooted in Christian cosmology, where Earth is imagined as an ordered and divinely structured environment in which humans are appointed as stewards over nature. Over centuries, this narrative has become culturally stabilized, contributing to the perception of Earth as a stable, harmonious, and human-centered system. In the context of museum and space exhibitions, such imaginaries are often implicitly reactivated and translated into secular forms of technological mastery and planetary control. However, this inherited worldview has been increasingly challenged by Indigenous, Black, and other non-Western epistemologies, which question the presumed universality of human centrality and instead foreground relational, multispecies, and situated understandings of existence. From this perspective, what appears as a neutral curatorial framing is in fact the continuation of historically produced worldviews that are now being critically re-evaluated and reconfigured in light of contemporary ecological, decolonial, and Post-Anthropocentric thought.

Naturally, the role of the museum can be discussed from many viewpoints. This thesis focuses on the museum with functions both as a mediator for future imaginaries and as a keeper of the status quo. Hito Steyerl frames the relevance of the museum for the future as follows:

> History only exists if there is a tomorrow. And, conversely, a future only exists if the past is prevented from permanently leaking into the present and if Mimics of all sorts are defeated. Consequently, museums have less to do with the past than with the future: conservation is less about preserving the past than it is about creating the future of public space, the future of art, and the future as such.[223]

What Steyerl expresses so poignantly is that museums need to do justice to the temporal dichotomy they are responsible to communicate. By presenting the past, ideologies, ideas and structures of this past inevitably leak into the narrations put forth. This should not come as a surprise. In order to do justice to the future however, the conceptual remnants attached to the past need to be critically questioned and continuously updated

223 Steyerl, Hito. *Duty Free Art - Art in the Age of Planetary Civil War*, Verso, 2017, p. 8.

in the museum's communication thereof. They need to — as Steyerl calls it — be prevented from leaking into the present. The science fiction author Alexander Bogdanov similarly postulated that "the museum is not merely a place of preservation but a laboratory of the future, where the knowledge of the past merges with the visions of tomorrow".[224]

While Steyerl's and Bogdanov's perspectives are highly productive for thinking of the museum as a future-oriented epistemic space, it is important to note that such a framing does not apply uniformly across different institutional typologies. In particular, a distinction must be made between art museums and science or technology museums, as their epistemic mandates, curatorial logics, and relationships to knowledge production differ significantly. Consequently, Bogdanov's proposition cannot be uncritically transferred onto the science museums discussed in this thesis, but must instead be understood as a conceptual provocation that requires contextual differentiation.

The critical (re)presentation of outer space is more relevant today than it has arguably ever been before. In a time when private companies like *SpaceX* and *BlueOrigin*, beyond the various state-run space programs, are launching more future space debris into space than ever before[225], and turn concepts such as space colonization, asteroid mining, interplanetary migration from mere science fiction into plans actively being pursued and funded[226], a multitude of questions needs to be negotiated socially. A question consequently arising on the role of museums is thus: how are these contemporary developments (to be) reflected, and (how) are artistic representations of outer space being exhibited? Hegemonic structures like the ones of private corporations who are propelling the current developments far past the boundaries of what would be possible democratically or

224 Bogdanov, Alexander. *Red Star: The First Bolshevik Utopia*. Translated by Charles Rougle. Bloomington: Indiana University Press, 1984.

225 Osoro, Ogutu B., Edward J. Oughton, Andrew R. Wilson, and Akhil Rao. "Sustainability Assessment of Low Earth Orbit (LEO) Satellite Broadband Megaconstellations". eprint arXiv:2309.02338, 2023, https://doi.org/10.48550/arXiv.2309.02338 (consulted 24.04.2026).

226 Gatti, Emma, and D'Ottavio, Andrea. "The Missing Rocket: An Economic and Engineering Analysis of the Reusability Dilemma in the European Space Sector". Intereconomics 60, no. 2, 2025, p. 88–95, https://www.intereconomics.eu/contents/year/2025/number/2/article/the-missing-rocket-an-economic-and-engineering-analysis-of-the-reusability-dilemma-in-the-european-space-sector.html (consulted 24.04.2026).

publicly funded, make it necessary that curatorial frameworks take on more complex narratives than is currently being done.

This necessitates that museums would have to be perceived more as spaces in which experimental approaches are allowed. Then, they could serve as a platform for countermodels to traditional representations of outer space. As it stands now, the past continuously leaks into the present, rendering the emergence of (another) future impossible, as Steyerl could put it. Evidently, art is a more malleable context than science communication; nonetheless, alternative curatorial approaches would offer the possibility of understanding outer space as a terrain of speculative imagination and critical reflection, thereby actually rendering alternative future(s) finally possible.

Curatorial practices in the New Space Age can be understood as encompassing the strategies discussed throughout this thesis, situated within a historical moment marked by intensifying ecological crisis, technological acceleration, and expanding extraterrestrial ambitions led by both state actors and private space corporations. In this context, Earth-bound political, economic, and environmental tensions are increasingly projected into outer space, where imaginaries of colonisation, extraction, and expansion risk being reproduced on a cosmic scale. *Critical curating*[227] therefore implies not only the representation of such dynamics, but an active engagement with their epistemic and ideological infrastructures. It entails a heightened awareness of the role exhibitions play in producing imaginaries of possible futures, both terrestrial and extraterrestrial, and thus of their capacity to shape collective orientations toward these futures. Within this framework, curatorial responsibility lies in cultivating forms of critical imagination that do not simply reproduce dominant narratives of progress and expansion, but instead question, interrupt, and reconfigure them in light of ecological, ethical, and planetary entanglements.

227 *Critical curating* refers to a curatorial approach that treats exhibition-making not as a neutral act of selection and display, but as a reflexive, situated, and politically engaged practice that interrogates the conditions under which knowledge, visibility, and value are produced within institutional and cultural systems. The term emerged within contemporary curatorial discourse in the late 1990s and early 2000s in parallel with curatorial studies and institutional critique, and is closely associated with theorists and curators such as Okwui Enwezor, Maria Lind, and Beatrice von Bismarck, who each emphasized curating as a site of epistemic and political production rather than neutral mediation. See: von Bismarck, Beatrice. “Curating as Critique,” in *Cultures of the Curatorial*, ed. von Bismarck, Beatrice. et al. (Berlin: Sternberg Press), 2012, p. 48-65; Lind, Maria. “The Curatorial,” *Artforum* 48, no. 2, 2010, p. 103-105; Enwezor, Okwui. *The Postcolonial Constellation: Contemporary Art in a State of Permanent Transition* (Berlin: Haus der Kulturen der Welt), 2003.

3. Artistic and Curatorial Counter-Narratives

3.1 On the Inherency of Ideological Positioning

When Yuri Gagarin stated that "the Earth is blue" his statement has often been received as a universalizing vision of the planet. However, such a view does not transcend situated experience but rather reflects a particular positionality, as the philosopher and activist Ailton Krenak suggests. The claim to a shared, planetary perception risks masking the partial and constructed nature of his perspective, which presents it as universally valid. Krenak continues by stating: "If we were able to stand outside our own experience for a moment, we would probably realize that our perceptions of a great many things resemble us more clearly"[228]. This Master's thesis in this sense does not assume that positions of neutrality are possible. It proceeds from the premise that all representations of outer space — whether institutional, artistic, or theoretical — are embedded within ideological frameworks. In this sense, exhibitions, images, and narratives of outer space are never merely descriptive: they actively participate in shaping how it is imagined, who is authorized to speak about it, and which futures are rendered possible or desirable.

If institutional representations of outer space tend to stabilize the dominant imaginaries of progress, conquest, and technological mastery, contemporary artistic and curatorial practices have increasingly been presented as sites of resistance against hegemonic narratives. These practices are often engaged to question the ideological underpinnings of space flight, foregrounding issues of colonialism, ecological crisis, and epistemic exclusion. Yet the status of these practices being perceived as *counter-narratives* requires critical

228 Krenak, Ailton. *Ideas to postpone the End of the World*, House of Anansi Press Ltd, Canada, 2020, p.57-58.

examination. As so-called *counter-narratives* do not exist outside of ideology. Artistic, curatorial, and theoretical practices that seek to challenge dominant imaginaries are themselves situated within discursive formations that shape their modes of critique and possibility. To frame these practices as external or oppositional to other ideologies risks reproducing a binary that obscures their own conditions of emergence. As philosopher Louis Althusser has argued, there is no position outside ideology. Ideology constitutes the very horizon within which subjects think, act, and produce meaning.[230] Therefore, there is no such thing as neutrality. Whenever one writes, acts, decides, observes and is observed, there inherently is situatedness: even the method *teilnehmende Beobachtung*[231] isn't possible from a completely insider or outsider position despite trying to achieve a maximum of neutrality.

Hence, counter-narratives must neither be understood as neutral correctives to dominant narratives nor as simply standing in opposition to them, but rather as alternative ideological configurations. These shifts therefore do not abolish ideology, they rearticulate it. They reorganize the field of representation by foregrounding different actors, temporalities, and relations.[232] As Stuart Hall stated, representation is always a site of struggle, in which meanings are contested, negotiated, and temporarily stabilized.[233] Counter-narratives thus operate within the same terrain of contestation, participating in the ongoing production of meaning instead of escaping it.

When specifically referring to artistic *counter practices*, one could say: contemporary art can be understood less as a space of prediction than as a

229 Haraway, Donna. *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016).

230 Althusser, Louis. "Ideology and Ideological State Apparatuses," in *Lenin and Philosophy and Other Essays* (New York: Monthly Review Press, 1971.

231 The term *teilnehmende Beobachtung* (participant observation), refers to a method used in qualitative research. The approach, in which the researcher actively engages in the social context under study while simultaneously observing it, has been largely used in ethnography and anthropology. Rather than maintaining distance, the researcher becomes involved in practices, interactions, and environments. See: Geertz, Clifford. "Thick Description: Toward an Interpretive Theory of Culture". In *The Interpretation of Cultures: Selected Essays*, 3–30. New York: Basic Books, 1973.

232 Tsing, Anna. *The Mushroom at the End of the World* (Princeton: Princeton University Press), 2015.

233 Hall, Stuart. "The Work of Representation," in *Representation: Cultural Representations and Signifying Practices*, ed. Stuart Hall (London: Sage), 1997, p. 13–74.

space of temporal disruption. As argued in theoretical reflections on contemporaneity, artistic practices do not so much imagine entirely new futures as they expose the instabilities and transience of the present. They render the conditions that structure currently existing imaginaries visible, thereby opening them to reconfiguration. The future, in this sense, is not presented as a fixed horizon, but as a contested and contingent field.

This recognition has important implications for the methodological and epistemological positioning of this thesis. Rather than understanding opposing ideologies with (supposed) objectivity, the research adopts a reflexive approach, seeking to render ideological operations visible — both in the objects of study and in the analytical framework. The selection of case studies, the privileging of certain theoretical perspectives, and the emphasis on particular critical concerns (such as coloniality, ecology, and intersectionality) all reflect situated choices that are themselves ideologically loaded.

At the same time, acknowledging the ideological character of counter-narratives does not inherently diminish their critical potential. On the contrary: the acknowledgement allows for a more nuanced understanding of the roles counter-narratives hold within the cultural field. As philosopher Jacques Rancière argued, the political dimension of aesthetics lies not in delivering correct representations, but in reconfiguring what can be seen, said, and thought.[234] In this sense, artistic counter-narratives function as interventions that reconfigure the existing order, opening spaces for alternative imaginaries while remaining embedded within structures of power and meaning.

In addition, contemporary artistic and curatorial practices do not simply project alternative futures; they reveal the transitory and contingent nature of the present itself as Boris Groys suggested.[235] By demonstrating that existing orders are neither fixed nor inevitable, artistic counter-practices create the conditions necessary for imagining otherwise. Evidently, even this gesture of destabilization operates within an ideological horizon by privileging certain forms of critique, temporality, and world-making over others.

234 Rancière, Jacques. *The Politics of Aesthetics*. London: Continuum, 2004.

235 Groys, Boris. "Comrades of Time," in *Going Public*. Berlin: Sternberg Press, 2010.

However, the revolutionary potential of these practices cannot be assumed without caution. Even as they seek to deconstruct dominant narratives, counter-narratives risk unintentionally reproducing them in altered forms. Speculative aesthetics, for instance, may challenge technocratic visions of space while still relying on similar imaginaries of futurity and projection.[236] Likewise, decolonial approaches may expose the violence embedded in space flight while remaining situated within institutional frameworks that are themselves historically implicated in processes of exclusion.[237]

This ambivalence neither diminishes the significance of artistic and curatorial interventions; rather, it underscores their complexity. The artistic and curatorial interventions' critical force lies precisely in their ability to contain contradictions, to operate within ideological structures while simultaneously destabilizing them. In this sense, they function as sites of friction — spaces where different imaginaries intersect, collide, and remain unresolved.

This thesis is therefore situated within this field of tensions. Since it analyzes how different narratives — dominant and critical alike — are constructed, mobilized, and legitimized, it does not itself produce or proclaim a definitive counter-narrative to dominant space imaginaries.In doing so, the focus lies on the question of what is represented and how this representation itself operates as a site of ideological production.

The aim is not to resolve the tension between ideology and counter-critique, but to uphold this tension as a productive condition. By recognizing that both dominant narratives and their counter-forms are ideologically situated, this research can act as a space for thinking about outer space as a contested field of meaning — one in which different visions of the future are continuously negotiated, challenged, and reimagined.[238] It is therefore necessary to point out that this thesis contains a reflexive stance: as curatorial practice, including the discourse within this thesis, is implicated

236 Jameson, Fredric. *Archaeologies of the Future*. London: Verso, 2005.

237 Mignolo, Walter D. *The Darker Side of Western Modernity*. Durham: Duke University Press, 2011.

238 Eshun, Kodwo. "Further Considerations on Afrofuturism," *CR: The New Centennial Review* 3, no. 2, 2003.

in the production of planetary imaginaries. The question can therefore not be how to escape ideological influence, but how to appropriately work within and through it — opening spaces for contestation, plurality, and alternative configurations of the future.

3.2. Outer Space as a Speculative Terrain

Radical Museology[239] is a method that offers a framework for re-imagining outer space representation by treating space not as a futuristic backdrop but as a contested historical field that can be interrogated through multiple overlapping temporalities. Developed by Claire Bishop, *Radical Museology*, designates a curatorial and institutional approach that seeks to challenge dominant neoliberal, market-driven models of the museum by foregrounding alternative temporalities, political engagement, and critical forms of display. Rather than prioritizing spectacle, attendance, or economic value, the approach emphasizes the museum's potential as a site for critical reflection, historical consciousness, and the reactivation of marginalized narratives. Radical Museology often involves rethinking exhibition formats, collection display, and institutional responsibility in order to resist homogenizing cultural logics and to engage more directly with social and political questions. Applied to the context of outer space, Radical Museology operates as a speculative method: it reconfigures the museum as a site where alternative cosmologies, temporalities, and forms of knowledge can be actively rehearsed rather than merely displayed.

In a first step, the museum's permanent collection becomes a *testing ground* for a non-presentist, multi-temporal approach, allowing exhibitions to juxtapose historic space-race propaganda, Indigenous cosmologies, and speculative futures in a single narrative.[240] By foregrounding *dialectical contemporaneity* — a method that asks why particular temporalities appear in specific works and uses that inquiry to alter the present — curators can expose how Cold-War ideologies, neoliberal market logics, and colonial imaginaries have shaped our

239 See: Bishop, Claire. *Radical Museology or what's contemporary in museums of contemporary art?*, Koenigs Books, London, 2013.

240 Groys, Boris. "Comrades of Time," in *Going Public*. Berlin: Sternberg Press, 2010, p.23.

visual language of outer space.[241] Speculative fiction and artistic imagination play a crucial role in this process, opening alternative understandings of outer space that move beyond normative techno-industrial paradigms and inherited colonial narratives. Here, speculation is not understood as escapist projection, but as a critical practice that enables the reworking of inherited epistemic frameworks and the articulation of otherwise unthinkable relations to the cosmos. By treating outer space not merely as a futuristic projection but as a contested historical field shaped by overlapping temporalities, this approach reveals how Cold War ideologies, neoliberal market logics, and colonial imaginaries have structured the visual and epistemic frameworks through which outer space continues to be represented.

In a second step, an *archive of the commons*[242] is adopted, which reframes space artefacts (satellite models, planetary specimens, astronaut testimonies) as shared cultural resources rather than elite property, inviting community-driven reinterpretation and open-access scholarship.[243] The notion of an *archive of the commons* refers to an approach to archival practice that understands cultural materials as collectively held resources rather than as exclusive institutional property. Drawing on theories of the commons, it emphasizes shared access, collective stewardship, and the participatory reinterpretation of archival objects. Such approaches, as articulated in *Archives of the Commons II: The Anomic Archive*, are often associated with open-access initiatives, community-based archiving, and critical archival practices that challenge dominant epistemologies and hierarchies of visibility. The politicized stance allowed by the *archive of the commons* destabilizes dominant narratives and inserts marginalized voices (e.g., Indigenous sky-maps or women's contributions to astrophysics) into the institutional discourse.[244] But foremost, beyond destabilizing dominant narratives, such an archive also enables the emergence of new forms of collective authorship and knowledge

241 Ibid.

242 See: Red Conceptualismos del Sur, eds. A*rchives of the Commons II: The Anomic Archive*. Buenos Aires/Paris: Pasafronteras Editorial, 2019, https://redcsur.net/wp-content/uploads/2021/03/ArchivoAnomico_Ingles_PDF_lectura-1.pdf (consulted 26.04.2026)

243 Bishop, Claire. *Radical Museology or what's contemporary in museums of contemporary art?*, Koenigs Books, London, 2013, p. 43.

244 Ibid., p. 46.

production, in which meaning is continuously negotiated rather than institutionally fixed.

Finally, the museum can stage *dialectical* displays that layer historic documentation, such as *Apollo* mission footage, with contemporary speculative art, prompting visitors to perceive outer space as a site of ongoing social negotiation rather than a static, market-driven spectacle. In this way, *Radical Museology* reshapes outer space representation into a dynamic, critically engaged field that connects past injustices, present power structures, and future possibilities.

As discussed, exhibitions can and do indeed reinforce (e.g., white-masculine and colonial tropes) by glorifying astronauts and engineers within narratives of technocratic progress. This is evident in the ways space exploration is commonly framed, equating it with human supremacy and the conquest of new frontiers.[245] Likewise, the way that astronauts have historically been portrayed as almost hypermasculine pioneers who echo colonial figures like Christopher Columbus due to them being compared to explorers venturing into new territories, reinforces similar narratives.[246] As mentioned previously, the iconic *Blue Marble* photograph fosters a sense of planetary consciousness and fragility, while it can also be interpreted as reinforcing an anthropocentric gaze that frames Earth as an object to be mastered or appropriated.

245 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023.

246 Ibid.

3.3. Curating with the Other

> If we assume that the natural realm is plural, is it possible to think of plural technical realms, different from one another not only on the practical and esthetical framework, but also on the ontological and cosmological framework?[247]

Other

The

here is not understood as an object of representation, but as a co-constitutive agent in the production of meaning. Curating *with* the Other in this sense extends the gestures by reconfiguring the very conditions of authorship, knowledge production, and exhibition-making. If curating *with* the Other foregrounds relationality, co-presence, and the redistribution of authorship, it also reveals the limits of existing curatorial structures in accommodating such practices. In this sense, curating *with* the Other necessitates a further shift: toward *curating otherwise*[248]. To invoke the possibility of *curating otherwise*, one has to introduce strategies that resist institutional authority and center marginalized voices and knowledges. In order to do so, one has to step beyond the positions of Western imaginations and look at thinkers exploring a long tradition of non-instrumentalized outer space imaginary. It is precisely at this point that curatorial practice must turn toward situated critiques that expose

247 Hui, Yuk. "Cosmotechnics as Cosmopolitics" e flux journal, 11.2017, https://www.e-flux.com/journal/86/161887/cosmotechnics-as-cosmopolitics (consulted 25.04.2026).

248 *Curating otherwise* can be understood as a critical curatorial stance that seeks to move beyond established institutional logics of display, authorship, and knowledge production. It is a concept that can be traced back to discussions of participatory and decolonial approaches that inform practices of "curating otherwise," developed by Bishop, Haraway or Mignolo and Walsh. Rather than reproducing dominant Western epistemologies and their associated hierarchies of visibility, it proposes alternative modes of curatorial practice that foreground marginalised voices, situated knowledges, and non-extractive relations to cultural and ecological contexts. This approach implies not only the inclusion of overlooked perspectives, but also a structural rethinking of how exhibitions are conceived, organised, and narrated. In this sense, *curating otherwise* opens up curatorial practice to non-instrumental, speculative, and plural understandings of space— including imaginaries of outer space that are not framed through technological mastery or colonial projection, but through alternative cosmologies and relational epistemologies. See: Haraway, Donna J. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016; Bishop, Claire. *Artificial Hells: Participatory Art and the Politics of Spectatorship*. London: Verso, 2012; Mignolo, Walter D. and Catherine E. Walsh. *On Decoloniality: Concepts, Analytics, Praxis*. Durham, NC: Duke University Press, 2018.

the historical and geopolitical conditions shaping outer space imaginaries. For example, in *Celestial Settler Frontiers* (published in *e flux architecture's Off-Earth* series in 2025), the architectural designer and researcher Thandi Loewenson offers a layered critique of the historical and ongoing colonial entanglements embedded within outer space imaginaries and representations — particularly as they unfold from the perspective of Africa.[249]

Loewenson frames outer space not as a neutral frontier but as a continuation of colonial space-making, where the logics of extraction, racial hierarchy, and epistemic domination persist beyond Earth. Through historical events, such as meteorite landings in colonial *Rhodesia*[250] or UFO sightings in postcolonial Zimbabwe, the text reveals how cosmic events were mobilized within settler and imperial imaginaries to reaffirm hierarchies of knowledge and civilization. In colonial *Rhodesia*, meteorites became objects of imperial scientific possession: they were collected, classified, and sent to European museums. Indigenous interpretations of celestial phenomena like spiritual, ancestral, or cosmological relations were simultaneously suppressed or rendered *primitive*. Loewenson demonstrates that *outer space* has long served as a discursive field for consolidating colonial order, within which cosmic phenomena are transformed into material and epistemic resources of the (British) Empire.

At the same time, the essay foregrounds Indigenous and African cosmologies as counter-narratives to colonial astronomy. The Khoisan and San traditions[251], which perceive meteors as animated, relational agents tied to healing, transformation, and ancestral power, expose an

249 See: Loewenson, Thandi. "Celestial Settler Frontiers". *e flux Architecture*, March 17, 2025, https://www.e-flux.com/architecture/off-earth/660586/celestial-settler-frontiers (consulted 26.04.2025).

250 *Rhodesia* refers to the former colonial and unrecognised state in southern Africa (1965–1979), which existed under white-minority rule on the territory of present-day Zimbabwe. It was named after British imperialist Cecil Rhodes. The term is used here in its historical sense in order to remain faithful to the geopolitical and temporal context of the period under discussion, while also foregrounding the colonial framework embedded in its naming and governance structures.

251 The Khoisan and San traditions originate from Indigenous peoples of southern Africa, particularly regions that are today part of South Africa, Namibia, Botswana, and surrounding areas. These cosmological references are drawn from long-standing oral and cultural knowledge systems that predate and exist alongside colonial and Western scientific frameworks. See: Loewenson, Thandi. "Celestial Settler Frontiers". *e flux Architecture*, March 17, 2025, https://www.e-flux.com/architecture/off-earth/660586/celestial-settler-frontiers (consulted 26.04.2025).

entirely different mode of engaging the cosmos: one based on relationality rather than mastery.[252]

Drawing on Jonathan Jacob Moore's *Starships and Slave Ships*, Loewenson understands UFO abduction narratives as predominantly white phenomena, emerging from settler anxieties about frontier vulnerability and Otherness. Furthermore, another conceptual danger that can emerge according to Loewenson is the Western rhetoric around *responsible behavior in space*[253]. Such discourses replicate the same civilizational hierarchies that once structured colonial astronomy: the distinction between *civilized* and *rogue* actors in outer space governance.

Art can serve as a powerful intervention by utilizing presence and absence to disrupt these dominant space imaginaries. For instance, works like *The Great Silence*[254] by Jennifer Allora and Guillermo Calzadilla realized in 2025, critique anthropocentrism. By highlighting the "silence" of extraterrestrial intelligence alongside the silencing of Earthly *Others*[255] (endangered parrot species in this case), the work suggests that

252 Ibid.

253 The term *responsible behavior* in space is a western rhetoric presented as a strategic framework. It is primarily driven by the United States and its allies to establish norms, manage space debris, and deter adversary activities deemed threatening to space infrastructure. This framing reveals how ethical language can function as a geopolitical instrument, translating security interests into seemingly universal principles of responsibility. See: Bogacz, Magdalena T., and Jacob F. Lanier. 2025. "Space Ethics and Security: United States Tenets of Responsible Behavior in Space in a Universal Ethical Theory." *Astropolitics* 23 (1), p. 53–72, https://doi.org/10.1080/14777622.2025.2502390 (consulted 26.04.2026).

254 Chiang, Ted. and Calzadilla, Allora, The Great Silence, *e flux journal* Issue #65, May 2015, https://www.e-flux.com/journal/65/336684/the-great-silence (consulted 26.02.2026).

255 The term *Other* / *Othering* refers to a key concept in postcolonial theory describing the discursive and epistemic process through which certain subjects, cultures, or beings are constructed as fundamentally different from and subordinate to a normative Self. Rather than describing an inherent condition of difference, "Othering" analyses how such difference is actively produced within colonial, racialised, and anthropocentric regimes of knowledge. The concept was further developed in feminist and postcolonial theory by scholars such as Gayatri Chakravorty Spivak, who interrogates how subaltern voices are rendered invisible within dominant systems of knowledge production. See: Spivak, Gayatri Chakravorty. "Can the Subaltern Speak?," in *Marxism and the Interpretation of Culture*, ed. Cary Nelson and Lawrence Grossberg (Urbana: University of Illinois Press), 1988, p. 271–313.
In this thesis, the concept is used to critically examine how similar logics operate beyond the human sphere, including in the framing of non-human life and extraterrestrial imaginaries. *Earthly Others* such as non-human animals, ecosystems, and endangered species are positioned within hierarchies of silence and recognition, which are structurally continuous with the ways in which extraterrestrial life is imagined as radically other, unknown, or epistemically inaccessible. In this sense, *Othering* is understood as an expanded epistemic operation that links colonial difference on Earth to the construction of alterity beyond Earth. It reveals continuity between terrestrial and outer space regimes of classification and exclusion.

normative imaginaries often involve an absence of recognition for non-human intelligence. Similarly, artists drawing on *Indigenous Futurism* like Zahy Tentehar[256] or Subash Thebe Limbu[257], reclaim narratives by centering ancestral knowledge and cosmologies, countering the historical erasure of these perspectives and challenging the colonial impulse inherent in many narratives of space exploration.

Counter-narratives within exhibitions, such as those featured in the 2023 multimedia exhibition and discursive program *Back to Earth: Contested Histories of Outer Space Travel* presented by *Canal Projects* in New York, actively challenge dominant ideologies.[258] The multimedia exhibition was curated by Sara Garzó and unfolded as an intersectional program that brought Indigenous, Asian, Black, queer and feminist perspectives into the planetary imagination, explicitly rejecting the technocratic "progress" myth of space travel. A method employed by the curator is a selection of visual experiments that re-situate humans as "grounded on Earth" and foregrounded mutual accountability rather than conquest (as seen in Subash Thebe Limbu's film stills, see fig. 58 and 59). For example, *Indigenous Futurism* is applied as a methodological framework that rewrites colonial erasures and proposes alternative technologies rooted in ancestral knowledge (as displayed in two films by Zahy Tentehar presented in the exhibition; See fig. 60 and 61). The performance-science-fiction film *Máquina Ancestral: Ureipy by Tentehar* from 2023 utilizes a robotic entity to revive ancestral knowledge and critique the white, all-abled *Vitruvian Man*[259] of technocratic progress. This image of robot entities serving the ecosystem can

256 Subash Thebe Limbu is a Yakthung (Limbu) artist from Nepal whose work combines film, sound, and installation to articulate *Indigenous Futurisms* grounded in local cosmologies and ecological relations.

257 Zahy Tentehar is an Indigenous artist from the Tentehar/Guajajara people of Brazil whose practice engages with ancestral cosmologies, decolonial technologies, and speculative futures.

258 See the exhibition's archive on the Canal Projects website: https://www.canalprojects.org/back-to-earth-contested-histories-of-outer-space-travel (consulted 26.04.2026).

259 The *Vitruvian Man* refers to Leonardo da Vinci's famous eponymous drawing (c. 1490). The drawing depicts an idealised male body inscribed within a circle and a square, which is often red as a visual articulation of Renaissance humanism. It has become emblematic of Western conceptions of the "universal" human subject. The "universal" human subject is implicitly white, male, able-bodied and positioned as the measure of proportion, rationality, and technological progress. In the context discussed here, it serves as a critical reference point for the exclusionary logics underpinning technocratic and anthropocentric models of progress.

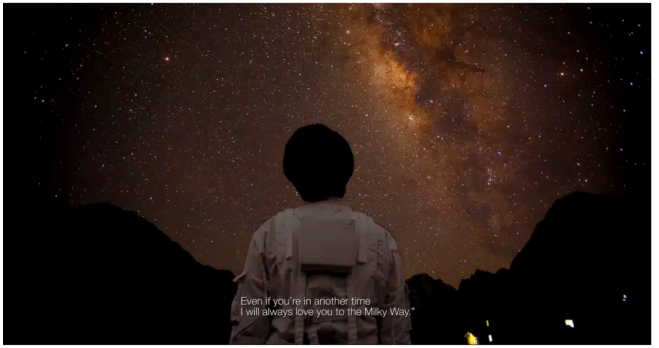


fig. 58

fig. 59

fig. 60

fig. 61

fig. 62

fig. 63

fig. 64

fig. 65

fig. 66

also be found in other, more popular cultural references such as in Hayao Miyazaki's *Castle in the sky*[260] from 1986 with its robotic gardener-guardians (see fig. 62) and in Douglas Trumbull's 1972 movie *Silent Running*[261], which presented the US-American view of a symbiotic human-robot comradeship (see fig. 63).

The strategic use of fiction and form — whether through speculative films, allegorical narratives, or avant-garde exhibition design — allows artists to intervene in the discourse of "conquest and control"[262]. Instead, they propose space as a shared, contested, and pluriversal realm, highlighting concepts like multispecies interdependence and ecological consciousness. Works like those featured in the *Back to Earth* exhibition, which presented films by artists who provide Indigenous, Black, and feminist perspectives, critically examine how space imaginaries can perpetuate colonization and dispossession, advocating instead for decolonization and solidarity. Artist Jonas Staal's critique of corporate space ambitions in his essay *Comrades in Deep Future* (published with *e flux Journal* in 2019) further exemplifies this: by contrasting extractivist models with egalitarian visions Staal proposes a "propaganda art of hyperempathy" to cultivate "new forms of comradeship".[263]

These artistic interventions prioritize care, vulnerability, and responsibility over dominance and spectacle, presenting alternatives to the techno-industrial paradigm. Thereby, they prompt critical reflection on the futures we implicitly endorse and on who gets to narrate outer space. By presenting diverse artistic and fictional approaches, museums can foster multiperspectival understandings of space, questioning which ways of seeing and imagining it are deemed legitimate. This could open pathways towards the emergence of more diverse, equitable and sustainable cosmic futures.

Furthermore, the exhibition *Back to Earth: Contested*

260 Miyazaki, Hayao. *Castle in the sky*, Studio Ghibli 1986.

261 Trumbull, Douglas. *Silent Running*, Trumbull/Gruskoff Productions, 1972.

262 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023.

263 See: Jonas Staal, "Comrades in Deep Future," *e flux Journal*, no. 102 (September 2019), https://www.e-flux.com/journal/102/283568/comrades-in-deep-future/ (consulted 26.04.2026).

Histories of Outer Space Travel aimed to present friendship as a radical counter-narrative that re-grounds humanity to the planet rather than propelling it outward.[264] In the films presented, "friendship, love, and care appear [...] not to fuel our desire to leave our home planet, but to help us embody our return to Earth". By centering relational bonds between characters (such as the friendship between Helena and the astrophysicist Ceu in the movie S*ee You Later Space Island* from 2022 by Alice dos Reis)[266] the program shows how caring connections can re-orient visual imaginaries toward mutual responsibility and solidarity with the Earth and its peoples. This emphasis on friendship is aligned with the exhibition's broader aim to "rethink our role in building worlds that are grounded on earth, [...] rooted in interdependence, and that foreground mutual accountability"[267]. In this way, friendship is proposed as an ethical practice that models inter-species and inter-human cooperation, urging viewers to imagine a planetary community where relational ties replace the technocratic, colonizing visions of space travel and future imaginaries.

A further counter-proposition in the exhibition comes from the curatorial proposition to present a so-called "counter-archive" to dominant discourses surrounding other space imaginaries. Nuotama Bodomo's photography *Afronauts-serie*s from 2014 employs a strategy that mixes archival footage with speculative narration, cleverly exposing gaps in official histories while simultaneously constructing new speculative histories (see fig. 64 and 65). *Afronauts* thus appears as a speculative short film that dramatizes Zambia's 1960s space program, linking Black bodily presence in space to African independence movements (see fig. 66). The short-film *See You Later Space Island* by Alice dos Reis (2022)

264 See the curatorial text by Sara Garzón, in the booklet of the exhibition: *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023.

265 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023, https://www.canalprojects.org/media/site/b76f36324c-1704487195/digital_cp_gallery_booklet_backtoearth_final.pdf (consulted 26.04.2026).

266 See Alice dos Reis' website: http://www.alicedosreis.net/seeyoulater.html#:~:text=A%20work%20of%20speculative%2Dfiction,the%20face%20of%20ecological%20subsidence. (consulted 26.04.2026).

267 Booklet of the exhibition Back to Earth: Contested Histories of Outer Space Travel, Published by Canal Projects, 2023, https://www.canalprojects.org/media/site/b76f36324c-1704487195/digital_cp_gallery_booklet_backtoearth_final.pdf (consulted 26.04.2026).

– presents a narrative set on the Island of Santa Maria, which interrogates Portugal's abandoned satellite launcher and the colonial legacy of space infrastructures (see fig. 67). The group show also features a set of tapestries that emerge from dos Reis' discoveries made while working on the short-film (see fig. 68). The tapestries were inspired by the landscapes of Serra da Gardunha, a mountainous region in Portugal, which is known as a site of both paranormal sightings and religious apparitions. These myths have developed into claims that the mountains were hollow, allegedly concealing a UFO hangar inside. Photographs by Simón Vega, which were also presented in the exhibition, also deal with these myths as a subject (see fig. 69 and 70).

For the curatorial concept developed by Sara Garzón, the concepts of *re-existence*[268] and survival, which move the exhibition beyond presentations of resistance toward an affirmative reclamation of Indigenous epistemologies, are central. The curator illustrated this within the exhibition statement:

> Witnessing the launch of a rocket, Native American scholars famously claimed: 'pity the Indians and the buffalo of outer space'. With this statement, they expressed their fear for moon people whose territory was being regarded as unoccupied land to which powerful governments can lay claim.[269]

To summarize, these counter-displays highlight various issues of land sovereignty and anti-colonial resistance, positioning themselves against the uncritical celebration of technocratic progress and expansionism that can characterize exhibitions glorifying space achievements. At the same time, they do not remain at the level of opposition alone, but move beyond it by articulating affirmative modes of reclamation —

268 The concept of *re-existence* is a political and decolonial concept referring to a form of active resistance in which marginalized communities reinvent their way of life in the face of hegemonic forces. It is closely associated with the Colombian intellectual and artist Adolfo Albán Achinte, who developed it to describe how Indigenous and Afro-descendant communities create tools to confront and survive the dehumanizing, hegemonic projects of modernity and coloniality. See: Rodrigo Zárate Moedano and Bruno Baronnet, "Afro Re-Existence in the School of Arts / Re-existencia afro en la escuela de artes," *Journal of Science and Technology of the Arts* 13, 2021, p. 38–56, https://doi.org/10.34632/jsta.2021.10005 (consulted 26.04.2026).

269 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023, https://www.canalprojects.org/media/site/b76f36324c-1704487195/digital_cp_gallery_booklet_backtoearth_final.pdf (consulted 26.04.2026).

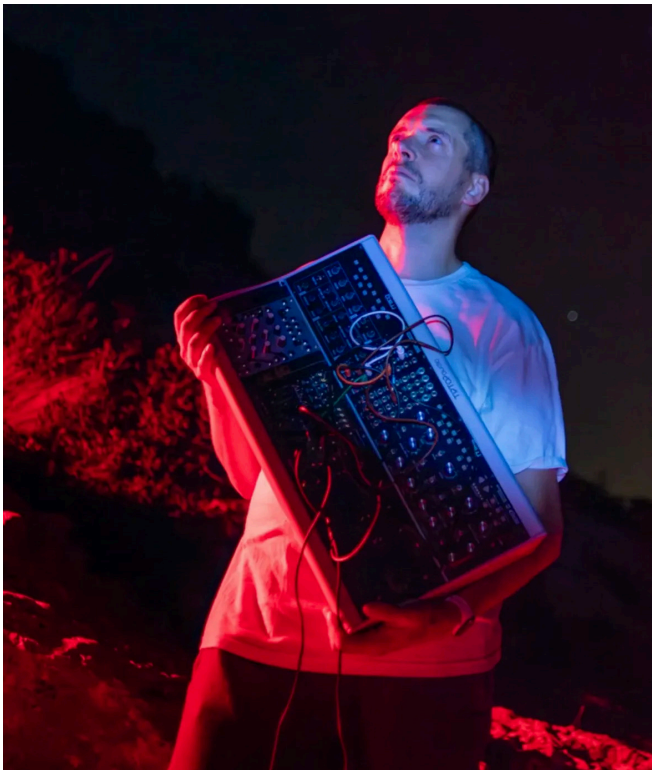
refiguring relations to land, knowledge, and futurity in ways that open up alternative, *more-than-resistant imaginaries*.[270] Such curatorial strategies do not remain at the level of critique alone. By reassembling visual, historical, and speculative materials, they also open up affirmative modes of imagining outer space *otherwise* — not as a site of conquest, but as a relational and contested commons shaped by multiple histories and potential futures.

Informed by these concepts of decolonial cosmopolitics — where outer space is not a void to be filled and mastered, but a shared and plural ecology of meanings, histories, and futures — it is now possible to open the discourse on new formats of institutional representations of outer space in depth.

270 The term "more-than-resistance" has often been employed to describe the *Afrofuturist* framework. It is used to emphasise how Black speculative practices move beyond representational resistance toward the creation of alternative temporalities, epistemologies, and modes of existence. Rather than being defined solely by opposition to colonial or racialised structures, such practices articulate generative and imaginative strategies of survival, futurity, and reconfiguration of the present. The *Afroturist* framework foregrounds creative reworlding as a constitutive political and aesthetic gesture. See, among others: Eshun, Kodwo. *More Brilliant than the Sun: Adventures in Sonic Fiction*, London: Quartet Books, 1998 and Womack, Ytasha L. *Afrofuturism: The World of Black Sci-Fi and Fantasy Culture*, Chicago: Lawrence Hill Books, 2013.

3.4 Artistic Case Studies

3.4.A Guillaume Pascale



3.4.A.1 Synthesis of the artist's practice

Born in 1979 in Aix en Provence, Guillaume Pascale lives and works in Arles, France. He is a multidisciplinary artist and researcher whose practice unfolds at the intersection of digital environments, sonic exploration, machinima, and speculative spatial narratives. Described in several institutional biographies as a "programmer of audiovisual and software-based dérivés,"[271] his work explores the unstable boundaries between technology, habitat, fiction, and embodied experience. His projects have been presented in a range of contexts and institutions, including at the *MUTEK*

271 MUTEK Tokyo. "Guillaume Pascale". *MUTEK Tokyo* – Artists. https://tokyo.mutek.org/en/artists/guillaume-pascale (consulted 30.11.2025).

Tokyo Museum, *Centre Vox art center* in Montreal, at the *University of Quebec* (UQAM), and various exhibitions in the French-speaking countries.[272] Pascale's practice systematically interrogates how contemporary life is shaped by data infrastructures, environmental instability, and technological mediation. Through installations, videos, *machinimas*[273], and sound environments he does not aim for representational clarity; instead, he cultivates ambiguity, uncertainty, and indeterminacy. His works thereby engage the viewer's own associations, emotions and fantasy about the topic at hand.

Pascale's practice is deeply embedded in the field of his research-creation Doctorate in Philosophy (PhD)[274]: trained in visual and media arts (notably at *UQAM*, which is renowned as one of the leading institutions in this field), he works across various disciplines, synthesizing code, narratives, sound, and spatial theory to address the *planetary condition*. His doctoral research can be summarized as "a reconsideration of contemporary spatial imagination through the lens of 'planetarity'."[276] His approach draws from critical data studies, speculative design, digital poetics, and environmental theory. As the artist himself describes it in his biography: "From this perspective, his recent research explores the contemporary

272 See the artist's website for detailed list of solo and collective exhibitions: https://errorishuman.com/#cv (consulted 27.04.2026).

273 The term *machinima* refers to a form of digital filmmaking that uses real-time rendering engines from video games or virtual environments. The term is generally credited to the writer, filmmaker and video game designer Hugh Hancock. He popularized the term around 1999 in the context of early online filmmaking communities. In this sense, machinimas repurpose existing game infrastructures — such as 3D models, physics engines, and virtual spaces — as tools for cinematic production. They are employed often to blur the boundaries between gameplay, simulation, and narrative. See: Lowood, Henry. "High-Performance Play: The Making of Machinima," in *The Machinima Reader*, ed. Henry Lowood and Michael Nitsche (Cambridge, MA: MIT Press, 2011), p. 25–42, for discussions of the early Quake communities and term credit to Hugh Hancock.

274 Université du Québec à Montréal (UQAM). "Étudiant(e)s et chercheurs — Arts visuels et médiatiques".
https://uqam.ca (consulted 30.11.2025).

275 The term *planetary condition* was coined by Fédéric Neyrat. It designates a mode of thinking that resists both globalizing abstraction and terrestrial rootedness. Instead it emphasizes the irreducible exteriority of the Earth as a condition that exceeds human appropriation and calls for a non-totalizing, ecological and speculative relation to the world. See: Frédéric Neyrat, *Atopias: Manifesto for a Radical Existentialism*, trans. Matthew H. Evans (New York: Fordham University Press), 2017.

276 Guillaume Pascale, *Spatiavalesque* (research project description), Hexagram, accessed April 27, 2026, https://hexagram.ca/fr/demo43-guillaume-pascale-spatiavalesque/ (consulted 27.04.2026).

fig. 71

spatial imaginary, and aims to engage with, through sensitive experiences, the notion of planetarity."[277]

Pascale's environments do not however illustrate the concepts he's interested in. Rather, he experiments with varying levels of uncertainty, staging how contemporary subjectivities inhabit increasingly unstable ecosystems.

Across his work, Pascale mobilizes operational images, algorithmic architectures, speculative soundscapes, and narrative fragments to construct what has been described as "speculative fictions flirting with documentary slippage".[278] His aesthetic is liminal and non-linear, privileging atmospheres over explanation, drift over direction, opacity over readability. His approach holds particular relevance for curatorial and theoretical investigations into contemporary space-making, spatial imaginaries, and the politics of digital environments.

One of the strongest conceptual threads in Pascale's work is the redefinition of *habitat*.

Instead of the traditional architectural or territorial conception of home as a stable, protective, and grounded place, Pascale constructs habitats from data; "hesitant volumes" built from informational layers rather than

277 Guillaume Pascale's biography as found on LinkedIn, See: https://www.linkedin.com/in/errishuman/ (consulted 27.04.2026).

278 Centre Vox. "Guillaume Pascale". *Centre Vox – Artists & Researchers*. https://centrevox.ca/en/artists-and-researchers/guillaume-pascale (consulted 30.11.2025).

material walls.[279] Pascale's exploration of data-driven environments and unstable spatial formations, in which habitat is conceived as an informational and processual construct rather than a fixed architectural entity. This reframing parallels thus reveal how the contemporary subject increasingly inhabits unstable, hybrid spaces shaped by algorithms, navigation systems, sensory data, and virtual overlays. Works such as *Habitat 404* from 2021 explicitly dismantle the myth of the stable dwelling, exposing the fragility of contemporary geographies and the precariousness of digital environments (see fig. 71).[280] The art project is a way of diagnosing how lived spaces are already transformed by intangible and invisible infrastructures. With his poetic, audiovisual immersions, Pascale renders these invisible architectures perceptible. Instead of the common approach of many critiques, Pascale doesn't oppose technology and poetics with each other but rather intimately binds them together. In doing so, his work proposes that data, sound, networks, and operational images form a new ontological substrate of contemporary experience. By treating data infrastructures as materials with affective and atmospheric agency, Pascale opens a speculative terrain in which the digital is neither celebrated nor condemned but vividly perceived, inhabited, and questioned.In this sense, his work does not simply describe technological worlds; it performs them. It constructs experiential hypotheses about what it means to live in an environment that is simultaneously ecological, computational, and permeated by narratives. As the curator and director of l'*Hoste* gallery in Arles, Mélanie Bellue describes the artist's approach: "Behind the avatar *Err is Human*, he produces ambient music composed

279 The notions of *habitats from data* and *hesitant volumes* are drawn from the artistic vocabulary and conceptual framework developed in the work of Guillaume Pascale presented on the artist's platform errorishuman.com. While these terms are not always fixed as formal definitions, they emerge from Pascale's explorations. See: Pascale, Guillaume. "Error Is Human". *Artist Portfolio Website*. https://www.errorishuman.com (consulted 30.11.2025).

280 Pascale, Guillaume. "Error Is Human". *Artist Portfolio Website*. https://www.errorishuman.com (consulted 30.11.2025).

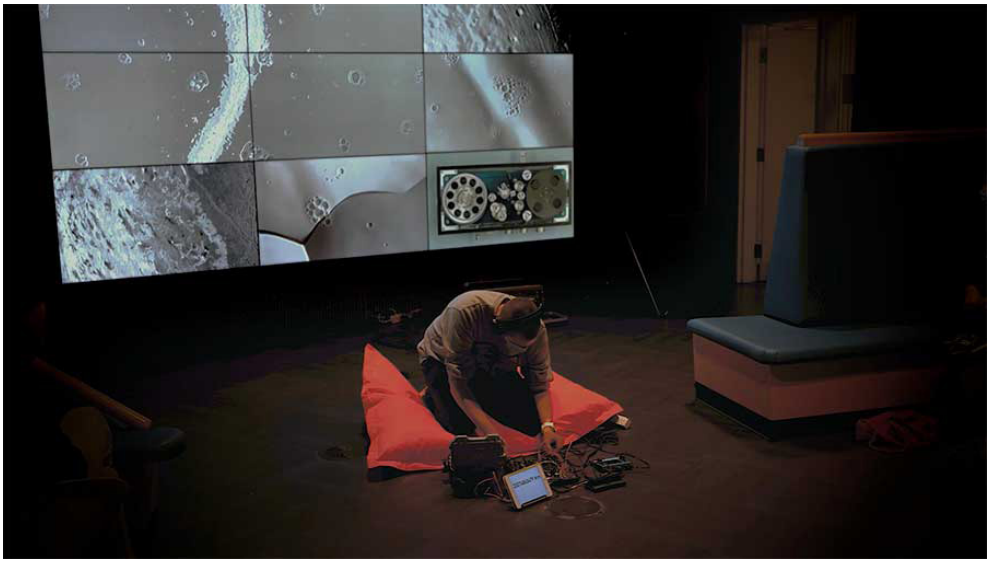


fig. 72

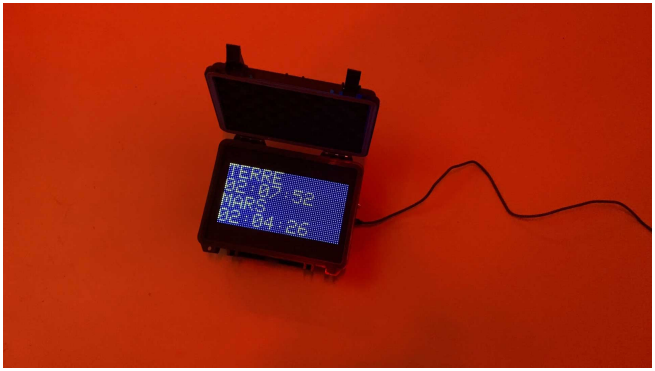


fig. 73

with the different data fluxes and a self conceived and developed equipment." (see fig. 72 and 73).[281]

His *machinimas* and audiovisual *dérivés*[282] rarely provide stable points of reference. Instead, they create

281 Translation done by the author, in the original French: "Derrière l'avatar *Err is Human*, il produit une musique ambient composée avec différents flux de données et un appareillage développé et conçu par lui-même".
L'Hoste Gallery, *Guillaume Pascale* artist presentation. https://lhoste-artcontemporain.com/guillaume-pascale/ (consulted 17.04.2026).

282 The term *dérivés* (literally "derivatives") is a French concept. The concept refers to forms that are extracted, transformed, or secondarily produced from an original source or system. They often imply processes of variation, displacement, or reconfiguration. The expression *audiovisual dérivés* emerges from French-language media theory and research-creation discourse on derivative and variable audiovisual forms in digital environments. Its conceptual background can be situated within theories of media variability and database aesthetics developed by scholars such as Lev Manovich. See: Manovich, Lev. *The Language of New Media* (Cambridge, MA: MIT Press), 2001.

liminal spaces in which the viewer is constantly dragged into a mode of reflection and negotiation of their own positioning, their expectations, and their sense of what is real. By refusing the authority of stable images and coherent narratives, Pascale challenges dominant forms of *digital realism*[283]. His works reveal how images such as cartographic data, surveillance images or architectural renderings are constructed, partial, and ideologically biased. He thereby renders the instability — of spaces, of data, of subjectivity — palpable, makes it the focal point of his works and gestures toward the precarity of contemporary life as well as the the uneven distribution of access to digital andHis practice therefore resonates with current debates in planetary studies, and offers a poetic yet incisive commentary on spatial inequity. The curatorial presentation of works like his subsequently necessitates raising several important questions, such as: How can speculative fictions like Pascale's be made accessible to the public without subverting and thus neutralizing their inherent complexity? How can curators mediate the tension between opacity and communication? And how can the curation within scientific, usually didactic contexts, guide the viewer's ability towards a reflexive engagement with the works?

3.4.A.2 Insights on Artistic Counter-Strategies employed by Pascale

In order to have first-hand sources and transcend an illustrative description of exemplary artistic counter-narratives, it was necessary to engage in in-depth conversations with the artists. This allows this thesis to appropriately gauge how artists try to widen the scope of classic space (re)presentation. Therefore, an interview with the artist Guillaume Pascale was held in December 2025 in person in Arles, France. Therein, his discourse revealed a complex and highly reflexive engagement with contemporary technological, cosmological, and

283 Emerging in the late 1990s and 2000s alongside advances in 3D rendering, simulation technologies, and post-photographic practices, *digital realism* is less a unified movement than a critical tendency across media art, cinema, and visual culture that rethinks realism as computationally constructed rather than optically captured. It is used to describe a strand of contemporary artistic practice that engages with digitally generated, processed, or simulated imagery. In the artworks computational processes are not opposed to realism but are instead its very condition. The term is commonly associated with theorists of post-photography and digital cinema such as Lev Manovich. See: Manovich, Lev. *The Language of New Media* (Cambridge, MA: MIT Press), 2001.

epistemological paradigms. His vocabulary was structured around notions of instability, oscillation, and relationality, and he frequently used terms such as "flow," "movement," "distance," and "reconfiguration".[284] Pascale doesn't rely on fixed binaries like "physical versus informational," or "rational versus sensorial". He instead develops a language of tension and what he calls "productive gaps," drawing implicitly on the philosophy of François Jullien.[285] In doing so, he departs from the Western epistemological tradition grounded in separation and opposition, and alternatively proposes a relational ontology in which meaning emerges through dynamic interplay.

This relational framework is particularly evident in his critique of the contemporary regime of images. Pascale describes a shift from a world represented through images to a "world of images," in which visuality is no longer a matter of representation but of immersion within infrastructural and algorithmic systems. He also references the "tiers images"[286] and the invisibility of the "seams" of digital imagery, which resonate with theoretical lineages associated with thinkers such as Jean Baudrillard[287]. In this context, images are understood as more than isolated objects, as nodes within opaque technical infrastructures, which are deeply entangled with processes of surveillance, data extraction, and machine learning. Pascale's practice seeks precisely to render these hidden structures perceptible, thereby reintroducing a critical awareness of the conditions under which images are produced, circulated, and presented. At the same time, what he expressed during the interview was marked by a profound ambivalence toward technology. While he actively engages with computational systems, generative processes, and data flows, he simultaneously critiques their role within broader regimes of control and

284 For ease of comprehension, the original French terms used by the artist were translated into English by the author.

285 Jullien, François. *Les Transformations silencieuses*. Paris: Grasset, 2009.

286 The concept of *tiers images* is a term used in post-photography and the digital arts more widely. It refers to autonomous and indeterminate visual creations that elude the logic of control and dominant representation. The "tiers" in "tiers images" refers to third party or intermediary images. The term was adapted from the notion of *tiers paysage*, coined by Gilles Clément. His definition of the term identifies physical, digital, or symbolic gaps that become fertile ground for experimentation and creative resistance.
See: Clément, Gilles. *Manifeste du Tiers paysage*. Paris: Éditions Sujet/Objet, 2004.

287 See: Baudrillard, Jean. *Simulacra and Simulation*. translated by Sheila Glaser. The Body in Theory: Histories of Cultural Materialism. Ann Arbor, MI: University of Michigan Press, 1994.

abstraction. Drawing on references by the artist to the concept of *cosmotechnics* developed by Yuk Hui,[288] Pascale challenges the universality of Western technological paradigms. According to Pascale he advocates for a plurality of technologically mediated relations to outer space. This position entails a rejection of what he implicitly frames as a "monotechnical" worldview, which views nature and culture as separated, in favor of alternative perspectives in which technological practices are indivisibly embedded within cosmological and relational frameworks.

This critique leads to a more explicitly political register when he discusses what he terms "techno-totalitarianism". Refusing to adopt the more commonly invoked notion of techno-fascism, Pascale emphasizes the totalitarianistic ambitions of contemporary data-driven systems, which seek to render the world fully knowable, computable, and therefore controllable. In this sense, the statement in the interview aligns with a critical tradition associated with Hannah Arendt, insofar as it identifies totalitarianism — not merely authoritarianism — as the core danger of contemporary technological regimes.[289] The expansion of private actors within the domain of space flight further reinforces this concern for Pascale, as the *New Space* paradigm signals a shift from public, state-led imaginaries toward privatized and exclusionary forms of access to both data and outer space.

Pascale's reflections on space flight itself are deeply informed by this critical perspective. He challenges the dominant narratives of expansion and conquest by exposing their underlying continuity with colonial and anthropocentric logics. The idea that humanity could extend its presence to other planets without transforming its epistemological and ethical frameworks is, for him, fundamentally problematic. Echoing concerns articulated by numerous scholars, he suggests that such endeavors risk merely displacing terrestrial modes of domination into extraterrestrial contexts. His metaphor of the "Club

288 See: Hui, Yuk. *Cosmotechnics: For a Renewed Concept of Technology in the Anthropocene.* Minneapolis: University of Minnesota Press, 2024.

289 Arendt, Hannah. *The Origins of Totalitarism*, Schocken Books, 1951.

fig. 74

Med experience"[290] encapsulates this critique. In contrast, Pascale advocates for a reconfiguration of our relationship to distance, which he identifies as a central condition of both aesthetic and political experience. Against the contemporary tendency to collapse distances through digital technologies, producing what he describes as an illusion of proximity, he proposes the notion of "fertile distances" and "proximity-distance". With these concepts, Pascale underscores the importance of maintaining relational gaps as spaces of encounter, difference, and collective experience. His performative works, particularly his so-called "astro-musical" practices, enact this philosophy by bringing visitors together in shared, situated experiences that reconnect sensory perception, collective attention, and cosmological awareness (see fig. 74).

290 The "Club Med experience" refers to the model popularized by Club Med, a French all-inclusive holiday resort franchise established in 1950 and expanded globally. In this context, the term has come to signify — particularly within French cultural discourse — a mode of travel that remains insulated from local contexts, where visitors are physically displaced but socially and culturally contained within curated environments. See: MacCannell, Dean. *The Tourist: A New Theory of the Leisure Class* (Berkeley: University of California Press, 1976); and Urry, John and Larsen, Jonas. *The Tourist Gaze 3.0* (London: Sage, 2011); for analyses of tourism as a structured and often insulated experience.

291 The *Yi Jing,* often translated as *Book of Changes*, is an ancient Chinese divination and cosmological text traditionally attributed to early Zhou-period culture (c. 1000–750 BCE). The developed system articulates a dynamic worldview based on continuous transformation. There, reality is understood as the interplay of complementary forces (*yin* and *yang*) structured through 64 hexagrams. Each hexagram represents a configuration of change, used both for divination and philosophical reflection on processes of becoming, instability, and relational balance. See, among others: Hall, David L. and Ames, Roger T. *Thinking Through Confucius* (Albany: SUNY Press), 1987.

Ultimately, what Pascale shared in the interview articulates the aim of presenting a cosmology that resists totalitarianization. Drawing on references such as Leibniz's philosophical understanding of *Yi Jing*[291], Pascale reinterprets the digital binary systems (0-1) as dynamic processes of transformation instead of rigid oppositions. The artist posits an "excess of the cosmos" that exceeds human comprehension and resists incorporation into totalitarizing frameworks. In this sense, his work can be understood as part of a broader post-human and technocritical discourse that seeks to re-situate human experience within a fundamentally relational, contingent, and not to be totalitarianized universe. Simultaneously it articulates a counter approach to regimes that totalize technological visions. By emphasizing fragmentation, variability, and perceptual uncertainty within computational image systems, Pascale's practice can be understood as counter narrative.

3.4.B Vincent Fournier

3.4.B.1 Synthesis of the artist's practice

Born in 1970 in Ouagadougou, Burkina Faso, Vincent Fournier lives and works between Paris and Arles. He is a French visual artist whose practice explores the intersection of futurism, scientific imagination, and the aesthetics of technological environments. Trained in sociology and photography at the *École Nationale*

Supérieure de la Photographie d'Arles, Fournier approaches the photographic image as a speculative tool: a medium with which the futures envisioned by modern science can be re-staged, fictionalized, and critically reframed.[292] His projects frequently address the infrastructures of scientific research like astronomy, robotics, artificial intelligence, and space flight, and blur the boundary between empirical observation and science-fictional projection.

A central feature of Fournier's practice is what can be described as "documentary fabulation"[293]: the strategic combination of real locations, technologies, and institutional settings with highly composed, often deliberately cinematic visual staging.[294] His images are meticulously constructed, yet grounded in the material reality of laboratories, observatories, and aerospace facilities he gains access to for his work (such as facilities of *NASA*: see fig. 75 and 76; *Baikonur Cosmodrome* in Kazakhstan: see fig. 77; and *ESA* among others). This produces an aesthetic that oscillates between factual testimony and speculative fiction. The present appears as a future archive, and the future appears as a retro-aesthetic dream, haunted by the iconography of mid-century modernism and classic space-age utopias.

His photographs are often described as "portraits of possible worlds," images that document not only what exists but what could exist if history had unfolded differently.[295] In this sense, Fournier's practice is deeply concerned with the visual production of futurity: the ways in which the future is staged, designed, aestheticised, and disseminated through images.[296]

292 Fournier, Vincent. "Space Utopia". *Vincent Fournier – Official Website*. Accessed November 29, 2025. https://www.vincentfournier.co.uk/space-utopia (consulted 30.11.2025).

293 The characterization of Vincent Fournier's practice as "documentary fabulation" is used in contemporary critical discourse to describe his hybridization of documentary aesthetics and speculative staging; the concept of fabulation, however, derives from Gilles Deleuze's theorization of narrative invention as a mode of producing truth beyond factual representation. See: Deleuze, Gilles. *Cinema 2: The Time-Image*, trans. Tomlinson,Hugh and Galeta, Robert. (Minneapolis: University of Minnesota Press), 1989.

294 "Portrait of Possible Futures". Interview by *L'Œil* de la Photographie. May 2019. https://loeildelaphotographie.com/fr/vincent-fournier-space-utopia (consulted 30.11.2025).

295 The "portraits of possible worlds," is a phrase used in exhibition and press contexts to characterize Vincent Fournier's speculative reconstruction of space exploration imaginaries in *Space Utopia*. See: Fournier, Vincent. *Space Utopia*, exhibition materials accompanying the series (institutional presentations, 2013–ongoing).

296 Fondation Bullukian. "Space Utopia – Vincent Fournier". *Fondation Bullukian*, 2019. https://www.bullukian.com/en/exposition/space-utopia (consulted 30.11.2025).

Within this broader trajectory, his photographic project *Space Utopia* (2007–2017) constitutes one of his most sustained engagements with the cultural, political, and aesthetic imaginaries of outer space. Space Utopia is a project that surveys the architectures, infrastructures, and landscapes associated with global space flight. Across the series, Fournier travels to sites charged with symbolic and geopolitical weight such as launch pads (see fig. 78), neutral-buoyancy pools (see fig. 79), Mars-analogue terrains (see fig. 80 and 81), astronaut training centers (see fig. 82), mission-control rooms (see fig. 83), and astronomical observatories (see fig. 84 and 85). While all images depict real sites, his photographic treatment transforms them into atmospheres that hover between scientific record and speculative fiction, complicating the viewer's sense of time, the sites' perceived purpose, and reality in general.

A defining aspect of *Space Utopia* is the way it aestheticises the infrastructures of space flight, rendering them monumental, pristine, and strangely uninhabited. Control rooms are photographed as immaculate compositions of geometry and color, desert landscapes appear as abstract planetary surfaces, and machinery receives an almost sculptural appearance. This aestheticization participates in a long tradition of the *technological sublime*[297]: a sense of awe about the scientific achievements, engineering prowess, and the scale of space flight itself. Humans thus confront overwhelming scales of ambition and technological possibility. Yet Fournier's sublime is a quiet one: Rather than depicting dynamic movements of rockets launching or scientists engaging in their work, he focuses on stillness and suspension. The result is a form of frozen futurity, where space technology is imagined not as a progression in motion but as a field of potentiality, waiting to be activated. This temporal ambiguity is essential: the future appears delayed, perhaps even abandoned, yet still charged with latent desire.

Space Utopia could appear as an archive of the collective dream of space flight, specifically the dream cultivated during the Cold War and the golden age of

297 The concept of the *Technological Sublime* builds on earlier theories of the sublime as an encounter with that which transcends representation such as developed, among others, by Edmund Burke and Immanuel Kant. Contemporary theorists have rearticulated the concept in relation to modern technoscience and media systems. See, for example: Nye, David E. *American Technological Sublime* (Cambridge, MA: MIT Press), 1994 or Bukatman, Scott. *Matters of Gravity: Special Effects and Supermen in the 20th Century* (Durham, NC: Duke University Press), 2003.

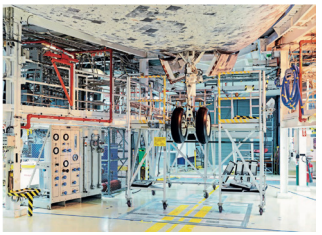


fig. 75

fig. 76

fig. 77

fig. 78

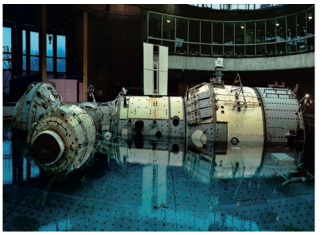


fig. 79

fig. 80

fig. 81

fig. 82

fig. 83

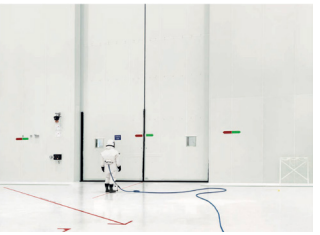


fig. 84

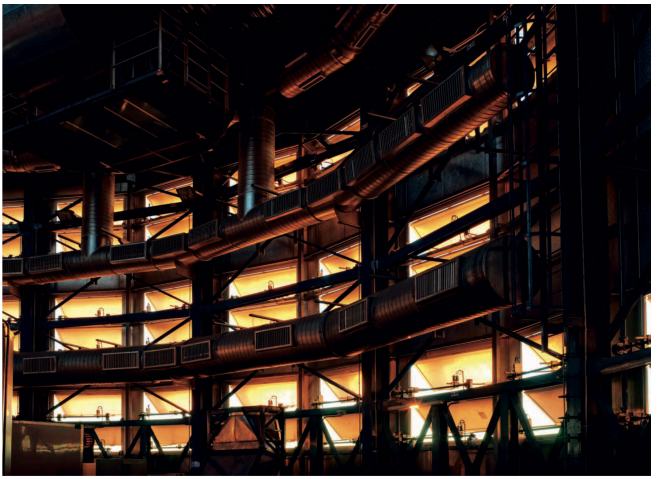


fig. 85

space-age optimism, because Fournier's images are saturated with references to retro-fictional aesthetics: color palettes reminiscent of Stanley Kubrick's *2001: A Space Odyssey*, symmetrical compositions evoking modernist visions of order and control, and a fascination with the "futuristic ruins" of twentieth-century technological optimism.[298]

By way of this aesthetic strategy, descended from *retro futurism*, Fournier stages outer space not simply as a scientific frontier but as a site of memory, a repository of twentieth-century aspirations for progress, transcendence, and universal destiny. The future is rendered nostalgic: a projection of what was once believed tomorrow could be like.

Such temporal layering is central to the project's critical potential. Fournier rejects the celebration of space flight as a triumph and instead evokes the melancholy of unfulfilled futures and unrealized dreams. This way, he is able to reveal space infrastructures as monuments both to human ambition as much as to incompletion.

In doing so, his photographs blending real sites with carefully orchestrated staging generate a productive ambiguity that enables viewers to critically reflect on outer space beyond the didactic presentations commonly found in space exhibitions. *Space Utopia* functions as a critical fiction — a mode of representation that problematizes the assumed transparency of documentary photography while interrogating the cultural construction of space exploration. The ambiguity Fournier creates invites the viewer to question the ideological layers that surround space exploration: nationalism, techno-optimism, scientific authority, and the narrative of *progress* that underpins them.

In that sense, Fournier does not present a straightforward critique of common space narratives. He instead creates an aesthetic space in which viewers must confront their own projections, desires, and expectations regarding humanity's place in space as well as more familiar presentations in exhibitions.

Finally, the project also contributes to a broader critical discourse that seeks to reframespace exploration as a cultural narrative, as a story we tell about human destiny, technological mastery, and belonging. By

298 See the artist's statement at the beginning of his book where Fournier directly quotes this reference; in: Fournier, Vincent. *Space Utopia*, Libri Illustrati Rizzoli, 2019.

rendering this narrative in its material and symbolic dimension visible, *Space Utopia* makes it evident that outer space imaginaries are not simply technological futures but profound cultural constructions that are shaped as much by aesthetics, memory, desire, and ideology as they are by technological developments

3.4.B.2 Insights on curatorial counter-strategies employed by Fournier

During the interview, Vincent Fournier spoke extensively about the ways that space and its exploration are conceived. He used a vocabulary that blends a variety of technical terms, scientific notions, and utopian or fictional references, revealing the way he conceives outer space as a field of exploration that is likewise concrete and imaginary. On one hand, the artist explicitly named the technical realm of space flight (e.g. launch centers, rockets, agencies such as *CNES*, *NASA*, or *Roscosmos*) and employed a wide range of technical vocabulary ("photogrammetry," "3D," "exoplanet," "exobiology").[299] These terms anchor his discourse in the material reality of space flight. They also make it evident that he has gained exceptionally deep access to usually hardly accessible and emblematic sites in which humanity continuously forges its relationship to outer space and that rarely grant access to third parties.

On the other hand, Fournier used an explicitly fictional and utopian vocabulary. He speaks of "imaginaries of the future," "mythologies of the future," "utopian narratives," and "science fiction," emphasizing that his work equally draws on modern fantasies and legends surrounding space as it does on its scientific backdrop. As he stated in an interview for *Xibt magazine* of 2020: "My stories are nourished by several mythologies of the future: space flights, humanoid robots, utopian architecture".[300] This narrative dimension of his work is also described by exhibition curators who stated that his perspective was shaped by a "persistent nostalgia for twentieth-century science fiction" and resonated

299 For the fluidity of the reading, the adaptation into English of the original French words used by the artist have been translated by the author.

300 Zucca, Alice. *Vincent Fournier: a time traveler taking the past into the future / In conversation with Alice Zucca*, Xibit magazine, 2020, https://www.xibtmagazine.com/2020/04/vincent-fournier-a-time-traveler-taking-the-past-into-the-future/ (consulted 17.04.2026).

with collective dreams of interstellar travel.[301] Thus, his vocabulary and references like "utopian," "futuristic," "space adventure," "unknown space," "mission to Mars," evoke an imaginary of space in which it is both the classic territory of conquest as well as a vast playground to be enjoyed·

Significantly, Fournier's discourse contains various cosmological and reflexive notions that reveal his perspective to be indeed critical. He speaks of his "perspective" and necessary "distance": as he sees it, the space adventure offers "a new angle from which to better see and understand our Earth from afar," thereby allowing for a decentering of the human gaze. Furthermore, his vocabulary includes terms evoking alterity and displacement, such as "parallel world" and "cosmological surplus" (an expression recalling the idea that human beings possess a form of spiritual surplus linked to the cosmos), as well as ecological references. For example, he referred indirectly to what is commonly called the *Gaia* theory. Though not explicitly naming the theory, Fournier stated to connect space narratives with deeper reflections on Earth's future.

Generally, his work calls for a "reconsideration of distances" as he calls it, and questions the usually presented anthropocentric view of space. As the artist's statement to the project states, Fournier seeks to prompt us to question our perception of space and time by suggesting a "reinterpretation of our past and future utopias".[302] In this sense, his use of cosmological vocabulary, with terms like "exoplanet," "exobiology," "altered gravity," "phases of plant evolution," operates as a conceptual device that displaces familiar frames of reference. By mobilizing scientific language tied to environments that are physically inaccessible or only theoretically modeled, Fournier shifts the viewer away from anthropocentric assumptions and stable terrestrial coordinates. His project *Flora Incognita* started in 2025, takes the form of an "Astrobotanical Herbarium"[303]. It is a speculative series that imagines how terrestrial plant

301 Ibid.

302 Vincent Fournier, artist statement for *Space Utopia*, in the book given by the artist to the author.

303 See Vincent Fournier's description of the project on his website: https://www.vincentfournier.co.uk/portfolio/photography/flora-incognita/ (consulted 27.04.2026).

species could evolve under extraterrestrial conditions. Drawing on collaborations with scientists and using advanced 3D imaging techniques, Fournier transposes familiar flora onto hypothetical exoplanets, where they are reshaped by radically different gravitational, magnetic, and atmospheric forces. By presenting these hybrid organisms with the visual authority of scientific illustration that echo historical botanical archives while simultaneously subverting them, the project destabilizes taxonomic and epistemic frameworks that traditionally define the living world. These visual and technological strategies introduce conditions in which known laws no longer apply. They thereby expose the contingency of the narratives through which we organize space, life, and temporality. *Flora Incognita* operates as a counter-narrative: it displaces anthropocentric and Earth-bound models of knowledge by proposing a speculative biology in which life is no longer fixed, classifiable, or universally legible. His work thus envisions a universe in which opposing physical laws and unfamiliar life forms actively destabilize inherited ways of seeing and knowing.

To summarize, Fournier's vocabulary constantly oscillated between scientific and imaginary realms. The technical terms of space flight are counterbalanced by words drawn from science fiction and space related utopias. This linguistic hybridity reflects his artistic approach which transcends the concept of space as a technically conquered reality and frames it as a site of speculation and critique. He constructs a visually documentation-style depiction of space conquest that, as is noted in the *Space Utopia* catalogue, "adds a question mark to our utopian vision of space travel".[304] The interview was therefore able to reveal the artist's imaginary of space in more nuance as shaped by nostalgia for bygone space utopias, fascination with technology, and critical distance, while simultaneously situating his discourse within the scientific field of outer space. In this sense, Fournier's counter-narrative lies in his use of photography not as a medium of documentation, but as a speculative interface

304 The quotations illustrating the utopian and technological imaginary are drawn from Fournier's used quotes from the interview and sources given by Vincent Fournier, as well as from the critical text accompanying his exhibition *Space Utopia* served as sources for the discourse analysis. These references highlight how his vocabulary articulates scientific reality and futuristic fiction.
See the artist's statement at the beginning of his book where Fournier directly quotes this reference; in: Fournier,Vincent. *Space Utopia*, Libri Illustrati Rizzoli, 2019.

that merges scientific plausibility with fictional projection. By appropriating the codes of scientific visualization and redirecting them toward hypothetical, non-verifiable scenarios, he departs from dominant imaginaries of outer space.

3.4.C SMITH

3.4.C.1 Synthesis of the artists' practice

SMITH is the chosen artist name of Bogdan Smith, they are a French artist born in 1985 in Paris that live and work in the French capital. As a trans man they understand themselves as a plural entity which is further exemplified in their artistic approach. In fact, *SMITH* is also a collective endeavour that creates works under the same name. Their research-creation doctorate where they developed and coined the term *Désidération*, a cosmological gaze on outer space within individual emotional experience. The term shapes both their scholarly framework and artistic output.[305] They treat scientific instruments like microscopes, telescopes,

305 Smith, Bogdan (2023). "De desiderationis prodromis": transitions, spectrographies, catastérisations, apocalypses: prodromes de la désidération" Thesis. Montreal (Québec, Canada), Université du Québec à Montréal, Doctorat en études et pratiques des arts, https://archipel.uqam.ca/16755/ (consulted 03.01.2016).

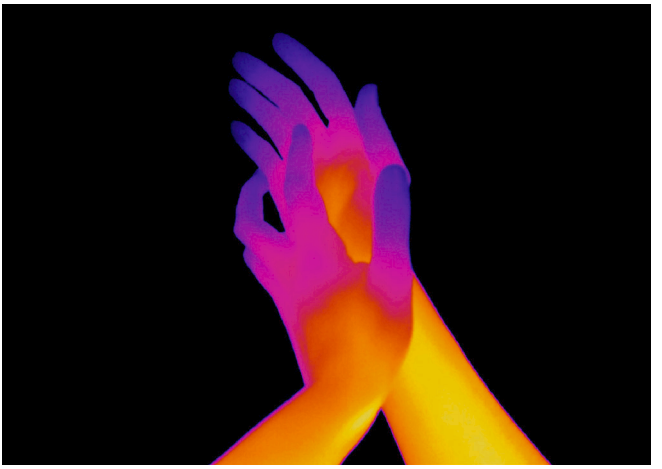


fig. 86

thermal cameras (see fig. 86), and subcutaneous sensors, as extensions of the human body that reveal "spectres" invisible to ordinary sight. In doing so, *SMITH* pioneered a spectrographic method that records and interprets these hidden spectres made visible by using thermal imaging of bodies and environments). This approach is explicitly linked to a *spectral intuition* that fuses speculative fiction with empirical observation, echoing Donna Haraway's Science Fiction logic of world-making and the need for new epistemologies.[306]

At the same time, *SMITH* focuses on presenting outer space motifs in novel ways throughout their works. From collaborations with astrophysicist Jean-Philippe Uzan[307], to the formation of the collective *Cellule Cosmiel*,[308] projects such as *Spectrographies*, *Saturnium*, *TRAUM*, and the meteor-implantation performance *$C19H28O_2$ (Agnès)*, their works evoke space-related themes such as stars, meteoritic material, planetary cycles and the notion of an "entranspectre" that

306 Ibid.

307 See numerous articles, under which: Hory, Julien. *"Désidération", le cosmos en nous réuni*, Fisheye Magazine, 2024. https://fisheyemagazine.fr/article/desideration-le-cosmos-en-nous-reuni/ (consulted 17.04.2026).

308 In 2015, *SMITH* met astrophysicist Jean-Philippe Uzan, and their exchanges led to the concept of "Désidération". Together with writer Lucien Raphmaj, they founded the collective *Cellule Cosmiel* to explore this idea. *SMITH* later collaborated with the design studio Diplomates to develop *Cellule Cosmiel*'s first phase, and invited composer Akira Rabelais to join the project. See: Slash Paris magazine, https://slash-paris.com/fr/evenements/desideration-cellule-cosmiel-x-diplomates-x-akira-rabelais (consulted 17.04.2026).

bridges earthly bodies and celestial views.[309] Historical references to Johannes Kepler's *Somnium Astronomicum*[310] and the spectral theory of Jacques Derrida[311] further situate *SMITH*'s work within a lineage that treats outer space as both scientific object and fruitful narrative catalyst.[312]

This case study focuses specifically on *SMITH*'s artistic projects presented in *SMITH*'s research-based exhibition *Désidération (Anamanda Sîn) — From Disaster to Desire: Toward Another Mythology of the Spatial*[313] that the author had the possibility to visit as part of the photography festival *Rencontres de la Photographie d'Arles* in 2021 (see fig. 87 and 88).

With their exhibition, *SMITH* works specifically on the sensory, mythological, and political reconfiguration of space, at the crossroads of science, fiction, photography, and performance.

The "desideration"[314] that *SMITH* refers to frames the loss of the stars as a kind of melancholic orphanhood, which they refer to as "to feel orphan of the stars,"[315] while

309 See the artist's doctoral thesis: Smith, Bogdan. *" ' De desiderationis prodromis' : transitions, spectrographies, catastérisations, apocalypses : prodromes de la désidération"* Thesis. Montreal (Québec, Canada), Université du Québec à Montréal, Doctorat en études et pratiques des arts, 2023, https://archipel.uqam.ca/16755/ (consulted 03.01.2026).
and their website, which was taken down during the writing of this thesis. However some of their projects can be found now under: https://www.instants.art/en/artist/smith (consulted 17.04.2026).

310 *SMITH* refers to Kepler's *Somnium* as an early example of combining scientific reasoning and speculative fiction to make cosmological ideas perceptible. See: Kepler, Johannes. *Somnium, sive Astronomia Lunaris*, 1634; (repr., trans. Rosen, Edward. Madison: University of Wisconsin Press, 1967).

311 *SMITH* explicitly engages with Derrida's notion of the spectral (*ni vivant, ni mort*) and links it to cinema, temporality, and haunting, citing *Spectres de Marx* as a key philosophical source. See: Derrida, Jacques. *Specters of Marx: The State of the Debt, the Work of Mourning, and the New International*, trans. Peggy Kamuf (New York: Routledge), 1994.

312 Smith, Bogdan. *" ' De desiderationis prodromis' : transitions, spectrographies, catastérisations, apocalypses : prodromes de la désidération"* Thesis. Montreal (Québec, Canada), Université du Québec à Montréal, Doctorat en études et pratiques des arts, 2023, https://archipel.uqam.ca/16755/ (consulted 03.01.2026).

313 The artist's artwork was chosen to be the first image on the poster of the Rencontres d'Arles 2021. The first festival edition under the artistic direction of newly appointed Christophe Wiesner, See: Rencontres de la Photographie d'Arles https://www.rencontres-arles.com/en/expositions/2021/desideration-anamanda-sin (consulted 17.04.2026).

314 The term "desideration" is a philosophical concept that is rooted in the "regret for the lost star." It refers to nostalgia, longing, or regret for our stellar origins, often interpreted as the loss of our connection to the stars. The concept is used by SMITH throughout their practice.

315 Translation by the writer, in the original French: "se sentir orphelin des étoiles" See SMITH's Poem written and read by Cécile Coulon based on a photograph of SMITH for the exhibition *Desideration (Anamanda Sîn)*, Photosensibles, 2024. https://www.rencontres-arles.com/en/smithdesideration (consulted 17.04.2026).

fig. 87 & 88

simultaneously invoking a yearning for human's return and a new alliance with the heavens. By intertwining this sentiment of sorrow with a speculative desire to re-engage with the celestial, the project transforms melancholy into a motivating force that drives a collective, constellation-like narrative that aims at a renewed pact with the cosmos.[316] *SMITH*'s installation therefore positions art and science as parallel yet uneasy partners in constructing what they refer to as a "new world narrative".[317]

SMITH's *Désidération (Anamanda Sîn)* presents a sustained reflection on human relation to the cosmos that deliberately meanders between scientific discourse, speculative myth-making and embodied performance. Presented in the unusual, liminal site of a *Monoprix*[318] roof-top, the exhibition was the culmination of a long-running, interdisciplinary project developed through

316 The concerns and philosophical implications SMITH attributes to "outer space" are linked mostly with the notion of *cosmos*. For further clarification of the difference between these terms, please refer to section 0.4 of this thesis.

317 Smith, Bogdan. *" ' De desiderationis prodromis' : transitions, spectrographies, catastérisations, apocalypses : prodromes de la désidération"* Thesis. Montreal (Québec, Canada), Université du Québec à Montréal, Doctorat en études et pratiques des arts, 2023, https://archipel.uqam.ca/16755/ (consulted 03.01.2026).

318 *Monoprix* is a well-known French supermarket franchise on the higher end of supermarkets' price range.

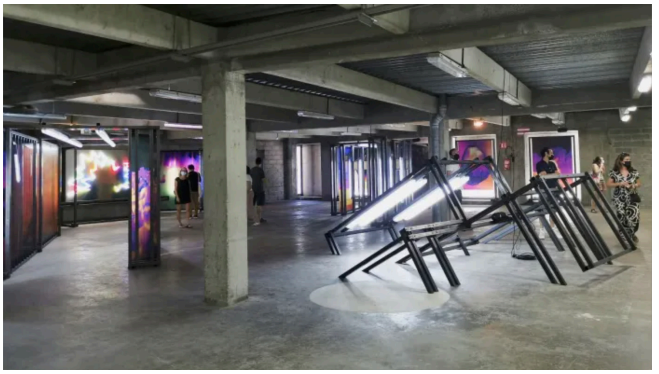


fig. 89

various encounters and was deliberately framed as both a diagnosis of contemporary desolation and a speculative program for re-mythologizing the spatial. The installation employed writing as one of its primary media, creating a mythic *spatial mythology*.[319]

SMITH's artistic composition of the multi-layered work constitutes an installation (see fig. 89 and 90) composed of photography, film, poetry, music, and performance[320] as well as speculative fiction manifested through wall texts, narrative fragments, and the hybrid fictional character *Anamanda Sîn*[321] (see fig. 91). They employ these mediums to create a mythical, interstellar sensibility. This complex composition invites viewers to feel both a loss of and simultaneous yearning for the stars. The mix of media generates a mythology of the spatial that re-imagines outer space as a cultural archive of symbols and emotions.[323]

The scientific dimension is introduced by juxtaposing representations of Uzan's astrophysical insights with the poetic, interdisciplinary actions of the

319 Smith, Bogdan. *" ' De desiderationis prodromis' : transitions, spectrographies, catastérisations, apocalypses : prodromes de la désidération"* Thesis. Montreal (Québec, Canada), Université du Québec à Montréal, Doctorat en études et pratiques des arts, 2023, https://archipel.uqam.ca/16755/ (consulted 03.01.2026).

320 See the integral video-caption of the performance by SMITH in the Roman antique theater of Arles, slide 6, under: https://www.rencontres-arles.com/en/expositions/2021/desideration-anamanda-sin (consulted 17.04.2025).

321 See the integral speculative video-work by SMITH, slide 7, under: https://www.rencontres-arles.com/en/expositions/2021/desideration-anamanda-sin (consulted 17.04.2025).

322 See SMITH's poem co-written and read by Cécile Coulon based on a photograph by SMITH for the exhibition *Desideration (Anamanda Sîn)*, Photosensibles, 2024. https://www.rencontres-arles.com/en/smithdesideration (consulted 17.04.2026).

323 Ibid.

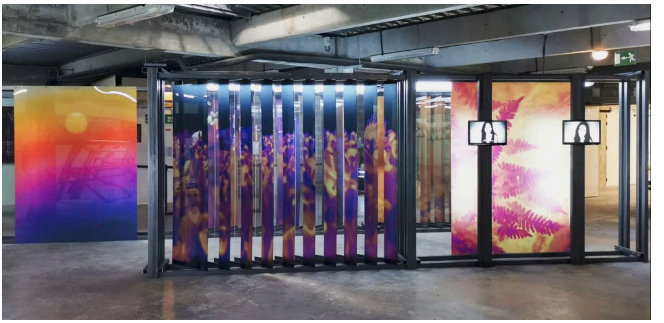
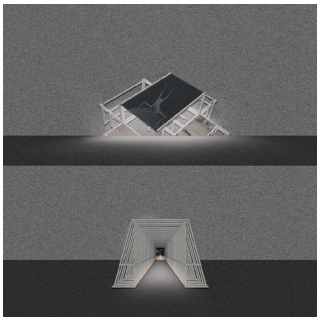


fig. 90

fig. 91

collective *Cellule Cosmiel*. The installation thereby creates a tension: art seeks to transcend empirical limits through metaphor, while science insists on rigor, measurement, and the physical constraints of the Anthropocene as displayed in the collective's mock-ups created for the exhibition (see fig. 92). Due to the multi-layered, fragmentational composition, the *zone critique*[324] of materials used throughout the exhibition becomes a site where artistic imagination and scientific knowledge seem to negotiate. The installation creates friction between speculative art and empirical science.

fig. 92



The repertoire of motifs mobilized in *Désidération (Anamanda Sîn)*, includes, among others, meteorites,

324 The term *zone critique*, French for critical zone originates in Earth system sciences. In this original context it designates the thin, life-supporting layer of the Earth extending from the vegetation canopy to the groundwater. In contemporary theory, it has been extended metaphorically to describe a space of interaction and transformation between different systems of knowledge. For example, recent curatorial and theoretical discourse, notably in the exhibition *Critical Zones: Observatories for Earthly Politics* at ZKM Center for Art and Media Karlsruhe, Bruno Latour redefines the *critical zone* as a conceptual and spatial framework. Earth becomes a site of entangled processes and competing epistemologies. Transposed into an artistic context, the term can describe a zone of negotiation in which heterogeneous forms of knowledge overlap, creating friction. See: Latour, Bruno. and Weibel, Peter. eds., *Critical Zones: The Science and Politics of Landing on Earth* (Cambridge, MA: MIT Press), 2020.

thermograms, and the terrestrial namesake figure of *Anamanda Sîn*, that function as both semiotic anchors and affective engines. Meteorites serve the project as material and symbolic conduits between *deep time*[325] and present experience: they are indexical traces of an extracorporeal origin that the work repeatedly stages as implant, relic and narrative trigger. Likewise, *SMITH*'s thermographic prints, or *thermograms*, created during the confinement of the *COVID-19* pandemic, presents bodies, landscapes and objects as fields of heat and exchange, resulting in imagery, in which the luminous is redistributed across species and things. Together, these elements produce a mythic topology, in which earth and other space, past and future, science and poetic speculation are consciously entangled rather than opposing each other.[326] Overall, the exhibition presents a collective, constellation-like narrative, using desire as a catalyst to envision a future world where artistic imagination and scientific insight co-construct meaning.

Conceptually, the project explores the etymological and affective polyvalence of *desideration*, a theoretical concept denoting a specific ideology in regard to the narrative of outer space. The repeated use of this cultural-psychic state, in which contemporary humanity has become *de-sidéré*[327] (deprived of its relation to the stars), is offering ritualized attempts at re-attunement though storytelling or sonic atmospheres. Methods of remediation operating between scientific abstraction and embodied experience, as well as between cosmological distance and

325 *Deep time* designates a temporal framework that extends far beyond human history, encompassing the vast geological and cosmological timescales of the Earth and the universe. The concept of deep time challenges anthropocentric conceptions of temporality by situating human existence within processes of planetary formation, extinction, and transformation that unfold over millions or billions of years. First articulated in early geology by James Hutton in the late eighteenth century, in contemporary theory and visual culture, it is often mobilized to foreground the disjunction between human perception and the temporalities of matter, ecology, and cosmic history. See: Hutton, James. *Theory of the Earth* (Edinburgh, 1795); see also Martin J. S. Rudwick, *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution* (Chicago: University of Chicago Press), 2005.

326 Collet, Thierry. "Arles 2021: SMITH: Désidération (Anamanda Sîn)". *L'Œil de la Photographie*, July 2021. https://loeildelaphotographie.com/fr/arles-2021-smith-desideration-anamanda-sin/ (consulted 29.11.2025).

327 Conceptually, the project explores the etymological and affective polyvalence of *desideration*, a theoretical concept denoting a specific ideology in regard to the narrative of outer space. The repeated use of this cultural-psychic state is explored. For the artists, contemporary humanity has become *dé-sidéré*. The term means literally *de-starred*, or more accurately translated: deprived of its relation to the stars.

perceptual intimacy are employed. The project therefore is the continuation of the artist's long term inquiry. One that borrows the epistemic authority of astrophysical language while deliberately transforming this language into an instrument of aesthetic speculation.

Curatorially and spatially, *Désidération (Anamanda Sîn)* is created strategically: by locating the installation above a commercial supermarket and inside a windowless, almost clandestine room, the show stages its mythopoeic labour in a zone of urban everydayness that both dislocates and concentrates the viewer's attention. The visitors were first confronted with the estranging effect of entering the installation through the mundane landscape of retail. The stairs leading into a hermetic, proliferously designed interior, reinforced a sense of leaving the utilitarian world to encounter a carefully constructed cosmology in and of itself. This architectural choreography shifts the exhibition far away from simple representation of outer space to an ordered albeit disorderly set of encounters that require mental (re)orientation, bodily navigation, and sequential experiencing.

The ethical and political valences of the work are ambivalent and worth examining. On one hand, *Désidération (Anamanda Sîn)* can be read as a critique of late-capitalist disconnection: its melancholic frame and its invocation of planetary belonging stage a counter-narrative to extractive narratives prevalent in contemporaneity. On the other hand, the project's aesthetics and conceptual poise raise questions about the social reach of such repair of the mythical. The language of the *panspermia* hypothesis[328] and the aestheticization of meteorites draws attention to the artists' sustained interest in material experimentation and its speculative implications. This is exemplified for example by performative gestures in which meteorite material is handled or, in certain performances, implanted. At the same time, these gestures point to the ways in which esoteric practices, historically associated

328 The *panspermia* hypothesis is a scientific and philosophical proposition suggesting that life, or the precursors of life, can be distributed across the universe via celestial bodies such as meteorites, comets, or interstellar dust. First articulated in modern scientific terms by Svante Arrhenius in the early twentieth century, the hypothesis has since been revisited in astrobiology, where it remains a speculative yet influential framework for thinking about outer space circulation of life and the continuity between planetary systems. See: Arrhenius, Svante. *Worlds in the Making: The Evolution of the Universe* (New York: Harper & Brothers), 1908.

with ritual, healing, or cosmological belief systems, become recontextualized within the symbolic economy of contemporary art, where they risk being interpreted as aestheticized signs of transcendence or otherworldly connection. The work thereby creates a palpable tension: it is at once a site of radical *re-enchantment*[329] and a practice whose critical success depends on privileged modes of presentation and reception. The privilege modes here are understood as frameworks such as institutional exhibition contexts, curatorial framing, and an audience equipped with the cultural and theoretical literacy to decode its references.[330]

Finally, the project contains an engagement with identity and embodiment, which complicates readings that could otherwise treat it as a mere cosmological thought-experiment. *SMITH*'s own trajectory — as an artist who publicly explored gender transition and identities of border figures — therefore in a way inflects the exhibition's theme: the figure of *Anamanda Sîn* is a terrestrial avatar whose hybridity and indeterminacy points to the larger politics of belonging at stake in the work. While *Désidération (Anamanda Sîn)* instantiates an ethical orientation towards non-human kin and towards cosmic origin, it also insists that such reorientation must begin with a reconfiguration of bodies, gendered selves and relational modes of existence. In that regard, the project stages a speculative anthropology: it imagines new social textures — persons, collectives and alliances — that could be necessary for an alternative kind of cosmopolitics.

Through his dual focus on both the technological gaze and the cosmological metaphorical narratives, *SMITH*'s exhibition becomes a deliberate hybrid. While the technological gaze supplies the tools for perceiving and materialising cosmic spectrums, outer space representations supply the mythic and speculative content that animates *SMITH*'s heuristic, creative-analytical methodology.

To conclude, *SMITH*'s *Désidération (Anamanda Sîn)* is an exemplary instance of contemporary artist's capacity to combine disciplinary vocabularies from

329 Specifically here, a *re-enchantment* of humanity's relation to the cosmos and to non-terrestrial matter.

330 Coëffet, Apolline. "Désidération : le cosmos en nous réuni". *Fisheye Magazine*, 2021. https://fisheyemagazine.fr/article/desideration-le-cosmos-en-nous-reuni/ (consulted 29.11.2025).

astrophysics, and performance, to photography and sound, into a conceptual and sensorial investigation of human-cosmic relatedness. Its strengths lie in the rigorous concatenation of material motifs, its careful scenography, and its willingness to operate both scientifically and mythically. At the same time, the project prompts critical questions about accessibility, institutional enclosure and the political efficacy of speculative methods. As a curatorial object within the festival ecology of *Rencontres d'Arles*, *Désidération (Anamanda Sîn)* exemplified how contemporary exhibitions can function as laboratories of cosmic imagination while likewise reminding scholars that myth-making in the Anthropocene must be accompanied by reflective critique of where, how, for and by whom such myths are produced. In this sense, *SMITH*'s work articulates a counter-narrative to dominant representations of outer space. Their counter-approach is further enacted through a queering of scientific discourse, in which normative binaries — such as human/non-human, science/fiction, or knowledge/myth — are destabilized in favor of fluid, hybrid, and non-hierarchical modes of understanding.

3.4.C.2 Notes on Increased Institutional Traction for Counter-Narratives

In 2025, the author initiated contact with *SMITH* via a direct message on *Instagram*. A brief exchange took place, followed by a more sustained email correspondence that was intended to prepare a formal interview. Due to the artist's quickly increasing institutional visibility in France, and the accordingly decreasing availability of the artist, the interview could ultimately not take place. The deeper profundity of insights into *SMITH*'s use of counter-narratives, which was intended to be generated via the interview, could not itself be substituted by other means.

It seems noteworthy however, that an artistic position that transcends the classic (re)presentations of space, is currently gaining visibility and relevance for curatorial discourse as it underlines contemporary receptivity to alternatives modes of thinking outer space: notably, *SMITH* was invited to present a performance at the *Centre Pompidou* in October of 2025, which took

place right before the institution's closure for an extensive renovation expected to last approximately twenty years, marking a significant moment in the artist's trajectory. This validation by a major art institution suggests a cultural acceptance of art that synthesizes scientific discourse, speculative fiction, and embodied performance to address contemporary ecological and societal crises.

This in turn reveals a broader tension within the (French) institutional landscape, where an increasing openness toward alternative cosmologies, speculative narratives, and hybrid artistic practices coexists with the accelerated temporalities of contemporary exhibition-making. While institutions such as the *Centre Pompidou* signal a growing fascination for works that engage with non-linear temporalities, more-than-human perspectives, and cosmological plurality, these practices remain embedded within tightly programmed schedules, cycles of visibility, and demands for a constant renewal characteristic of neoliberal cultural production. As a result, the very frameworks that enable the recognition of such artistic positions simultaneously constrain their critical potential, as they are often absorbed into formats that prioritize immediacy, circulation, and institutional branding over sustained engagement. This paradox highlights how institutional pace not only shapes the conditions of artistic visibility but also delineates the limits within which alternative epistemologies can be meaningfully articulated.

4. Curating Outer Space: Practices, Ethics, and Futures

This chapter shifts the focus from the mode of analysis to that of proposition, arguing that curating outer space is not merely a reflexive practice, but one that actively shapes the world and futures we (will come to) inhabit. Exhibitions do more than simply render the ideologies embedded in space imaginaries visible; they also participate in producing and legitimizing particular visions of the future. As sites where knowledge, affect, and imagination converge, museums play a decisive role in how we envision our future within broader planetary and cosmic contexts.

In a moment when our future is increasingly politically, economically, and ecologically contested, and private corporations permanently enact their power, the question of how outer space is curated, gains equivalently increasing urgency.

The following sections explore curatorial strategies that move beyond national, technocratic, and anthropocentric frameworks, proposing instead transplanetary, plural, and ethically engaged approaches. Conceiving the museum as a space of heterogenous negotiation rather than a site of objective display, the following chapter presents considerations on how exhibition-making can contribute to more responsible, inclusive, and speculative understandings of outer space and its possible futures.

4.1. Beyond the Nation: Curating Transplanetary Perspectives

Curating *the* *beyond* *nation*

The expression refers to a curatorial framework that displaces the nation-state as the primary epistemic and political unit through which exhibitions are structured, interpreted, and legitimated. It proposes curatorial practice as a trans-scalar and transplanetary mode of thinking. *Curating beyond the nation* requires shifting focus from narrow national or corporate models of space exploration to the development of transplanetary perspectives.[331] The term draws on broader postcolonial and post-anthropocentric critiques of spatial and political organization, including notions of planetary thinking and cosmopolitics developed in contemporary theory, which question the persistence of the nation as the default frame for cultural narration. Contemporary space ambitions often rely on neocolonial, extractivist frameworks that risk exporting terrestrial conflicts and inequalities into outer space.[332] Therefore, a curatorial practice engaging outer space must actively decentralize the anthropocentric viewpoint, centering the cosmic perspective as a core thematic implication. Discourses surrounding extraterrestrial life inherently challenge concepts based in terrestrial exceptionalism by suggesting cosmic pluralism.[333] This pluralism in turn relativizes nation-based imaginaries by exposing political

331 Staal, Jonas. *Comrades in Deep Future*, e flux Journals, Issue #102, September 2019, https://www.e-flux.com/journal/102/283568/comrades-in-deep-future (consulted 26.02.2026).

332 Ibid.

333 Dunér, David. On the Plausibility of Intelligent Life on Other Worlds. In: *History of Science and Ideas, Lund University, Sweden / Cognitive Semiotics*, Lund University, Sweden, 2017, p. 436.

boundaries as parochial when viewed at astronomical or cosmic scale.[334]

Meanwhile, the representation of space as frontier or blank slate risks reproducing colonial imaginaries. Awareness of that risk — and critique thereof — then opens the possibility of alternative imaginaries: ones that are less focused on conquest and more on care, stewardship, or co-existence. As discourse around the possibility of extraterrestrial life matures, it undermines the conceptual hegemony of nation-based narratives and imaginaries.[335] If humanity on Earth and beyond were not alone, then claims of cultural, territorial, or political exceptionalism (common tropes in ideologies like neo-nationalism[336]) would be revealed as humorously narrow, even *parochial*[337]. The scale of the cosmos provides a horizon so wide that it transcends — and relativizes — national identity.

Modern and neo-nationalist ideologies rest upon narratives of distinctness, boundary, and exclusivity. The awareness that other species and forms of intelligence may inhabit the galaxy shifts political boundaries, which are rendered less significant, or even insignificant. Nationalism's doctrine of *us* vs. *them* must be recontextualized when *them* could be cosmic. Nevertheless, several tensions remain that complicate the development of transplanetary perspectives. There is a persistent lag between political institutions and forms of thinking that operate at an extra-planetary scale. At the same time,

334 Rabah, Khalil. *The End of Neonationalism: On The Comparative Certainty of Extraterrestrial Life and its Significance for Humankind*, e flux Journal, Issue #41, January 2017, https://www.e-flux.com/journal/41/60223/the-end-of-neonationalism-on-the-comparative-certainty-of-extraterrestrial-life-and-its-significance-for-humankind-earth-and-the-solar-system-sectio (consulted 26.02.2026).

335 Booklet of the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, Published by Canal Projects, 2023, p.3.

336 *Neo-nationalism* refers to contemporary forms of nationalist ideology that reassert the primacy of the nation-state. It emerged in response to processes of globalization, migration, and supranational governance. Neo-nationalism often operates through selective appropriation of global networks (economic, media, or technological) while promoting exclusionary narratives of cultural identity, sovereignty, and territorial control. It is frequently associated in political theory with the resurgence of populist movements and identity-based politics that frame national belonging as threatened by external forces, thereby reinforcing boundaries of inclusion and exclusion within an increasingly interconnected world. See: Appadurai, Arjun. *Fear of Small Numbers: An Essay on the Geography of Anger* (Durham, NC: Duke University Press), 2006.

337 Rabah, Khalil. *The End of Neonationalism: On The Comparative Certainty of Extraterrestrial Life and its Significance for Humankind*, e flux Journal, Issue #41, January 2017, https://www.e-flux.com/journal/41/60223/the-end-of-neonationalism-on-the-comparative-certainty-of-extraterrestrial-life-and-its-significance-for-humankind-earth-and-the-solar-system-sectio (consulted 26.02.2026).

nationalist ideologies often resist such shifts, reaffirming territorial logics of sovereignty and competition. This is further reinforced by the asymmetry of power among nations in space policy, where access to technological and economic resources is unevenly distributed. Finally, there is a continuing risk that outer space imaginaries themselves become instrumentalized by national and private parties active in national space programs, particularly through dynamics of competition, resource extraction, and claims on exoplanet land sovereignty.

In the context of dynamics of competition, resource extraction and national claims on outer space territory, the persistence of neo-nationalist frameworks is notable. Yet this framework is structurally incompatible with the emergence of transplanetary perspectives. In fact, this framework is interested in continuing to anchor political imagination in arbitrarily demarcated territorial units rather than distributed planetary or cosmic relations. The end of neo-nationalism, therefore, cannot be understood as a historical fact. It is taken as a speculative condition that would be required for genuinely post-territorial forms of political and curatorial imagination to emerge. If extraterrestrial life turned out to exist, then space would not simply be a vacancy to be filled and dominated, but a territory of potential encounters, relationality, and mutual responsibility. Outer space imaginaries thus work as provocations to ask not only *what is humanity's place?*, but *whom do we owe responsibility?*

Cosmic and outer space imaginaries tend to decenter Earth, instead focusing on Mars, Moon and other potential habitats on so-called *exoplanets*. This imaginary allows for a conceptual distancing from reality. This distance then allows for reflections and reconsiderations of Earth as a habitat and raises questions such as what our ecological and political responsibilities are towards our home planet. It is due to this potential that representations of celestial frontiers often mirror earthly concerns about climate crisis, resource depletion and Indigenous dispossession. The imaginaries of off-Earth settlements can, by means of their ostensible differences, illuminate what we may be problematically do wrong on planet Earth and what we could do differently.

The discrepancy between corporate and state-driven imaginaries on the one hand and their counter-imaginaries on the other becomes obvious in their

contrary discrepancies. While the former are both shaped (and even driven) by extractivist and neo-colonial ambitions, the latter use outer space, or more accurately the *cosmos*, as a framework to rethink relationality, responsibility, and coexistence on Earth. Counter-imaginaries are therefore not only conceptually countering corporate and state-driven narratives, but equally counter them in their underlying restorative or corrective intent.

An exhibition which curatorially presented transplanetary counter narratives is the exhibition *Gravity. Imaging the Universe after Einstein* at the *National Museum of 21st Century Arts* (MAXXI) in Rome, which took place from 2017-2018,[338] was a fertile example of how outer space imaginaries can be represented in a way that balances scientific rigor with poetic, dream-like perception.[339] The exhibition negotiated between objective knowledge and subjective experience of space, between what is known and what is unknowable, between the comfort of scientific measurement and the wonder of mystery. The exhibition encouraged visitors not only to look outward in time, in Earth and space, but to reflect upon what it means to look: how our perception, culture, commonly imagined metaphors, and temporality shape what we imagine as the universe. The exhibition posed questions like: "How do we situate ourselves in this vast cosmos?," "What are the borders of our knowledge?," "What crises led to new imaginaries?". [340] In doing so, it transcended conventional framings of outer space as they are either purely scientific or purely speculative. The exhibition effectively countered the usual separation of both perspectives by merging them in a single experiential and epistemic field. As such, the exhibition presented an early curatorial example of this hybrid approach to *cosmopolitical* imagination, which seems all the more noteworthy due to it taking place in 2017-2018.

338 The analysis of the exhibition is based on secondary sources, including published catalogues, critical essays, and archival material available through the museum's official website, as the author did not visit the exhibition in situ. See: See *MAXXI – Museo nazionale delle arti del XXI secolo, Gravity. Imaging the Universe after Einstein*, exhibition archive and documentation: https://www.maxxi.art/en/events/gravity-luniverso-dopo-einstein/ (consulted 28.04.2026).

339 Ibid.

340 Booklet accompanying the exhibition *Gravity. Imaging the Universe after Einstein*, an exhibition by *MAXXI*, the *Italian Space Agency* (*Agenzia Spaziale Italiana*, *ASI*) and *the National Institute of Nuclear Physics* (*Istituto Nazionale di Fisica Nucleare*, *INFN*), December 2, 2017-2018, https://www.maxxi.art/wp-content/uploads/2017/07/MAXXI_GRAVITY_Brochure.pdf (consulted 12.04.2026).

Another example of how exhibitions can contribute to surpassing nationalist perspectives on outer space could be witnessed in the exhibition *Wild Hope: Conversations for a Planetary Commons*, presented at the *RMIT Design Hub* in Melbourne, Australia in 2023. The exhibition constructed a vision of Earth as a living, relational, biocultural commons: interspecies, intertemporal, simultaneously local and global. It oscillated between crisis and possibility, urgency and hope, and different human knowledge systems including Indigenous wisdom. It did so by utilizing sensory, material, sound-filled forms to enable the perception of ecological entanglements. In doing so, the exhibition invited viewers not just to observe ecological issues related to space, but to imagine, care for, and participate in the creation of planetary imaginaries and futures. This way, the exhibition focused less on the realm of outer space beyond Earth, and more on rendering Earth itself perceptible through its spatial context as vast, vulnerable, and communal. Notably, the curators additionally addressed the ethics of exhibition making and its ecological impact both in the exhibition itself as well as in its accompanying publications.

When it comes to countering hegemonic narratives that stabilize imaginaries of colonization, curatorial work must foreground intersectional thinking and interspecies solidarity as well as new forms of accountability. A curatorial endeavour doing so successfully is the organization *Art Laboratory Berlin*[341]. For over 30 years, the *Art Laboratory* has been reflecting on the various related topics of Art and Technology. The organization has consistently developed curatorial and research-based formats that engage with posthuman, ecological, and more-than-human perspectives. Its program frequently addresses questions of interspecies relations, microbial and non-human life, and alternative epistemologies, thereby contributing to a sustained critique of anthropocentric and extractivist frameworks in contemporary culture. In this sense, the organization's work can be understood as participating in the production of counter-narratives of space, as it displaces human-centered spatial imaginaries in favour of relational and

341 See the initiative's website and their numerous curatorial projects: https://artlaboratory-berlin.org/ (consulted 25.04.2026).

distributed understandings of worlding. Often artistic, scientific, and theoretical approaches are brought together within long-term exhibitions and event series. This positions curating itself as a planetary practice that actively reconfigures how space, life, and knowledge are conceived beyond hegemonic, nation-bound frameworks.

In general, fostering "intra-planetary relationships"[342] requires the development of new cultural narratives capable of reconfiguring how humans relate to one another, to non-human entities, and to planetary environments. Such narratives can enable expanded forms of comradeship, as well as an ethics grounded in listening, mutual recognition, and relational responsibility and accountability.[343] At the same time, these forms of coexistence necessitate the acceptance of solidarity and accountability as fundamental conditions for imagining shared planetary futures. Curating outer space can therefore become an act of visualizing alternatives outside of historically inherited state-centric and anthropocentric systems when speculative narratives are leveraged and art is being presented that links cosmic concerns with terrestrial realities.

In this sense, to *curate beyond the nation* entails a set of distinct curatorial characteristics: a decentering of the human as the sole agent in time and in space, an attentiveness to plural cosmologies and epistemologies, a refusal of linear, progress-driven narratives in favor of relational and cyclical temporalities, and a shift from extractivist imaginaries toward frameworks of care, reciprocity, and coexistence across species and environments. These approaches reframe space as a contested and co-constituted field of relations that extends, rather than escapes, terrestrial entanglements. Thus, they enable a positioning of outer space beyond the dominant narratives surrounding it — for example beyond the narrative of a frontier beyond which there lies empty space to be claimed. In that regard, outer space emerges as a site of projection and as a cultural, political, and ethical terrain. This positively transforms the way

342 Staal, Jonas. *Comrades in Deep Future*, e flux Journals, Issue #102, September 2019, https://www.e-flux.com/journal/102/283568/comrades-in-deep-future (consulted 26.02.2026).

343 Chiang, Ted. and Calzadilla, Allora, *The Great Silence*, e flux journal Issue #65, May 2015, https://www.e-flux.com/journal/65/336684/the-great-silence (consulted 26.02.2026).

outer space is portrayed as a topic, thereby making new futures conceivable. The following section will critically examine how exhibitions can engage outer space precisely as such a cultural, political, and ethical terrain, and how curatorial practices participate in shaping the futures that can be imagined through it.

4.2 Exhibiting Outer Space as a Cultural, Political and Ethical Terrain

Outer

space, often envisioned as a vast, objective expanse governed by universal scientific laws, is, as soon as one transcends a strictly scientific perspective, a deeply cultural, political, and ethical terrain. Our understanding of it is not derived from a detached, unbiased view without positioning, but is profoundly shaped by *situated knowledges*, as Donna Haraway articulated it.[344] Isabelle Stengers, building on Haraway's concept, emphasized that,

> [...] being capable of situating oneself — situating what one knows, and actively linking it to questions that one brings in to ways of working that respond to it — implies being indebted to the existence of others who ask different questions, importing them into situations differently, relating to the situation in any way that resists appropriation in the name of any kind of abstract ideal.[345]

Applied to outer space, Stenger's reminder challenges the notion of a singular, universal truth, suggesting instead that our interpretations of space are inherently partial and influenced by the specific social, historical, and political positions we individually and socially hold. According to Haraway's statement "Marx understood all about how privileged positions block knowledge of the conditions of one's privilege",[346] the

344 Haraway, Donna. *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*, Feminist Studies, 14:3 (Autumn 1988), pp. 575-599.

345 Stengers, Isabelle. *Another Science is possible - A manifesto for Slow Science*. Polity, Press, 2018, p.45.

346 Haraway, Donna. *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*, Feminist Studies, 14:3 (Autumn 1988), pp. 575-599.

author's own condition of privilege has to be taken into account. As a white, cis woman with cultural capital these factors influence her perception and thus the research – which the author needs and tries to reflect.

This involves not only acknowledging positionality as a methodological condition, but also actively integrating it into the analytical framework by remaining attentive to how categories such as gender, race, and institutional belonging structure access to knowledge and modes of interpretation. Any situatedness of knowledge therefore necessitates an engagement with diverse and often conflicting perspectives.

Importantly, this positionality does not function as a neutral background as it actively shapes the interpretive choices made throughout this thesis, including what is made visible, what is emphasized, what is questioned, criticized and what remains partially or wholly unarticulated. This implies that reflexivity is not a completed gesture preceding the actual work, but an ongoing methodological practice that is contained in the entire process like a golden thread

Counter-narratives emerging from perspectives such as *Indigenous Futurism*, feminist critique, and postcolonial thought actively aim to contest the hegemonic views they engage with. By recognizing outer space as a space of negotiation, where different knowledges and practices pluralistically encounter each other, it is possible to move towards a more inclusive and ethically responsible understanding of our relationship with outer space, the cosmos, and our own planet. This involves acknowledging the limitations of abstract ideas and instead embracing the *contact zones*[347] within which diverse perspectives can inform the ways in which we think about our place in the universe.

The question that consequently emerges is how curatorial practice can materially and spatially create conditions in which such plural, situated, and potentially conflicting perspectives can be made perceptible and brought into relation with one another within the exhibition space.

347 The notion of *contact zones*, theorized by Mary Louise Pratt, refers to social spaces in which disparate cultures meet, clash, and negotiate with one another, often within asymmetrical relations of power. Rather than neutral sites of exchange, these zones are characterized by complex, and at times conflictual, intercultural interactions that produce new forms of knowledge, identity, and relation. See: Pratt, Mary Louise. "Arts of the Contact Zone," *Profession*, 1991, p. 33–40.

The curator Zdenka Badovinac has described the present as an "Age of War [...] where civilization gets noisier and louder about its announcements of progress"[348]. She is not only referencing armed conflict, but a broader condition in which political, economic, and epistemic struggles intensify and permeate cultural production. She states that in such a context "abstract thoughts will not do,"[349] pointing to the insufficiency of detached or universalizing forms of critique when confronted with materially and historically situated conflicts. The ongoing cultural war within the *New Space Race* can in this sense be understood as a continuation of the Cold War, whose ideological infrastructures persist in shaping contemporary imaginaries, including those of outer space. In response (and based on Haraway's concept of *situated knowledges*), Badovinac proposes an "envoiced curating as situated practice",[351] by which she means the curatorial creation of a space of commons: a space in-between, where plural voices resonate with each other. This approach, calls for the exhibition space to function as an interspace where heterogeneous voices, epistemologies, and manifestations can coexist, resonate, and at times conflict. Pursuing this approach then means that in curatorial practice, one must engage with the concrete conditions through which power, ideology, and representation are produced and contested.

To curate in a situated manner, thus means that one has to actively engage with the partial, embodied, and historically contingent nature of diverse perspectives, rather than reproducing dominant, disembodied viewpoints. It entails shining a light onto the power relations, exclusions, and epistemic hierarchies that underpin both the content and the form of exhibitions, in as much depth as possible. As shown in previous chapters, these endeavours are thus far not yet common practice in the context of curating exhibitions on the topic of space. Accordingly, it constitutes an urgent matter: the supposedly universal and neutral narratives of space

348 Cf. "Civilization announces its progress by a lot of noise, and the more it progresses the noisier it gets". In: Dolar, Mladen. *A Voice and Nothing More*, (Cambridge, MA: MIT Press), 2006, p. 13.

349 Badovinac, Zdenka. *Unannounced Voices: Curatorial Practice and Curatorial Institutions, Thoughts on Curating*, volume 2, Edited by Steven Henry Madoff, Sternberg Press, 2022, p.6.

350 Ibid.

351 Ibid.

exploration are grounded in highly specific geopolitical, technological, and cultural positions, which nonetheless usually remain unmarked as such or sparsely reflected upon. The absence of critical reflective distance not only reinforces existing ideological structures, but also limits the transformative and speculative potential that curatorial practice could otherwise mobilize. In contrast, *situated curating*[352] opens the possibility to pluralize these narratives by foregrounding marginalized cosmologies, alternative temporalities, and relational understandings of existence, and thereby productively challenges the dominant anthropocentric and technocratic paradigms still prevalent in contemporary exhibitions thematizing space.

A shift like this could have profound ecological implications for the curation of space exhibitions. By recognizing and negotiating the entanglement of knowledge, power, and environment, situated curating invites a rethinking of humanity's place not only in outer space but within broader planetary systems. It is precisely this reorientation from human-centered mastery toward relational coexistence that strengthens the so-called *Post-Anthropocentric Turn*, which the following section will explore. It will outline how curatorial practices can contribute to the development of more nuanced, interconnected, and responsible imaginaries of the cosmos and how ecological considerations and thinking reshape the representation of space

352 The term *situated curating* is used here to describe curatorial practices that acknowledge their own positionality and ideological conditions of production while enabling plural, partial, and relational forms of knowledge to coexist. It functions in this thesis as an umbrella term for the ecological, decolonial, relational, and activist curatorial approaches discussed throughout the text.

4.3 Pluralistic Space Representations after the Post-Anthropocentric Turn

supposed

The paradoxical

fact

that the universe should in all likelihood, given its age and vastness, be teeming with life, while this life was never found or proven, is coined the *Fermi Paradox*, which can be summed up by asking "Where is everybody?"[353] (see fig. 93). *The Dark Forest Theory*[354] in contrast is a kind of *Fermi Paradox* flipped on its head: rather than questioning why the universe is silent, it asks "Why are you shouting?"[355]

In their artwork *The Great Silence*[356], the artist duo Jennifer Allora and Guillermo Calzadilla took this concept as a starting point for deeper reflections on the *Dark Forest Theory*. The multimedia installation and

353 The *Fermi paradox* is a central question in modern astrophysics and philosophy alike: it highlights the contradiction between the high probability of the existence of extraterrestrial civilizations and the complete lack of evidence or contact with them. Formulated in 1950 by the Italian-American physicist Enrico Fermi, it sums up this tension in the now famous question "Where is everybody?" See: Fermi, Enrico. "The Fermi Paradox," in *Collected Papers of Enrico Fermi*, Vol. 2, Chicago: University of Chicago Press, 1965.

354 As Xin Wang notes: "The *Dark Forest Theory* likens intelligent life in the universe to hunters dispersed in a dark forest, vying for limited resources and unaware of each other's locations. Silence and deceitfulness are essential to survival, given that the exposure of one's coordinates will likely invite direct attack. This is especially the case for civilizations with advanced technologies, as annihilating an unknown, potential threat would be safer and more efficient than attempting contact." In: Wang, Xin. *The Cosmos Flickers in you*, e flux journal, Issue #142, February 2024, https://www.e-flux.com/journal/142/585345/the-cosmos-flickers-for-you (consulted 12.04.2026).

355 Konior, Bogna. Dark Forest Theory of Intelligence, 2023; in: *Machine Decision Is Not Final: China and the History and Future of Artificial Intelligence*, ed. Bratton, Benjamin. Greenspan, Anna. and Konior, Bogna. Urbanomic, 2024.

356 Booklet of the exhibition *Gravity. Imaging the Universe after Einstein*, an exhibition by MAXXI, the Italian Space Agency (Agenzia Spaziale Italiana, ASI) and the National Institute of Nuclear Physics (Istituto Nazionale di Fisica Nucleare, INFN),December 2, 2017–April 29, 2018, https://www.maxxi.art/wp-content/uploads/2017/07/MAXXI_GRAVITY_Brochure.pdf (consulted 12.04.2026).

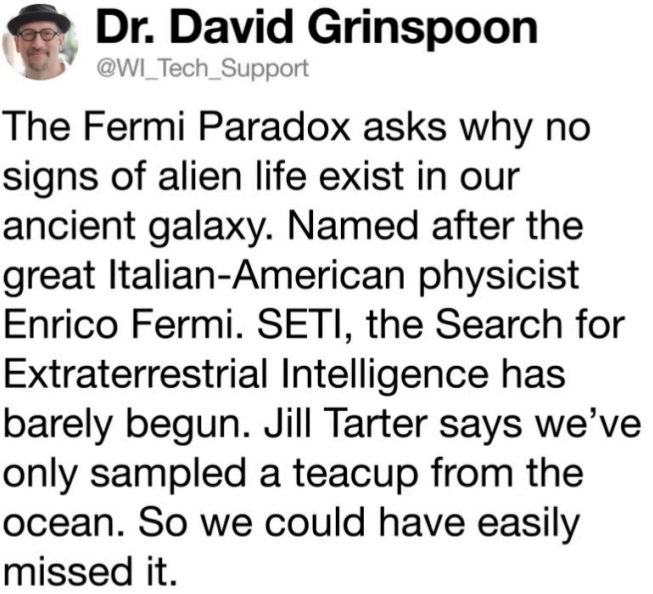


fig. 93

text for their work were created in collaboration with author Ted Chiang, among others. The piece centers on the Arecibo Observatory located in Puerto Rico, and the endangered Puerto Rican parrot species *Amazona vittata*, and reflects on the search for extraterrestrial intelligence. The narrative voice is that of a parrot, commentating the human efforts to broadcast their existence into outer space via the Arecibo *Observatory*, while its own species is vanishing, rendering the parrots' voices almost completely silenced. The parrot ponders what counts as intelligence, communication, and how humans define and recognize *Others*.

The artwork hence raises a central question: if humans send signals into space in hopes of receiving an answer, why don't they listen to the signals from non-human species already present on Earth and therefore imminently perceivable by humans? The work suggests that our outer space imaginaries are haunted by absence — not only an absence of Alien[357] voices, but also an

357 The capitalised term *Alien* is used here to designate a conceptual figure rather than a generic descriptor. In this thesis, *Alien* refers to a speculative ontological category. It is an entity, subject, or epistemic figure that embodies radical otherness in relation to human perception, knowledge systems, and cosmological frameworks. The lowercase *alien*, by contrast, is commonly used as an adjectival or descriptive term, including in computational, linguistic, or worldbuilding contexts where it may denote stylistic generation or non-specific Otherness. The distinction between capitalised and lowercase forms is therefore employed to differentiate between a theorised figure of radical alterity (*Alien*) and a more general or procedural usage of the term (*alien*) within descriptive or generative systems.

fig. 94

absence of human recognition of earthly *Others*. In fact, outer space itself is often imagined as the ultimate *Other* — Alien. In *The Great Silence*, the boundary between Alien and non-Alien is undefined: parrots are in direct proximity to humans, yet Other to human life; their cognition, intelligence, needs and voices are less acknowledged by humans than they try to acknowledge Alien life. With this profound impetus for interrogation, the piece asks: are we more Alien to non-human species than we imagine Alien species are to us? (see fig. 94). By doing so, the work shows that outer space imaginaries become a lens through which earthly modes of recognition, silence, and species hierarchies can be examined.

The artwork also critiques a technological bias common in outer space imaginaries, namely that communication with other species is something that must take place on human terms, and assumed to be achieved by electromagnetic transmission, necessarily by using high-tech. The *technological sublime*, localized in outer space, is thus contrasted with the immediate presence of more fragile, more intimately familiar voices of non-human life, which is threatened – by our presence

358 *Cosmic* or *cosmological time* refers to the vast time scales of the universe — spanning millions or billions of years — such as the formation of stars, planets, and galaxies. It contrasts with human-centered time by situating human existence within a much larger cosmic timeline. See: Rovelli, Carlo. *The Order of Time*. Translated by Simon Carnell and Erica Segre. New York: Riverhead Books, 2018.

– and needs to be heard. The urgency of uncountable species' extinction, of non-human voices currently threatened to being irreversibly silenced, becomes tangible by mirroring the parrots' imminent silence with the silence of outer-space. In the work, the horizon of *cosmic time*[358] is constructed as a site of melancholy, loss, and responsibility not only a site of wonder. The *Great Silence* can therefore be understood as an implicit and explicit critique of human perception and priorities: constructing complicated and complex instruments to hopefully hear (back) from entities in far-away outer space, while only marginally listening to voices close by, seems absurdly ironic. What inevitably becomes clear through the work's narrative is the ethical demand to listen more carefully to voices you can respond to[359] – or at least, recognize them as voices as such.[360]

Furthermore, outer space imaginaries often assume that we as humans are the senders of communication.[361] The *Great Silence* exposes this bias by appealing to our willingness and duty to listen to Earth's silenced Others and evokes questions about who is speaking, whom we choose to hear, and whose signals are available, yet ignored.

Building on its inversion of sender and receiver, *The Great Silence* leads towards a broader reconfiguration

359 The ethical imperative to respond to a voice can be related to Emmanuel Levinas's philosophy, in which the encounter *with the Other* constitutes a call that demands response and responsibility, even prior to conscious intention. See: Levinas, Emmanuel. *Totality and Infinity: An Essay on Exteriority*. Pittsburgh: Duquesne University Press, 1969.

360 The imperative "recognize it," resonates with feminist and decolonial epistemologies: These epistemologies foreground listening, recognition, and relational accountability in contrast to claims of universal or neutral knowledge. Donna Haraway's concept of *situated knowledges* emphasizes partial, embodied perspectives and the responsibility to remain accountable to other forms of life and knowledge production, while Gayatri Chakravorty Spivak's critique of "speaking for" the subaltern underscores the ethical importance of attending to, rather than overwriting, marginalized voices. See: Haraway, Donna J. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective". *Feminist Studies* 14, no. 3, 1988, p. 575–599 and Spivak, Gayatri Chakravorty. "Can the Subaltern Speak?" In *Marxism and the Interpretation of Culture*, edited by Cary Nelson and Lawrence Grossberg, p. 271–313. Urbana: University of Illinois Press, 1988.2018.

361 The *sender–receiver model* of communication conceptualises communication as a linear process in which a sender transmits a message through a channel to a receiver, who decodes it. Developed in information theory by Claude Shannon and Warren Weaver, the model has been widely used to analyse how meaning is structured and transmitted, while also being critically reassessed for its assumptions about unidirectional communication and control over signals. See: Shannon, Claude and Weaver, Warren. *The Mathematical Theory of Communication* (Urbana: University of Illinois Press), 1949; https://monoskop.org/images/b/be/Shannon_Claude_E_Weaver_Warren_The_Mathematical_Theory_of_Communication_1963.pdf (consulted 14.03.2026).

of curatorial practice in the context of (what posthumanism and new materialism have described as) decentering of the human subject.[362] If the exhibition space has historically functioned as a site for the display of, in space exhibitions, human-made objects, which address human viewers, the *Post-Anthropocentric Turn* calls both the exclusivity of this authorship and the assumed centrality of the human viewer into question.Curating with and through non-human actors therefore requires more than mere representational inclusion. It demands a shift in ontological and epistemological frameworks. Scholars such as Donna Haraway and Bruno Latour have emphasized the entangled nature of human and non-human agencies, proposing models in which agency is distributed across networks of living and non-living entities.[363] Translating such perspectives into exhibition-making could mean that curators could no longer simply *stage* works, but would rather facilitate conditions under which multiple forms of life and matter co-articulate meaning. In this expanded frame, the silence pointed out by the *Fermi Paradox* can no longer be understood only as a speculative absence, but as part of a wider condition, in which the limits of human sensing, knowing, and inhabiting are continuously negotiated across planetary and cosmic scales.[364]

A possible curatorial strategy to do justice to this expansion is the inclusion of living systems as active participants in an exhibition rather than as passive exhibits. Projects that incorporate plants, fungi, or microbial ecologies — drawing on insights from fields like plant studies or microbiology — can destabilize the traditional temporality and control of exhibitions.[365] Growth, decay, unpredictability, and interdependence introduce forms of agency that transcend artistic and

362 Braidotti, Rosi. *The Posthuman*, Cambridge: Polity Press, 2013.

363 See: Donna J. Haraway, *Staying with the Trouble* (Durham: Duke University Press), 2016; Bruno Latour, *Reassembling the Social* (Oxford: Oxford University Press), 2005.

364 Fermi, Enrico. "The Fermi Paradox," in *Collected Papers of Enrico Fermi*, Vol. 2, Chicago: University of Chicago Press, 1965.

365 See: Marder, Michael. Plant-Thinking (New York: Columbia University Press), 2013; Lowenhaupt Tsing, Anna. *The Mushroom at the End of the World* (Princeton: Princeton University Press), 2015.

curatorial authorship[366] and control. Then, the exhibition becomes an evolving ecosystem beyond fixed displays. Accordingly, maintenance, care, and attunement are rendered into central curatorial gestures, aligning with ethics of responsiveness rather than mastery.[367] It has to be noted however, that *inserting* living agents — animals, plants or fungi alike — is a treacherous act: The risk of unconsciously repeating patterns of exploitation and thereby reproducing anthropocentric power-relations is severe, consent is unattainable and conditions of giving and taking are extremely complicated to balance.

Another curatorial strategy is based on rethinking modes of perception and communication within the exhibition space. If human frameworks of communication are limited by the biological constraints of human perception[368], then curatorial practices could attempt to foreground alternative sensory registers. Auditory input, vibrations, chemical signals, or environmental changes[369] can serve as modes of communication that breach beyond the dominance of visual (re)presentations. Approaches like these resonate with the work of philosopher Timothy Morton, who describes ecological awareness

366 The integration of living systems into artistic and curatorial practices is not a recent development, but has a longer lineage within contemporary art, particularly in the context of BioArt and process-based practices. Artists such as Dieter Roth have explored organic transformation and decay since the 1960s, while more recent works like *After A Life Ahead* by Pierre Huyghe (2017) incorporate living and autonomous systems as integral components of evolving environments. Curatorially, *Art Laboratory Berlin* provides a significant example of sustained engagement with such approaches, regularly presenting exhibitions that foreground biological processes, non-human agency, and scientific collaboration as core curatorial elements.
On the integration of living systems in contemporary art and its critical implications, see Myers, William. *Bio Art: Altered Realities* (London: Thames & Hudson), 2015; Hauser, Jens. *Sk-interfaces: Exploding Borders–Creating Membranes in Art, Technology and Society* (Liverpool: Liverpool University Press), 2008.
For a critical perspective on ecological and posthuman artistic practices and their potential to reproduce institutional and anthropocentric power structures, see Demos, T. J. *Against the Anthropocene: Visual Culture and Environment Today* (Berlin: Sternberg Press), 2017.
On Pierre Huyghe's practice specifically, see *Pierre Huyghe*, ed. Lavigne, Emma. (Paris: Centre Pompidou), 2013; Serpentine Galleries, *Pierre Huyghe: UUmwelt* (London: Serpentine Galleries), 2018.

367 Puig de la Bellacasa, Maria. *Matters of Care* (Minneapolis: University of Minnesota Press, 2017).

368 Such as the restricted range of sensory modalities and the reliance on language-based cognition.

369 Such as fluctuations in temperature, humidity, light cycles, atmospheric composition, or electromagnetic fields, which are used by many organisms as signals for orientation, adaptation, or interaction.

as an encounter with *hyperobjects*.[370] Rather than making such entities fully perceptible, sensory strategies can be understood as partial interfaces that render their effects experiential without claiming total comprehension. The use of non-visual and environmental signals does not contradict the notion of hyperobjects as fundamentally ungraspable, but instead foregrounds the limits of human perception by staging how these phenomena are only ever encountered indirectly, through distributed, fragmentary impressions. Exhibitions, in this sense, could become sites where the limits of human perception are neither left unrecognized and uncommented upon nor concealed but instead rendered palpable themselves. In this regard, artist and designer Isamu Noguchi's design for *Sculpture to Be Seen from Mars* comes to mind, which he conceived in 1947 with the intent to construct a posthumous memorial to the existence of mankind once mankind would have disappeared. The project envisioned a monumental facial form carved into the landscape of the United States desert, intended to be large enough to be legible from outer space as a kind of planetary-scale inscription. The artist, who had Japanese roots, conceived the monument in the aftermath of the atomic bombings of Hiroshima and Nagasaki (see fig. 95) Since the work was never realized, it is classified as belonging to the category of "research pending"[371] in Noguchi's catalogue raisonné.

fig. 95

Noguchi's monument can be productively read through the lens of *hyperobjects*, insofar as it displaces perception beyond immediate human apprehension and situates meaning in radically expanded spatial and temporal frameworks. The work as it was designed would not be entirely apprehensible from a single standpoint on the ground, but requires some — physical and conceptual — distance to become fully apprehensible. Thereby, *Sculpture to Be Seen from Mar*s tangibly illustrates the inadequacy of embodied, localized perception. In this sense, its logic resonates with Morton's formulation of a *hyperobject*, as it stages an aesthetic experience that

370 *Hyperobjects* is a term coined by Timothy Morton to describe entities that are highly distributed in time and space, such as climate change, nuclear radiation, or global warming, which are so vast and complex that they exceed immediate human perception and cannot be fully grasped as singular, localized objects. See: Morton, Timothy. *Hyperobjects*, Minneapolis: University of Minnesota Press, 2013.

371 See the online version of the catalogue raisoné of the artist under: https://archive.noguchi.org/detail/artwork/397 (consulted 12.04.2026).

transcends direct human grasp and becomes intelligible only through a shift in both scale and perspective. In a similar vein, curator Xin Wang emphasized how aesthetic form can anticipate planetary-scale conditions that transcend humanity's immediate existence. As the curator phrased it in her essay *The Cosmos Flickers for you* published by *e flux* referring to Noguchi's work:

> [...] the design of the face [...] appears frozen in a permanent expression of surprise and wonder, presciently anticipating the escalation of nuclear warfare and environmental disasters that would engulf the earth in the centuries to come.[372]

Another curatorial strategy is to transform spatial representation itself. Rather than conceiving space as a neutral container, curatorial design can elicit spatial entanglement, relationality, and cohabitation. This could involve dissolving clear boundaries between exhibits, artworks, environment, and viewer.[373] This could also involve situating exhibitions within uncommon sites of specific ecosystems like forests, wetlands, or urban infrastructures, where human presence is only one among many.[374] Such contexts deviate from the conventional white-cube or museum environment and therefore disrupt established expectations of how and where art should be encountered. As a result, the visitor experience becomes less structured and more contingent, requiring bodily navigation, sensory attunement, and situational awareness rather than passive reception. In these settings, the exhibition is no longer experienced as a clearly bounded space of display, but as an embedded and dynamic field of relations in which perception is

372 Wang, Xin. *The Cosmos Flickers for you*, e flux journal, Issue #142, February 2024, https://www.e-flux.com/journal/142/585345/the-cosmos-flickers-for-you (consulted 12.04.2026).

373 Such an approach can be observed in *Les Immatériaux*, where Jean-François Lyotard rejected linear exhibition pathways in favour of a fragmented, immersive constellation of media, screens, and sensory stimuli, producing a non-hierarchical and destabilised spatial experience. See: Lyotard. Jean-François. *Les Immatériaux: Exhibition Catalogue*. Paris: Centre Pompidou, 1985. Similarly, in the exhibition practices of Lina Bo Bardi, particularly at the *Museu de Arte* de São Paulo, artworks were displayed on transparent easels in open space, eliminating traditional wall-based separation and enabling viewers to move freely among works as part of a continuous spatial field. In both cases, spatial design becomes an active curatorial tool that produces relationality rather than simply housing objects.
See: Bo Bardi. Lina. *Lina Bo Bardi: Architecture for the People*. Edited by Zeuler R. M. de A. Lima. New York: Princeton Architectural Press, 2013.

374 Demos, T. J. *Decolonizing Nature: Contemporary Art and the Politics of Ecology*. Berlin: Sternberg Press, 2016.

fig. 96

continuously negotiated with environmental conditions and non-human agents. The notion of site-specificity expands into what could be termed eco-specificity, when the site is not merely a context but an active agent shaping the work.[375] An endeavour that comes to mind is *terra0*, an ongoing art and research project, started in 2015, that explores how ecosystems could become autonomous agents through the use of emerging technologies. Developed by a collective of artists, theorists, and programmers, it proposes the speculative model of a "self-owning" forest that autonomously uses sensors, blockchain technology, and smart contracts to manage and monetize its own resources.[376] By enabling a forest to sell logging licenses and accumulate capital, *terra0* reimagines traditional structures of ownership and value, shifting from human-controlled exploitation to forms of self-utilization and non-human agency.[377] Across its various iterations, the project critically engages with the entanglement of ecology and economy, raising broader questions about agency, autonomy, legal personhood, and the potential for more-than-human participation within capitalist and post-capitalist as well as within post-anthropocentric systems (see fig. 96).

A further exhibition that comes to mind in regard to active co-habitation is the exhibition *Finir en beauté* by Sophie Calle at the *Rencontres d'Arles* in 2024. An integral

375 Ibid.

376 See the organization's website: https://terra0.org/ (consulted 25.04.2026).

377 See: Kadist website, https://kadist.org/people/terra-0-paul-kolling-and-paul-seidler/ (consulted 25.04.2026).

fig. 97 & 98

part of the show's concept was the site of the installation in a Roman underground cryptoporticus[378] which provided a damp environment — usually unsuitable for the exhibition of artworks. The artworks were meant to rot in their environment through fungi that inevitably started to develop (see fig. 97 and 98). The exhibition was widely regarded as a critical success and likewise became a financially successful endeavour. Besides photographic and sculptural works, the exhibition also included a performance by the artist, within which the public was invited to leave photographs of the artist inside the exhibition to rot, disintegrate and ultimately disappear over time — that is, if they had the possibility and economic capacity to acquire a special limited edition for the price of 75€ (see fig. 99) that was the only accepted to be left behind in the exhibition by visitors.

These curatorial and artistic strategies must however be critically examined and executed. Although a full critical examination of each strategy is beyond the scope of this thesis, to illustrate this the example of including non-human actors has been taken as an example. The strategy of including non-human agents risks instrumentalizing such actors exploitatively within an aesthetic or institutional framework that remains fundamentally anthropocentric, lacks consent, and can actively damage the living conditions or endanger the habitats of these actors. The challenge, in this case,

fig. 99

378 The Roman cryptoporticus of Arles is an underground space, listed as a *UNESCO World Heritage Site*, forming the foundation — the hidden underground part — of the ancient forum.

fig. 100

is not only to include them, but to carefully negotiate asymmetries of power, visibility, and possibilities of survival. One has to question what it means to exhibit a living organism, potentially within a white cube? Other questions are likewise crucial, such as: under which conditions does an inclusion become extractive rather than collaborative? Under what kinds of conditions can such an inclusion be collaborative rather than remaining extractive? Questions like these echo the ethical concerns raised in *The Great Silence*: recognition alone is insufficient without a corresponding transformation of how we listen, respond, and consciously take responsibility.[379]

This also requires consciously framing the white cube not as a neutral or merely aesthetic container, but as an institution embedded within broader capitalist infrastructures of production, circulation, and value extraction as well as a hegemonic tradition of exhibiting. Museums, rather than functioning as isolated sites of presentation, are implicated in wider regimes of accumulation and both environmental impact and colonial exploitation, which fundamentally shape the ethical limits of what can be exhibited and how. These ethical limits will be addressed in greater detail in the following chapter.

Finally, curatorial practice after the *Post-Anthropocentric Turn* may also involve working with absence, latency, and silence — not as voids, but as meaningful presences themselves. Extinct or endangered species, invisible ecological processes, and imperceptible temporalities can be engaged through speculative[380],

379 Bennett, Jane. *Vibrant Matter*, Durham: Duke University Press, 2010.

380 For example, Saša Spačal's mycelial, bio-digital installations (see fig. 100) can be understood as a speculative artistic form that stages communication beyond the human through fungal networks, soil ecologies, and sensor-based infrastructures. In works such as her more-than-human environments, mycelium functions not as metaphor but as an active material intelligence, producing conditions in which human, machine, and living matter become co-constitutive agents within a shared communicative system. By foregrounding subterranean processes, latency, and distributed forms of perception, Spačal displaces human centrality and renders visible otherwise imperceptible ecological exchanges. Her practice thus offers a framework for thinking of endangered ecologies and interspecies

fig. 101

archival[381], or poetic strategies[382].[383] In doing so, exhibitions become spaces not only of display but of mourning, anticipation, ethical imagination[384], and negotiation. Just as the silence of outer space, which was pointed out by the *Fermi Paradox*, becomes a mirror

entanglements as already communicative, though not always legible within anthropocentric regimes of representation.

381 Christina Kubisch's *Electrical Walks* (see fig. 101) can be understood as an archival artistic strategy insofar as it engages in the situated *mapping* and perceptual registration of existing but ordinarily imperceptible infrastructures. Through specially designed headphones, the artist renders electromagnetic fields—produced by Wi-Fi networks, cables, and urban energy systems—audible, thereby revealing a material and spatial archive of technological environments that remain otherwise excluded from human sensory perception. Rather than inventing new worlds, the work discloses an already present infrastructural reality, operating as a form of embodied cartography that documents the hidden layers of contemporary urban space. At the same time, this archival impulse is inseparable from a sensory reconfiguration of perception, in which absence is translated into audible presence, subtly introducing a speculative dimension to the act of recording.

382 Aviva Rahmani's ecological interventions can be understood as a poetic artistic form insofar as they operate through process, latency, and ecological entanglement rather than stable representation. In projects such as Ghost Nets and her long-term restoration works, Rahmani engages with damaged ecosystems as living and temporal fields of transformation, where artistic action unfolds across extended durations and in dialogue with non-human agencies. Her practice does not seek to fix ecological damage into a visual object, but to activate processes of repair, attention, and ecological becoming, foregrounding the invisibility of environmental change as a constitutive aesthetic and ethical condition. In this sense, her work articulates post-human temporalities in which restoration is both material and speculative, situated at the intersection of care, uncertainty, and ecological reparation. See the artist's website: https://www.avivarahmani.com/ (consulted 25.04.2026).

383 Heise, Ursula K. *Imagining Extinction*, Chicago: University of Chicago Press, 2016.

384 By *ethical imagination* this thesis refers to the speculative capacity to conceive futures otherwise: futures structured not through expansion, mastery, and extraction, but through interdependence, responsibility, and forms of planetary coexistence. Ethical imagination does not imply a universal moral framework, but a critical and speculative practice through which alternative

for terrestrial silencing, so too can the exhibition space become a site where the unheard, the unseen, and the unrecognized are brought into an initial, provisional relation with human attention. This attention is necessary for the emergence of beneficial imaginaries of the future and their further development.

Extending these considerations more explicitly into the realm of outer space and their correlated imaginaries, curatorial practice can also engage with the cosmos and ecological thought. The cosmos, which can be conceived as an ecological continuum, can destabilize the Earth-space divide. Drawing on insights from astrobiology and planetary science, outer space can be reframed as a site of relationality rather than emptiness — not only potentially populated by extraterrestrial life, but also permeated by material processes, radiations, and debris that are already entangled with terrestrial existence via satellites, signals, frequencies emitted by humanity permeating space, and orbital waste.[385]

Artistic and curatorial projects could, for instance, work with real-time satellite data, cosmic radiation, or deep-time imaginaries[386] to render the otherwise inaccessible scales of the universe perceptible. Curating outer space, then, would become less about representing the cosmos and more about situating human perception within a broader field of interplanetary interrelationships, where questions of extraction, ownership, and technological expansion intersect with ecological ethics.[387]

modes of coexistence between humans, nonhumans, technologies, and planetary environments can be envisioned. It designates an imaginative practice that is simultaneously aesthetic, political, and relational, allowing exhibitions to become spaces where alternative configurations of life and coexistence may be sensed, rehearsed, or negotiated.

385 Rees, Martin J. *On the Future: Prospects for Humanity*, Princeton: Princeton University Press, 2018; see also: McDowell, Alexander C. "Cosmic Design and Space Habitation," in Designing the Future of Space Exploration, ed. Scott Madry, Cham: Springer, 2019.

386 Within curatorial and artistic practices, *deep time imaginaries* can destabilize anthropocentric understandings of temporality by situating human existence within broader processes of planetary formation, extinction, and cosmic evolution. In relation to outer space representation, such imaginaries allow exhibitions to move beyond short-term futurism and techno-utopian projection toward temporal frameworks attentive to ecological interdependence, latency, and long-duration planetary processes. This understanding resonates with Jonas Staal's reflections on future-oriented political imaginaries and the need to construct collective visions capable of operating across expanded temporal horizons.

387 See: Dickens, Peter and Ormrod, James S. T*he Humanization of the Cosmos: A Critical Sociological Analysis of Space Exploration* (London: Routledge), 2007; Deudney, Daniel. *Dark Skies: Space Expansionism, Planetary Geopolitics, and the Ends of Humanity* (Oxford: Oxford University Press), 2020.

Since private and public space industries alike are exerting an increasingly impactful grasp on Earth's cosmic surroundings, interplanetary interdependencies become more and more significant by the day.

4.4 Curatorial Practice as Space Negotiation

In previous the subchapters , curating has been discussed as a cultural practice that generates, mediates, and reflects how humans experience space. Possibilities for turning exhibition spaces into sites of *un-plannable* encounters have been examined.[388] This chapter expands these considerations by examining different theoretical approaches to curatorial practice that move beyond representation toward relational, process-oriented, and more-than-human understandings of exhibition-making.

The term *un-plannable encounters* refers to situations in which curatorial environments enable interactions that cannot be fully scripted, anticipated, or controlled in advance, particularly when human visitors come into contact with non-human agents such as living organisms, microbial ecologies, environmental processes, or technologically autonomous systems. These encounters are *un-plannable* insofar as they are shaped by contingent material and temporal conditions that exceed curatorial authorship and destabilise linear models of exhibition design. As articulated by artist Paul O'Neill, the curatorial no longer merely organizes objects but produces relational conditions, in which meaning emerges contingently through encounters, frictions, and temporal unfoldings.[389] In this sense, curating becomes a practice of hosting partially indeterminate relations between human and non-human actors, in which meaning emerges through situated, evolving, and often unpredictable forms of co-presence.

388 Sternfeld, Nora and Ziaja, Luisa. *What comes after the show? On post-representational curating*, On Curating, Issue 14/12, "From the world of Art archive," 2011.

389 O'Neill, Paul. *The Culture of Curating and the Curating of Culture(s)*, Cambridge, MA: MIT Press, 2012.

The *post-representational* framework proposed by Beatrice von Bismarck, Jörn Schafaff, and Thomas Weski further advances three agency-oriented perspectives: Performing the Archive, Curating as Organizing, and Turning to the Educational, which emphasize collaborative knowledge production, conflictual contact zones and emancipatory learning.[390] Taking these approaches into account, exhibitions on the theme of outer space could be designed to treat celestial data as performative archives rather than static sources of information. They could also organize interdisciplinary collaborations that approach outer space as a contact zone where scientific, artistic, ecological, and political perspectives intersect. Finally, such exhibitions might employ educational strategies that invite audiences to actively co-produce meaning instead of merely consuming visual representations.

Furthermore an *aesthetic of the commons*, as theorized by sociologists Pascal Gielen and Nikos Papastergiadis, provides a critical framework through which outer space representation can be reimagined beyond proprietary and extractive logics.[391] Applied to outer space, curation would treat images, simulations and narratives of space as relational, care-based infrastructures rather than as isolated, market-driven commodities. In this context, platforms that generate and distribute space data — such as satellite interfaces, observatory databases, mapping systems, or citizen-science portals — can be understood not merely as neutral technical tools, but as environments that shape how users perceive, interpret, and emotionally relate to outer space. The ways in which data is selected, visualized, rendered accessible, or interactively explored influence how subjects position themselves in relation to planetary and cosmic scales. Subjectivity is therefore "co-produced" through the interaction between technological systems and human modes of perception, participation, and interpretation. Shared technical and affective practices refer here to collective forms of engagement that combine computational infrastructures with embodied, sensory, and emotional experiences of planetary data. It could

390 Ibid, p. 23 ff.

391 See: Gielen, Pascal. *The Murmuring of the Artistic Multitude* (Amsterdam: Valiz, 2009); Nikos Papastergiadis, Cosmopolitanism and Culture (Cambridge: Polity Press, 2012).

thereby inform about the organizational aesthetics[392] of the platforms that generate space data treating them as sites where subjectivity is co-produced through shared technical and affective practices.

In this sense, visualizations could be utilized as *operational aesthetics*[393]: the technical conditions of data collection could be deliberately shaped to extend bodily and perceptual capacities, allowing participants to sense planetary systems as "sensoriums of exception"[394] that enable alternative imaginaries of space beyond the narratives currently presentable.

Curatorial approaches such as *operational aesthetics* and the aesthetic of the commons resonate with Nicolas Bourriaud's concept of *relational aesthetics*[395] insofar as they understand exhibitions not as collections of isolated objects, but as environments structured through dynamic relations between viewers, technologies, images, infrastructures, and forms of knowledge. Rather than positioning spectators as passive recipients, these approaches encourage situated forms of participation in which meanings emerge through processes of negotiation, co-presence, and relational engagement with both human and non-human actors.[396] By emphasizing the inherently digital and therefore distributable nature of astronomical datasets, these curatorial approaches help us state that astronomical information can be copied, shared, and recombined without being exhausted. In this sense, *relational* and *operational aesthetics* of the

392 Goriunova, Olga. *Uploading our Libraries: The Subjects of Art and Knowledge Commons*, in: "Aesthetics of the Commons," Volume 24, Institute for Contemporary Art Research, Zurich University of the Arts, Diaphane, 2021, p. 23.

393 *Operational aesthetics*, as discussed by Olga Goriunova, refers to aesthetic processes that emerge through the functioning, organization, and circulation of technological systems rather than through autonomous visual forms alone. In the context of digital infrastructures and knowledge commons, aesthetics are not limited to representation but are embedded within the operational logic of platforms, interfaces, protocols, and data flows that structure participation and perception. Applied to outer space representation, operational aesthetics thus concerns how the technical conditions of producing, processing, and visualizing cosmic data shape sensory experience, collective engagement, and imaginaries of the planetary and extraterrestrial. See: Ibid, p. 26.

394 Ibid, p. 31.

395 Ibid, p. 28.

396 Nicolas Bourriaud defines *relational aesthetics* as an artistic practice centered on "the sphere of human relations and its social context," rather than on autonomous and private symbolic spaces. In the context of this thesis, the concept is extended beyond exclusively interhuman interaction toward broader relational configurations involving technological systems, ecological processes, and more-than-human forms of coexistence. See: Bourriaud, Nicolas. *Relational Aesthetics* (Dijon: Les presses du réel, 2002), p.14.

commons contribute to "dis-enclosing" astronomical knowledge from proprietary forms of control. They can thereby foster affective infrastructures of shared wonder and responsibility.[397] Outer space representation could in such ways be designed to become a participatory, *mutual commons*[398] that allow for new subjectivities, supports collective stewardship of *planetary commons*, and challenges hegemonic techno-social imaginaries, such as the commercialized *space race*.[399]

The participatory framework that Jaschke and Sternfeld's text develops, can be transferred to the representation and mediation of outer space topics by treating exhibitions, digital platforms, and public programs as contact zones where scientists, artists, and diverse publics negotiate meanings rather than simply digesting a fixed narrative.[400]

Drawing on Nina Simon's four levels of participation[401], a space-focused exhibition could begin with the level of *Contributing*, in which visitors submit observations from citizen-science projects or share personal stories and experiences related to outer space. It could then evolve toward *Collaborating*, where community partners actively participate in the co-design of planetarium programs, workshops, or exhibition formats together with institutional actors. A further stage would involve *Co-Creating*, in which immersive environments such as VR installations or data-driven exhibition spaces

397 Goriunova, Olga. *Uploading our Libraries: The Subjects of Art and Knowledge Commons*, in: "Aesthetics of the Commons," Volume 24, Institute for Contemporary Art Research, Zurich University of the Arts, Diaphane, 2021, p. 33.

398 Ibid, p. 37.

399 The term *commons* is used here in the sense of a collectively shared and negotiated space (chose commune) that is maintained through relations of participation, mutual responsibility, and collective access rather than through exclusive ownership or privatization. Within curatorial and cultural theory, the commons refers not only to shared material resources but also to shared infrastructures of knowledge, perception, and representation. In the context of outer space representation, this concept designates forms of cultural production that treat outer space knowledge and imaginaries as collectively inhabitable and socially negotiated rather than proprietary or extractive. See: Gielen, Pascal and Dockx, Nico. *Commonism: A New Aesthetics of the Real* (Amsterdam: Valiz, 2018); and Ostrom, Elinor. *Governing the Commons* (Cambridge: Cambridge University Press, 1990).

400 Jaschke, Beatrice and Sternfeld, Nora. Zwischen/Räume der Partizipation, in: *Verband österreichischer Kunsthistorikerinnen und Kunsthistoriker* (Hg.), Räume der Kunstgeschichte, Vienna, 2015, p. 172 f.

401 Nina Simon develops these four levels of participation — *Contribution, Collaboration, Co-Creation,* and *Hosting* — as models for participatory museum practice that progressively redistribute institutional authority and visitor agency. See Simon, Nina. *The Participatory Museum* (Santa Cruz: Museum 2.0, 2010), p. 183–187.

are jointly developed with audiences, allowing visitors to actively shape narrative trajectories and modes of interaction. The highest level, *Hosting*, would enable external groups — such as amateur astronomers, activist collectives, or interdisciplinary research clusters — to autonomously organize programs within the institutional framework itself. Such an approach would significantly reduce curatorial control while (re)distributing authorship and institutional agency.[402]

At the same time, participatory models within curatorial and institutional practice must also be approached critically. As theorists of participation and immaterial labor have argued, the invitation to "participate" is never ideologically neutral.[403] Participatory frameworks can reproduce neoliberal logics that shift responsibility, production, and affective labor onto audiences while presenting such involvement as empowerment or inclusion. The assumption that visitors necessarily wish to participate, contribute, or co-create often remains unquestioned, obscuring the possibility that non-participation, opacity, withdrawal, or silence may themselves constitute legitimate positions. In this sense, the rhetoric of openness and interaction can risk instrumentalizing audiences as providers of unpaid creative, emotional, or informational labor under the guise of democratic engagement. Particularly within technologically mediated exhibitions and data-driven environments, participation may also generate forms of extractive value production, where visitor interaction becomes measurable, collectible, and economically exploitable. A critical curatorial approach must therefore remain attentive to the conditions under which participation is invited, who benefits from it, and whether audiences genuinely retain the possibility to refuse, disengage, or remain outside the participatory framework itself.

Another relevant notion is Rogoff's concept of

402 Jaschke, Beatrice and Sternfeld, Nora. Zwischen/Räume der Partizipation, in: *Verband österreichischer Kunsthistorikerinnen und Kunsthistoriker* (Hg.), Räume der Kunstgeschichte, Vienna, 2015, p. 170.

403 See, among others: Bishop, Claire. *Artificial Hells: Participatory Art and the Politics of Spectatorship* (London: Verso, 2012); Miessen, Markus. *The Nightmare of Participation* (Berlin: Sternberg Press, 2010); and Lazzarato, Maurizio. "Immaterial Labor," in *Radical Thought in Italy: A Potential Politics*, ed. Virno, Paolo and Hardt Michael. (Minneapolis: University of Minnesota Press, 1996), p. 133–147.

"looking away", that suggests a critical displacement of attention from expert-driven narratives toward moments of *un-expected encounter*. There, alternative knowledges and sensibilities can emerge.[404] Within the context of this chapter, this concept is particularly relevant because it provides a curatorial strategy for practicing situated forms of curation that do not attempt to stabilize a single authoritative perspective on outer space, but instead create conditions for plural voices and epistemologies to become perceptible. It also implies recognizing moments in which curatorial practice must refrain from speaking in order to listen, allowing other forms of knowledge and experience to articulate themselves without being immediately subsumed into institutional discourse. In the context of outer space curation, "looking away" from the generally used argument (or person) of authority could involve facilitating exchanges between amateur astronomers and aerospace engineers. It could also help to navigate between Indigenous cosmologies and astrophysical models, generating frictions that unsettle dominant epistemologies.

Finally, Chantal Mouffe's agonistic model enables debates over space policy, funding, or planetary protection to be democratically productive. Following her model, exhibitions should surface these debates and conflicts rather than smooth them over, allowing a pluralistic "public sphere".[405] Chantal Mouffe's theory underscores the importance of treating conflict as a productive force within the curatorial field.[406] This means that debates surrounding space policy, privatization, planetary protection, and the militarization of orbit should not be swept under the metaphorical rug, but rather staged as constitutive tensions within the exhibition space. From these negotiations, a pluralistic and contested public sphere can emerge.

By combining contact-zone analysis, participatory levels, and agonistic negotiation, outer space mediation can become a dynamic, democratic arena rather than a static vitrine. With this expanded understanding, curatorial practice can operate as a form of *cosmic*

404 Jaschke, Beatrice and Sternfeld, Nora. *Zwischen/Räume der Partizipation*, in: Verband österreichischer Kunsthistorikerinnen und Kunsthistoriker (Hg.), Räume der Kunstgeschichte, Vienna, 2015, p. 171.

405 Ibid, p. 176.

406 Mouffe, Chantal. Agonistics: Thinking the World Politically, London: Verso, 2013.

negotiation: an ever evolving, situated process that navigates between competing narratives (such as scientific, speculative, and political), heterogeneous scales (such as from the microbial to the interstellar), and diverging imaginaries of the future within and around space. It is precisely within these negotiations, between knowledge systems, temporalities, and forms of life, that the curatorial can assert its critical and transformative potential.

4.5. New Models of Exhibiting the Cosmos: Towards Planetary and Multiperspectival Curation

To propose and inclusive future-oriented curatorial strategies for exhibiting the cosmos, museums should actively decenter Western-centric and progress-driven narratives. This involves integrating global, post-colonial, ecological, and multispecies perspectives on both Earth and space flights, moving beyond the current purely techno-industrial paradigm. By utilizing materials such as archival, speculative and other artistic works, oral histories, ecological data, and dissenting imaginaries, exhibitions can explore diverse ways of seeing and imagining space.

Curatorial approaches should question the myth of conquest and control, and instead stage space as shared, contested, and relational. This can be achieved by centering *contact zones* where diverse perspectives, including those from *Indigenous Futurism* and critiques of colonialism, can interact and negotiate space. For example, the exhibition *Back to Earth: Contested Histories of Outer Space Travel*, presented in 2023 by *Canal Projects*[407], highlighted how artistic narratives from Indigenous, Black, and feminist perspectives challenge the colonization inherent to contemporary space imaginaries. Similarly, Staal's essay *Comrades in Deep Future*[408] contrasts corporate, extractivist space ambitions with

407 See website of Canal Projects: https://www.canalprojects.org/back-to-earth-contested-histories-of-outer-space-travel (consulted 25.04.2026).

408 Staal, Jonas. *Comrades in Deep Future*, e flux Journals, Issue #102, September 2019, https://www.e-flux.com/journal/102/283568/comrades-in-deep-future (consulted 26.02.2026).

egalitarian visions, advocating for "propaganda art of hyperempathy"[409] to cultivate new forms of comradeship.

Foregrounding care, vulnerability, risk, and responsibility, rather than dominance and spectacle, is therefore crucial. The shift toward these approaches involves the use of affective materials and the embrace of what could be described as the spectrography of speculative works. This becomes visible in projects that explore the "desire for the stars" as well as a certain "melancholy of space."[410] Such melancholy emerges through the gradual transformation of outer space into a familiar visual environment and through its increasing integration into economic, technological, and speculative regimes of commodification.[411] One example that illustrates these relational conditions can be found in the development of bioregenerative life-support systems[412] for long-duration space missions. These experimental ecological systems are designed to sustain human life in extraterrestrial environments through continuous exchanges between humans, microorganisms, plants, algae, water, and atmospheric processes. The history of bioregenerative life-support systems, for instance, reveals the profound interdependence between humans and other organisms in space, challenging the notion of astronauts

409 As Staal furthers the thought: "For a propaganda art of hyperempathy, there are no "dead planets," but living worlds of comradely constellations and construct families yet to be embraced. Or, as Zdenka Badonivac phrases it: 'in the end, comradeship must include everyone'," See: Ibid.

410 A 2024 Open Call for an artistic residency by the *CNES* listed this title as his yearly theme.

411 As can be seen in the previously mentioned corpus of works by artists SMITH. For example for their Spectrographies and related works series or the *Désidération* term they coined to describe the "desire and melancholy for the stars."

412 Bioregenerative life-support systems (BLSS) are closed or semi-closed ecological systems developed for long-duration space missions in which biological organisms participate in sustaining habitable conditions through processes such as oxygen regeneration, water purification, waste recycling, and food production. Rather than relying exclusively on mechanical technologies, these systems depend on complex metabolic exchanges between humans and non-human organisms, including plants, algae, bacteria, and microorganisms. As such, they destabilize imaginaries of autonomous human survival in space and foreground ecological interdependence as a necessary condition of extraterrestrial habitation. In the context of this thesis, BLSS are significant because they expose how even highly technological visions of outer-space futures remain fundamentally entangled with multispecies forms of coexistence and care. See: Poulet, Lucie et al., "Bioregenerative Life Support Systems for Long Duration Space Missions," Advances in *Space Research* 31, no. 1 (2003): 179–189; and Gabrys, Jennifer. *Digital Rubbish: A Natural History of Electronics* (Ann Arbor: University of Michigan Press, 2011), especially discussions of ecological infrastructures and technological environments.

as solitary masters of their environment.[413] Rather than confirming the anthropocentric image of the astronaut as an autonomous pioneer extending human dominion into an external frontier, these systems foreground a condition of radical dependency and cohabitation. In doing so, they destabilize the enduring rhetoric of space exploration. Instead, bioregenerative systems demonstrate that even the most controlled extraterrestrial environments must be co-produced with non-human life forms, which exposes survival as an ecological and relational practice rather than an act of mastery. From this perspective, the astronaut appears less as a sovereign explorer than as a situated participant within a more-than-human system.[414] Such a reframing resonates with curatorial approaches that mobilize figures like the *Alien* — not as an external *Other* to be encountered or dominated, but as a methodological device that decenters the human and foregrounds forms of alterity, interdependence, and planetary cohabitation – which can then transcend anthropocentric frames of knowledge and control. By prioritizing these multispecies, ecological, and relational dimensions, museums can foster critical reflection on what kinds of futures we implicitly imagine and endorse and about who gets to narrate the cosmos. Exhibitions about space can thereby ultimately invite visitors to imagine and shape alternative imaginaries of planetary and cosmic existence. By embracing the concept of *contact zones*, museums can facilitate critical dialogue where diverse perspectives, including conflicting ones, can emerge. Following this potential shift, a museum of outer space can become a site to rethink and illuminate the following questions and their possible respective approaches:

How could outer space be curated beyond the techno-industrial paradigm?

By treating outer space not as a frontier to conquer, but as a relational and ecological condition to negotiate. By prioritizing artistic, speculative, and

413 Liu, Hong, Yao, Zhikai Fu, Yuming and Feng, Jiajie. "Review of Research into Bioregenerative Life Support Systems Which Can Support Humans Living in Space". *Life Sciences in Space Research* 31, 2021, p. 113–120. https://doi.org/10.1016/j.lssr.2021.09.003 (consulted 25.04.2026).

414 See: Haraway, Donna. Staying with the Trouble: Making Kin in the Chthulucene (Durham: Duke University Press), 2016 and Tsing, Anna. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press), 2015.

affective materials, and by emphasizing multispecies interdependence and ecological consciousness, we can move beyond purely technological frameworks.

Which ways of seeing and imagining outer space do we deem to be relevant?

Not only the astronaut's gaze from above, but also situated, ecological, feminist, and speculative perspectives. By diverse perspectives, including Indigenous cosmologies and multispecies viewpoints, legitimacy can be expanded beyond the narrow, Western-centric models. Because the cosmos is never neutral: every representation already contains an ideology of the future.

Who gets to narrate and plan it ?

Not only states, corporations, and scientific institutions. Outer space must become a multiperspectival field of narration in which artists, activists, scientists, communities, and marginalized cosmologies negotiate meaning together — while recognizing that counter-narratives, too, remain ideological positions. Decentering is achieved by moving from singular to multiperspectival narration.

What kinds of futures do we implicitly endorse?

Either futures of extraction, conquest, and techno-capitalist expansion ...or futures grounded in care, responsibility, vulnerability, and interplanetary coexistence. Curatorial choices can move away from techno-industrial, dominance-focused futures towards those emphasizing the etymological origin of curation.

These strategies also point toward the possibility of fundamentally different exhibition models and therefore toward different collective understandings of the future. If museums participate in shaping cultural imaginaries, then altering the ways outer space is exhibited also alters the futures that become conceivable within public consciousness. In this sense, curatorial practice operates not only as a form of representation, but also as a form of future-making: by reorganizing perception, affect, and narrative structures, exhibitions can open spaces in which alternative planetary and interplanetary futures become culturally imaginable, negotiable, and collectively

discussable.[415] However, the belief in the possibility of escaping or suspending conditions through speculative or curatorial gestures is itself an ideological formation, inherently reproducing the very fantasy of transcendence it claims to overcome. It thus also functions as a distinctly contemporary myth of emancipation that obscures the persistence of material and economic determination. In the end, the proposed curatorial strategies while fostering emancipatory biospheres[416], simultaneously endorse the ideological myth of possible emancipation from its own *condition*.[417]

415 See for example: von Bismarck, Beatrice. Schafaff, Jörn and Weski, Thomas eds., Cultures of the Curatorial (Berlin: Sternberg Press, 2012).

416 For example, by creating spaces for new forms of co-living, consciousness, and communal well-being.

417 The term *condition* refers to the material and ideological embeddedness of these practices within late capitalist, technoscientific infrastructures — particularly those linked to space exploration, institutional funding regimes, and extractivist logics that continue to structure both knowledge production and imaginaries of the future. For critiques of the entanglement between speculative imaginaries, technoscientific infrastructures, and late capitalist modes of production, please see: Haraway, Donna. *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press), 2016.

The light of the future casts the shadows of tomorrow.[418]

418 Sun Ra. *Space is the Place*, 1972.

5. Conclusion

This poetic statement by musician and philosopher Sun Ra resonates with one of the central arguments of this thesis: namely, that imaginaries of the future actively shape the material, political, and cultural conditions of the present.[419] The quote does not simply suggest that the future influences the present, but rather that every attempt to imagine, narrate, design, or project futures into visibility simultaneously generates unintended consequences, exclusions, blind spots, and ideological residues. The "light of the future" can therefore be understood as the cultural and institutional production of future imaginaries — whether through technological utopias, speculative artistic practices, planetary narratives, or visions of interplanetary expansion. Yet these imaginaries are never neutral. They organize perception, distribute attention, and shape what kinds of futures appear desirable, legitimate, or even imaginable, while other possibilities remain obscured or marginalized. They always produce their own obscurities, exclusions, and material residues in the present. Every gesture toward outer space, every exhibitionary narrative of progress, and every curatorial framing of the cosmos simultaneously transforms how humanity understands itself, its planet, and its relation to possible futures. Instead of offering a linear, deterministic trajectory of progress, the future appears as something that already structures the present, casting "shadows" that shape the technological, institutional, and ideological developments of today and tomorrow. Rather than presenting the future as a linear or deterministic trajectory of progress, this thesis has argued that futures are culturally produced, negotiated, and contested through representation itself. Every gesture toward another time inscribes a trace back into the now.

The following synthesis of findings returns to the entanglements explored throughout this thesis. Namely, that speculative and curatorial practices too orbit

419 Sun Ra's statement can be interpreted in multiple ways, including as reflection on temporality, prophecy, Afrofuturist cosmology, or the cyclical relation between past, present, and future. Within the context of this thesis, the quote is mobilized specifically to emphasize how imaginaries of the future actively structure present cultural, political, and institutional realities. This interpretation aligns with the thesis' central argument that exhibitions and curatorial representations do not merely depict futures retrospectively or speculatively, but participate in producing the conditions through which certain futures become imaginable, desirable, or legitimized while others remain obscured. See, among others: Lock, Graham. *Blutopia: Visions of the Future and Revisions of the Past in the Work of Sun Ra*, Duke Ellington, and Anthony Braxton (Durham: Duke University Press), 1999.

between hopes of emancipation though the production of alternative imaginaries and the persistent weight of the conditions they seek to transcend or reconfigure.

5.1. Summary of Findings

ideology

The influence

of

on exhibitions and in turn imaginaries of the future becomes visible specifically in the context of outer space. When the future is framed as inevitability technological, when an expansion beyond Earth is narrated with colonial logics of exploration and extraction, and when museums contribute to the normalization of these imaginaries by presenting them as neutral, scientific, or universally progressive, ideologies are inherently being promoted and carried further into the future.

Outer space representation and the (curatorial) discourse surrounding it is therefore shaped by a persistent and growing tension between the still dominant ideologies rooted in terrestrial power structures and developing counter-narratives and counter-ideologies that call for planetary responsibility, relationality, and epistemic transformation. Space emerges as a fruitful discursive and symbolic terrain upon which longstanding political, economic, and cultural logics are being projected, reproduced, and contested.

The paradigm of technocratic progress, coupled with the myth of human supremacy, is thereby one of the most pervasive amongst the dominant ideological narrative, with space exploration frequently being framed as the apex of technological achievement. This reinforces the belief that humanity can and should exercise mastery over its environment. Concepts such as *Spaceship Earth*[420] encapsulate this imaginary: while ostensibly emphasizing planetary unity and shared stewardship, they often retain a managerial logic in which Earth becomes an object to be engineered, optimized, and controlled.

420 The concept of *Spaceship Earth* was popularized by the American system-theorist Buckminster Fuller in the mid twentieth century. It designates a metaphor that conceptualizes the planet as a closed, self-contained system traveling through space, characterized by finite resources and a shared ecological fate. See: Fuller, R. Buckminster. *Operating Manual for Spaceship Earth*. New York: Simon & Schuster, 1969.

Closely entangled with this technocratic logic is a persistent rhetoric of colonial expansion and dispossession. Mainstream space narratives frequently mobilize the language of *frontiers*, *settlement*, and *new worlds*, implicitly drawing upon colonial origins that conceptualized spaces as *terra nullius*: empty territory awaiting occupation. Such metaphors reproduce extractivist imaginaries, which detach space flight from its historical entanglements with terrestrial exploitation, including the displacement of marginalized communities and the commodification of land and labor. The projection of colonial tropes onto extraterrestrial terrains thus constitutes not a rupture with history but a continuation of expansionist epistemologies into the imagined future.

Other dominant ideologies are neo-nationalism and exceptionalism, which position space dominance as a marker of civilizational or national superiority. During the Cold War, space imagery was nationalized and thereby framed as a site of ideological rivalry. In contemporary contexts, this dynamic is reconfigured through neo-national and corporatocratic ambitions. The rise of private space enterprises and public-private partnerships reframes outer space as a domain of strategic competition, resource extraction, and economic speculation. In these narratives, planetary futures become reduced to fit market logics and geopolitical interests rather than being constituted by collective, planetary deliberation.

As illustrated throughout the thesis, a range of counter-ideologies articulate alternative ways of conceiving the cosmic to the hegemonic imaginaries. Drawing from ecological artistic perspectives, the examples foreground solidarity and empathy as foundational principles for planetary thought. Rather than envisioning space as an foreign frontier detached from Earth's histories, they situate *cosmic aspirations*[421] within ongoing struggles for justice, accountability, and care for Earth. This reframing emphasizes relational interdependence over mastery and mutual responsibility over expansion.

421 Under the term *cosmic aspiration*, the author refers to the broader human and more-than-human desire to relate to, imagine, and situate oneself within outer-space, and more precisely, within the cosmos. This includes speculative, cultural, and epistemic engagements with outer space that exceed technoscientific conquest, foregrounding instead questions of belonging, relationality, and shared futures beyond Earth.

Another counter-narrative emerges through the concept of cosmic pluralism: the increasing scientific plausibility of extraterrestrial life destabilizes human exceptionalism by relativizing Earth's previously assumed uniqueness. Such a perspective challenges bounded national and anthropocentric narratives, inviting a more decentered understanding of life, intelligence, and belonging. The possibility that humanity is neither singular nor central disrupts triumphalist accounts of cosmic destiny and philosophically creates space for humility and coexistence.

Finally, counter-narratives call for an ethics of listening that interrogates the epistemic biases embedded in technoscientific practices. The search for extraterrestrial intelligence often privileges high-tech signals and distant communications, while overlooking proximate, already-present forms of nonhuman intelligence,ecological relationality and invisible interdependencies on Earth. They thereby highlight the paradoxical nature of endeavors that are seeking voices in the cosmos while silencing or disregarding the multispecies entanglements and systems that sustain life on our own planet. An ethic of listening instead demands attentiveness not only to distant horizons but also to the worlds with their relations that precede, and inherently condition any cosmic aspiration.

Collectively, these counter-ideologies reveal that outer space is not merely a site of exploration but a lens with which terrestrial ideologies are magnified and refracted. The question is therefore not only "Who is going to planet?," but through which narratives, with which ideological inheritances, and toward what forms of relational future plan(et)s are being made. To critically take these questions into consideration, *curatorial activism*[422] could foreground marginalized cosmologies, speculative fictions, and artistic practices that challenge hegemonic ideologies. It could also experiment with formats that resist imaginaries of conquest — favoring relational, multispecies, and process-oriented approaches.

422 See: Reilly, Maura. *Curatorial Activism: Towards an Ethics of Curating* (London: Thames & Hudson), 2018.

5.2. Field expansion

can

Curatorial practice

gazes.

(re)orient

The curatorial does not simply respond to outer space narratives, but participates in rewriting them. Exhibitions can cultivate non-hierarchical, relational, and situated perspectives, rather than reproducing the top-down hierarchies of conquest and the logic of frontier expansion. This involves foregrounding the infrastructures, labor histories, and geopolitical entanglements that underpin their own structures and the structures that they seek to address. In this regard, the curatorial becomes a method of critical mediation. It can slow down the spectacle of technological inevitability and create spaces for hesitation, doubt, and plurality. By placing archival materials, speculative artworks, and theoretical frameworks in dialogue, the exhibition space can become a site where planetary imaginaries are not merely consumed (as truth or facts) but interrogated. Such an approach resists presenting space as a pre-given destination and instead frames it as a contested terrain of meaning.

Importantly, this reconfiguration also demands attention to scale and embodiment. The overview effect, for example, produces a disembodied planetary vision — Earth seen from nowhere and everywhere at once. A curatorial counter-move could emphasize situatedness: the Earth not only as image but as an animate, inhabited territory marked by ecological precarity and historical violence. By reconnecting cosmic aspirations to terrestrial accountability, curating outer space can insist on the inseparability of planetary and social justice and thereby destabilize current hegemonic fantasies.

To curate outer space is to acknowledge complicity within the very structures one seeks to criticize. It means to position oneself: “I am not external to the technoscientific and cultural narratives I analyze, I am formed by them”. The crucial question, then, is not

how to claim neutrality, but how to practice reflexivity. This reflexive stance involves recognizing the limits of representation and the risks of romanticizing planetary crisis or cosmic expansion. It entails questioning who is centered in exhibition narratives and who remains peripheral, whose futures are imagined and whose are foreclosed. It means that as a curator, you are attentive to how display strategies can either reproduce hegemonic imaginaries or open cracks within them, inviting audiences to perceive outer space not as a distant elsewhere, but as entangled with the ethical, political, and ecological urgencies of the present.

Curating outer space, therefore, is less about presenting definitive visions of the future than about staging encounters with uncertainty. It is about creating discursive and affective conditions in which the question "Who is going to planet?" becomes a provocation. Who is included in the planning — and therefore in the plan? Who is included in "we" when discussing outer space, Aliens, and "them"? Through and with what histories are these discussions and plans taking place and made? Toward what responsibilities are decisions based upon and taken?

In asking these questions and thereby reshaping how outer space is imagined and represented, curatorial practice can contribute to a broader shift from expansionist desire to relational imagination, from conquest to care, from extraction to reciprocity, from singular narratives of progress to plural, contested, and situated planetary futures. The task is not to abandon the outer space horizon, but to inhabit it critically: to remain focused on the troubles of our earthly condition even as we look outward.

5.3. Open Questions and Future Research Directions

If this thesis has traced how outer space imaginaries are shaped by ideological inheritances and curatorial mediation, it also reveals a series of unresolved questions that would have to be answered through sustained interdisciplinary engagement. The planetary condition — marked by ecological crisis, technological acceleration, corporate extractionism, and geopolitical fragmentation — and Earth's future are inseparably influencing the future of space flight. The following lines of inquiry propose directions for further research at the intersection of climate justice, interplanetary governance, and *curatorial activism*.

One of the most urgent tensions concerns the relationship between climate collapse and narratives of interplanetary escape. As ecological degradation intensifies, space colonization is increasingly framed as a contingency plan for humanity's survival. Yet such imaginaries risk reproducing patterns of inequality that have characterized terrestrial environmental injustice.Who benefits from the prospect of interplanetary mobility? Who remains earthbound in zones of extraction, pollution, and abandonment? The notion of becoming a multi-planetary species often presumes a universal subject — *humanity* — while masking stratifications by race, class, geography, and access to resources, which already structure mobility on Earth.

Future research should therefore interrogate, whether the rhetoric of planetary survival is utilized to displace accountability for climate mitigation and reparative justice. Rather than positioning space as an escape from an environmental crisis, critical inquiry could examine how outer space infrastructures — satellites, launch facilities, mining of rare minerals — are themselves embedded in carbon economies and unevenly distributed ecological burdens.

As both states and private actors accelerate plans for lunar bases, asteroid mining, and Martian settlement, questions of adequate governance become increasingly pressing. Existing legal frameworks, such as the 1967 *Outer Space Treaty*, articulate space as the "province of all mankind,"[423] yet contemporary developments strain this principle through resource claims, militarization, and corporate appropriation. Future research could explore how models of governance could evolve to address emerging interplanetary realities. What forms of political representation would be conceivable beyond Earth? How could principles of commoning, stewardship, and non-appropriation be operationalized under conditions of extraterrestrial habitation? And how could space endeavors like resource allocation, extraction or satellite distribution be governed before interplanetary life becomes a reality in order to mitigate risks known from underregulated fields on Earth?

Such inquiry must move beyond technocratic regulatory debates and engage with political theory, decolonial frameworks and Indigenous sovereignty movements, amongst others. If space is conceptualized as a global commons, what mechanisms ensure that it does not become another site of enclosure? Conversely, if interplanetary settlement proceeds, what ethical obligations would settlers have toward Earth and toward hypothetical non-human life?

Interplanetary governance thus emerges not as a distant speculation, but as a critical field through which terrestrial political contradictions are magnified.

A further direction concerns the role of curatorial practice within these debates. Since exhibitions play a crucial role in shaping planetary and interplanetary imaginaries, curatorial strategies must be employed with ethical responsibility. In asfar as is intended, curatorial practice can hence function as a form of activism. The concept of *curatorial activism* calls for an expanded understanding of exhibition-making as a site of institutional critique, epistemic redistribution, and political intervention. Future research could examine how museums and art institutions address their own entanglements with aerospace sponsorships, technological

423 See: *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, 1967, art. I, under: https://2009-2017.state.gov/t/isn/5181.htm (consulted 17.05.2026).

funding, or nationalist agendas as well as their own impact on the environment. *Curatorial activism* in this context would not simply diversify representation but interrogate the structural conditions under which space is being presented.

The curator appears not as a neutral mediator, but an actor within planetary politics, responsible for how futures are staged, circulated, and developed. It further positions the curator as an entity capable of encouraging change within institutions. Imaginaries influence what societies collectively perceive as possible, desirable, inevitable, or legitimate. The repeated exhibition and normalization of narratives centered on technological salvation, extraterrestrial extraction, or interplanetary expansion therefore contribute to orienting public desire, political investment, economic infrastructures, and scientific priorities toward particular futures while marginalizing others. In this sense, exhibitions do not passively reflect future possibilities; they actively participate in producing the cultural conditions under which certain futures become realizable. This responsibility does not concern curators alone, but also the institutions that currently produce and circulate hegemonic outer space imaginaries. Cultural institutions more broadly play a significant role in legitimizing specific visions of planetary and interplanetary futures through their exhibitionary choices, partnerships, funding structures, and narrative framings. If institutions participate in shaping collective understandings of the future, they must also critically reflect on their own ideological positioning and on the futures they implicitly endorse. Future-oriented institutional practice would therefore require not only the inclusion of alternative narratives, but also structural transformations regarding authorship, governance, sponsorship, ecological accountability, and epistemic plurality.

A final area of inquiry concerns how *the human* is being redefined within planetary and interplanetary thought. As astrobiology explores the possibility of life beyond Earth and ecological philosophy questions human-centred worldviews, the boundaries of political and ethical community become less stable and more open to reconfiguration.What would a multispecies conception of interplanetary futures entail? How could curatorial practice represent non-human agencies — microbial,

ecological, machinic — without subsuming them under human narratives of control?Future research could thus explore how artistic and curatorial experiments engage with post-anthropocentric ethics, speculative xenobiologies, or the rights of non-human entities. Such inquiries expand the scope of "Who is going to planet?" beyond a strictly human question, reframing it as an interrogation of relational coexistence across scales and forms of life.

These open questions do not resolve the tensions traced throughout this thesis, but rather extend them. Climate justice, interplanetary governance, and *curatorial activism* converge around a central concern: how to imagine outer space without reproducing the inequities and violences that structure terrestrial modernity?

The future of space representation will not be determined solely by rockets or treaties, but by narratives, institutions, and epistemologies that render such ventures meaningful. Continued research at the intersection of critical theory, environmental humanities, science and technology studies, and curatorial practice can contribute to more accountable and plural planetary imaginaries. In this sense, the question "Who is going to planet?" remains deliberately open — not as a declaration of future destination, but as an invitation to collective, critical, and ongoing inquiry.

As the future is as contested a realm as the past and present, the author would like to emphasize that one should maybe stay truly present, with the troubles in troubled times. Or, as Donna Haraway put it:

> Staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvic futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings.[424]

In the end, the question of who is going to plan the future, cannot be resolved without reproducing the very logics of authority and appropriation this thesis seeks to critique. Rather than assigning ownership over futures, the question has served to expose the conditions

424 Haraway, Donna. *Staying with the Trouble. Making Kin in the Chthulucene*, Duke University Press, 2024, p.1.

under which planetary imaginaries are produced, who is authorized to articulate them, and how they are embedded within ideological, institutional, and economic frameworks. By tracing these dynamics, this thesis has shifted the focus from the act of interpretation alone toward transformation as a necessity. If interpretative frameworks risk distancing us from situated experience, they nonetheless remain essential as sites of reflection and reorientation. The task, therefore, is not to abandon interpretation, but to mobilize it differently: as a means of unsettling dominant imaginaries and opening space for more situated, plural, and responsible forms of planetary engagement. In this sense, the questions raised throughout this work are not endpoints but points of departure.

A question lingers: How to use interpretation (of the world's future) to start (to) change (it)?

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AI helpers and Tools (see Table 2 in Appendix)

Dröge, K. (2025). noScribe. AI-powered Audio Transcription (Version 70.1) [Computer software]. https://github.com/kaixxx/noScribe (last consulted 15.04.2026).

Declaration of Authorship

I, Alma Sammel, hereby confirm that I have written the following thesis with the title "Who is going to Planet?"for the educating, curating, making Master program at the Angewandte Universität der Künste Wien, Austria under the supervision of Prof. Dr.in, Mag.a Nora Sternfeld and Sen.Sc. Mag.a Beatrice Jaschke.

I hereby certify that I cited all sources and references used in the thesis in full.

I also confirm that I have documented the use of all generative AI tools authorized for the production of this thesis in the appendix of this thesis by naming the tool and the purpose for which it was used. I confirm that I have not adopted content generated using AI tools without reflection and that, as the author, I am responsible for the information and statements in this thesis.

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Texts: Alma Sammel
Conception: Aure Baucher, Raphäel Lods and Alma Sammel
Graphic Design: Aure Baucher and Raphaël Lods
Layout: Raphaël Lods
Fabrication: Aure Baucher and Alma Sammel
Proofreading: Isabel Henschen

Fonts used: Adelphe by Eugénie Bidaut and BBB Manifont Grotesk by Sophie Vela, Max Lillo et al.

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The fonts were chosen to enhance legibility (sans serif for text and serif for footnotes, legends and titles) without compromising on the academic standards nor the creative and ideological power of graphic design. Fonts by Eugénie Bidaut and Sophie Vela, Max Lillo et al. were downloaded on the design research website database Bye Bye Binary and follow an open-source understanding of graphic design. It allowed the researcher to deepen the ideological positions presented as Gegenkanon.

Source of the database: https://typotheque.genderfluid.space/fr (last consulted 20.04.2026).

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Printed and Assembled by hand and machine in
Arles, France in June 2026

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Table 1: Methodological Framework Overview

The following table was generated with the help of AI and modified afterwards by the author.

Research Focus	Key Question	Methodological Approach
Institutional representation of outer space	How do museums construct narratives of outer space and planetary futures?	**Critical exhibition analysis** (Reitstätter, Bal) + **visual culture studies**
Ideological structures in museal space narratives	What concepts, metaphors, and temporalities shape institutional space imaginaries?	**Discourse analysis** (STS, postcolonial theory)
Contemporary artistic engagements with outer space	How do artists critically engage with, resist, or imagine space imaginaries?	**Qualitative interviews + visual analysis**
Comparison: institution vs. artistic practice	How do institutional and artistic representations differ or overlap ideologically?	**Comparative analysis**
Limits of existing representations	What is absent, silenced, or foreclosed in dominant space narratives?	**Critical reading + gap analysis**
Speculative curatorial practice	How could outer space be represented otherwise?	**Speculative museology + critical fabulation** (Haraway, Hartman)
Curator's positionality	What does it mean to represent outer space as a curator today?	**Reflexive, practice-based speculation**

Material / Case Studies	Analytical Aim
La Cité de l'Espace (Toulouse); Musée de l'Air et de l'Espace (Le Bourget)	To identify dominant ideologies (progress, nationalism, technoscience) embedded in exhibition design, language, and display
Exhibition texts, wall labels, scenography, institutional communication	To trace recurring discursive patterns such as conquest, inevitability, futurity, and extraction
Artistic practices by Guillaume Pascale, Vincent Fournier, SMITH	To situate artistic practices within broader ideological and discursive fields while foregrounding situated perspectives
Museums ↔artistic projects	To reveal similarities and differences in how ideology operates across representational regimes
Institutional and artistic cases	To identify blind spots (coloniality, anthropocentrism, non-Western futures)
Curatorial propositions, fictional institutions, alternative exhibition models	To imagine non-hegemonic, decolonial, ecological, and multispecies approaches to exhibiting the cosmos
Researcher's curatorial perspective	To position the thesis as both analysis and intervention

Table 2: AI Tools and Usage

Name	Version	Modality of use
Deepl	Free version	To translate or verify quotes from their original language into English unless specified otherwise in the corresponding footnotes.
Anara	Free version	To upload bibliography, articles in pdf form to get synthesises and find corresponding citations or paragraphs.
Chatgpt	Free version	To correct grammar, syntax of written materials and cite in Chicago style.
noScribe	AI-powered Audio Transcription Free Version	To transcribe interviews. All interviews have then been corrected manually.

Table 3: Timeline of the Space Race

Timeline realized with the help of AI and corrected/completed manually through online resources and literature found in the Biblio- and Webography.

The Cold War Space Race (USA vs USSR)

2 August 1955 – The Soviet Union reacts to the United States' announcement of an upcoming satellite launch by declaring its own intention to orbit an artificial satellite.

4 October 1957 – The USSR inaugurated the space age with Sputnik 1, the first artificial satellite to orbit Earth.

3 November 1957 – Sputnik 2 carried Laika, the first living being sent into orbit, marking a major biological milestone.

31 January 1958 – The United States successfully launched Explorer 1, its first satellite, which led to the discovery of the Van Allen radiation belts.

1 October 1958 – The United States established NASA, replacing NACA and formalizing its space program.

18 December 1958 – The US launches SCORE, the first communications satellite, broadcasting a recorded message from Dwight D. Eisenhower.

2 January 1959 – The Soviet Luna 1 became the first human-made object to escape Earth's gravity and orbit the Sun.

2 August 1959 – Explorer 6 transmits the first images of Earth from orbit.

12 September 1959 – Luna 2 impacts the Moon, becoming the first spacecraft to reach its surface.

4 October 1959 – Luna 3 captures the first images of the Moon's far side.

19 August 1960 – Soviet mission Sputnik 5 returns animals safely to Earth, demonstrating survivable orbital flight.

31 January 1961 – Ham the chimpanzee becomes the first great ape in space and survives reentry.

12 April 1961 – Yuri Gagarin became the first human in space aboard Vostok 1, completing one orbit of Earth.

5 May 1961 – Alan Shepard became the first American in space on a suborbital flight.

16 June 1963 – Valentina Tereshkova became the first woman in space.

18 March 1965 – Alexei Leonov performed the first spacewalk.

14 July 1965 – Mariner 4 completes the first successful flyby of Mars, returning close-up images.

1967 – the Apollo 1 fire killed three US astronauts, while Soviet cosmonaut Vladimir Komarov died during Soyuz 1 reentry.

21 December 1968 – Apollo 8 becomes the first crewed mission to orbit the Moon and return safely.

20 July 1969 – Neil Armstrong and Buzz Aldrin walk on the Moon during the Apollo 11 Moon landing, marking a decisive US victory.

From Competition to Cooperation

11 April 1970 – The Apollo 13 mission suffers an in-flight explosion but the crew survives.

19 April 1971 – The USSR launches Salyut 1, the first space station, paving the way for long-duration habitation in orbit.

1 August 1971 – During Apollo 15, David Scott drives the first lunar rover and leaves a memorial artwork by Paul Van Hoeydonck.

15 July 1975 – The Apollo-Soyuz Test Project symbolizes détente, as US and Soviet spacecraft dock and crews meet in orbit.

Europe and France Enter the Space Arena

26 November 1965 – France became the third space power with the launch of Astérix via the Diamant rocket.

1975 – Creation of the European Space Agency, consolidating European space efforts.

24 December 1979 – First launch of the Ariane 1, establishing Europe as a key commercial launch provider.

1998–2000 – Europe contributes major modules (like Columbus) to the International Space Station.

Post–Cold War and the Rise of New Actors

1998 – Assembly begins on the ISS, a major international collaboration involving the US, Russia, Europe, Japan, and Canada.

28 April 2001 – American businessman Dennis Tito became the first-ever paid commercial space tourist, when he launched aboard a Russian Soyuz-TM32 spacecraft to the International Space Station (ISS). He paid approximately $20 million for his eight-day trip, brokered by the company Space Adventures.

2003 – China becomes the third nation to independently send a human into space with Yang Liwei aboard Shenzhou 5.

2004–2011 – The US Space Shuttle era winds down, transitioning toward new commercial and deep-space strategies.

The New Space Race (USA vs China, and Private Actors)

2013 – China's Chang'e 3 mission lands on the Moon, marking its first successful lunar landing.

2019 – China achieves the first landing on the Moon's far side with Chang'e 4.

2020 – SpaceX launches astronauts to the ISS, inaugurating the era of commercial human spaceflight.

2021 – China begins construction of its own space station, Tiangong, completed in 2022.

2021 – NASA's Perseverance rover lands on Mars, advancing astrobiological research.

2022 – The Artemis I mission successfully tests the Space Launch System and Orion spacecraft in an uncrewed lunar orbit mission.

2024–2025 – China advances its Chang'e lunar program, including sample-return missions and plans for a joint lunar research station with Russia.

1st April 2026 — The Artemis II mission sent astronauts around the Moon, marking the first crewed lunar mission since Apollo.

Mid–late 2020s – The Artemis III mission aims to return humans to the Moon, including the first woman and first person of color to step on the moon.

Ongoing – Increasing competition between the United States and China over lunar infrastructure, resource extraction, and long-term presence signals a shift from symbolic competition to geopolitical and economic stakes in space. New private actors entering the space race competitions and national stations are planned to be replaced by private ones.

Table 4: Timeline of non-human agents sent to space

The author would like the time to add a visual timeline concentrating on the non-human agents sent to space by humans before Laïka, who remain often forgotten.

Table 4. Timeline of non-human agents sent to space, e-flux-journal; Source: https://images.e-flux-systems.com/image2_7.jpg,1500 (consulted 12.09.2025).

Transcripts of Interviews

Retranscriptions realized with the help of AI, noScribe open-source-software and corrected, edited manually for fluidity.

Interview 1: Guillaume Pascale
Interview with Guillaume Pascale – 11.11.2025

For the purpose of fluidity in the exchange, the interview was held in French.

Alma Sammel : Nous sommes le mardi 11 novembre, il est 17h28, je suis en présence de Guillaume Pascale. Ceci est un entretien dans le cadre de mon mémoire de master intitulé « Who is going to planet ? ». Le jeu de mots n'est pas de moi, mais je l'aime bien. Je sais que tu aimes bien les jeux de mots aussi.

Je fais une étude comparative de pratiques institutionnelles et de pratiques extra-institutionnelles autour de la notion d'espace, compris comme « outer space ». Je différencie cela dit l'espace du cosmos, que j'ouvre plutôt dans un chapitre ultérieur, parce que ce qui m'intéresse, c'est la « technological gaze ». Et bien sûr, je sais aussi que tu as beaucoup de choses à dire, notamment sur la condition planétaire. Mais première question, peut-être tout succinctement, est-ce que tu peux te présenter ?

Guillaume Pascale : Oui, donc je m'appelle Guillaume Pascale, je suis artiste et chercheur, en train de terminer ma thèse de recherche-création à l'Université du Québec à Montréal. Pour titre, c'est « my inner outer space », donc mon outre-espace intérieur, qui se manifeste sous comment repenser notre relation à l'espace, ou même plutôt exactement comment reconsidérer notre relation à l'espace, à partir de performances de musique générative situées.

AS : Tu dis toi-même, dans ton auto-description, ce qui revient assez souvent, c'est que tu es hanté par un imaginaire instable qui oscille entre environnements physiques et informationnels. Est-ce que tu peux un peu développer ça, notamment aussi le fait que tu as quand même un homonyme, un avatar, je ne sais pas comment le décrire. Err is human, Error is human.

GP : Ma relation, on va commencer par l'informationnel. C'est une histoire assez marrante, personnelle, c'est que mes parents n'étaient pas nécessairement issus d'un milieu aisé, et mon beau-père était dépanneur automobile. Et quelques semaines avant Noël, pour l'année de mes 11 ans, si je ne dis pas de bêtises, 10-11 ans, je pense que c'est 11 ans, enfin bref, se dépanne sur le périphérique de Gennevilliers, sur le directeur d'Atari France, qui, comble de la chose, avait oublié son portefeuille et qui, en guise de paiement, lui propose un ordinateur Atari. Donc dans les années 90, un ordinateur Atari, c'était quand même des choses assez chères et assez courues. Et donc, pour mes 11 ans, à Noël, je me suis retrouvé avec un ordinateur personnel. Et j'ai découvert l'informatique, j'étais déjà assez féru, on va dire, d'espace, de science, de choses comme ça. Et j'ai découvert l'informatique à mes 11 ans avec cet ordinateur qui, en plus, était un des premiers à disposer de sorties et d'entrées midi, donc des protocoles numériques de création musicale. Et j'ai commencé à bricoler du son, de la programmation, assez jeune en fait, sans trop savoir ce que je bricolais. Mais en tout cas, ça m'a immergé dans cet univers avec sa logique propre, je dirais. Et j'ai développé une sensibilité au monde aussi, au prisme de cet environnement numérique qui était le mien à mon jeune âge.

AS : C'est assez drôle parce que je me suis un peu plongée dans ton site, mais bon, on se connaît aussi, donc on a eu l'occasion d'échanger beaucoup. Mais c'est vrai que tu es aussi souvent entre le technologique, donc un espace plutôt digital et une rematérialisation de quelque chose de l'ordre de l'intangible ou de l'immatériel.

Tu travailles notamment avec beaucoup de données spatiales dans tes performances aussi musicales qui ont toujours un rapport quand même à une rematérialisation de mouvements qui nous échappent peut-être, mais qui

existent. Donc je voulais peut-être aussi que tu me dises un peu plus. J'ai vu qu'avant, tu les appelais astromusiques et maintenant partitions itératives.

Quelle est la différence entre ces deux projets?

GP : Les partitions itératives, ça a été la première itération de mon projet, je dirais, de mon projet musical génératif. J'ai toujours plus ou moins fait de la musique électronique, enfin quand je dis électronique, ce n'est pas nécessairement de la techno, mais j'ai commencé, je suis adolescent, j'étais dans un groupe de hip hop, je chantais avec des Mauritaniens, on faisait des instrus sur le pc, etc. J'ai toujours aimé la musique et c'était quelque chose dans ma pratique. Je n'ai pas d'un milieu culturel ou une pratique artistique, on va dire, à être soutenu d'un point de vue ou encouragé. Donc c'était un peu mon activité « by the side ». Puis quand j'ai commencé mes études après avoir terminé en sociologie, la musique a pris le dessus. J'ai commencé à faire de plus en plus d'instru pour des rappeurs, des choses comme ça. Mais ça restait pour moi quand même plus ou moins consciemment un loisir, parce que j'avais l'impression que ça n'était pas fait pour moi. La musique, c'est quelque chose que j'ai finalement laissé de côté longtemps après, parce que j'ai commencé plutôt à faire du design graphique parce qu'il fallait manger et qu'à cette époque-là, c'est ce qui me faisait manger.

Et quand j'ai décidé de partir au Canada, j'ai recommencé un petit peu à faire de la musique, puis je m'intéressais beaucoup justement à qu'est-ce que les données. On était vraiment au boom du big data et tout ça. Et j'ai commencé à développer une pratique autour de l'enjeu des données. C'était le début des API, on peut travailler avec ça. Et je me disais, ok. Et ce qui m'intéressait à ce moment-là, c'était justement cette frontière un peu floue entre justement ce monde des données, ce monde où de plus en plus, le monde global, je dirais, le monde de la globalisation, des échanges qui passaient de plus en plus par les données et à la fois, comment à la fois redonner une expérience tangible de ces flux de données-là et comment jouer un petit peu avec l'ambiguïté de cet environnement informationnel qui se substitue quelque part à l'environnement physique. Et pour moi, le truc, l'exemple le plus flagrant pour moi, c'est Google Earth. On avait donc dans les années 72

cette première image de l'espace, Blue Marble, qui est l'image prise durant le programme Apollo, qui nous donnait une image complète de la Terre, une image qui a été retravaillée en plus par la NASA, puisque l'image originale était excentrée. Et il y a donc ce geste de la NASA de recentrer dans la photographie la planète. Et c'est assez marrant, cette photographie-là, parce qu'à la fois, ça a été le moment où on commençait à s'émanciper des premiers mouvements écologiques. C'est aussi l'année 72, l'année du rapport Meadows aussi. Et c'est aussi l'hypothèse Gaïa de Margolis. Enfin bref, il y a tous ces mouvements écologiques naissants. Et en parallèle, c'est aussi le moment où on s'approche du monde global, de la globalisation, des échanges, des satellites, etc. Et de cette substitution de ce monde organique à un monde informationnel. Et je trouvais ça intéressant de jouer avec cette ambiguïté-là. Alors, ça a commencé par un premier projet qui s'appelait Projet Basile, qui est en fait une sonde virtuelle que j'ai fait décoller, entre guillemets, de Montréal. Et qui collectait, pour se déplacer, les données du vent avec une API météorologique. Et qui récupérait la vitesse et la direction du vent. Et pendant une minute, dérivait sur la Terre, à la surface de la Terre, mais plus précisément de Google Earth, à la vitesse et en fonction de la direction du vent. Et une fois arrivé au bout d'une minute, réinterrogeait les serveurs météorologiques et se déplace comme ça. Et fonctionne encore aujourd'hui. Depuis 14 ans, on a cette sonde qui dérive à la surface de Google Earth. Et quand je le présentais sous forme d'exposition, parce que c'est une pièce de web art, mais je le présentais aussi en dispositif multi-écran, j'étais toujours assez fasciné par l'interrogation des gens de savoir si c'était une sonde physique ou si c'était une sonde exclusivement virtuelle. Parce que face aux dispositifs de vision et de contrôle avec la carte, des vidéos extraites de YouTube aussi géolocalisées, les gens étaient dans la capacité de décider, de par cette expérience médiée par les nouvelles technologies, s'ils avaient affaire à une entité physique, parce qu'ils comprenaient bien qu'il y avait quand même quelque chose de physique, qui étaient les données du vent, qui elles sont tangibles. Et qu'en même temps, on était dans un protocole qui lui était informatisé. Donc ils étaient incapables de décider en fin de compte si l'expérience était physique ou purement informationnelle.

AS : Mais tu travailles, d'après ce que j'ai vu et ce que je sais aussi souvent, sur des dispositifs. Donc ce n'est jamais juste informationnel ou physique, c'est vraiment le mélange des deux. Et par exemple, cette sonde, c'est aussi les premiers questionnements.

Aussi, je pense, on en a parlé longuement dans d'autres discussions, mais ce souhait de la rematérialisation, d'un retour au physique, de quelque chose qui nous semble intangible justement. Et de faire sens aussi de la big data, avec ces cumuls qu'on connaît. Mais est-ce que tu peux me parler un peu plus ? Je sais que tu as récemment aussi eu un interview avec Uzbek Reka sur le tiers image. Est-ce que tu peux un peu expliciter dans quel cadre ça rentre? Parce que t'es quand même assez loin de ce que moi, communément en tant que Laie, je comprends dans l'image. Et justement, cette recette de tiers image, de déplacement, il y a toujours quelque chose de l'ordre du déplacement, du mouvement. Aussi, même dans tes « astromusiques », il y a toujours cet ordre-là de mouvements.

GP : La musique aussi, c'est des ondes, c'est des sons, c'est des mouvements, c'est des vibrations. Donc en quoi est-ce que peut-être il y a un resituement, le corps, les corps ? Il y a deux choses là-dedans. Pour revenir à cette idée de tiers image, il y a effectivement cette question du mouvement. On va y revenir, c'est presque un peu plus métaphysique pour moi. Mais déjà, il y a un désir critique, je dirais, de reconsidérer notre relation aussi aux images. C'est-à-dire que le régime de vision a changé, et ça, j'en suis intimement convaincu.

C'est-à-dire que d'une expérience... Là où on avait une conception du monde par une image, donc prenons Blue Marble, qui est une image, qui est une représentation de la Terre, d'un espace... Et le Overview Effect aussi, par exemple. Et bien, on se retrouve... Il y a un renversement qui est assez étrange, c'est-à-dire que plutôt qu'une image du monde, on se retrouve dans un monde en images. Et quel est ce monde en images dans lequel circulent les images, et à partir de laquelle on se fait une conception du monde qui n'est plus celle d'une représentation de la Terre, mais on évolue directement au sein d'un monde qui, lui, est constitué d'images.

Et c'est ça qui m'intéressait avec cette idée de tiers image. C'était cette idée que, plutôt que de considérer une image fixe ou une simple représentation, c'est de considérer le flux et l'infrastructure au complet. C'est-à-dire d'imaginer... On est parti de l'idée de tiers paysage de Gilles Clément, qui parle d'environnement indécis, de réserve, de choses comme ça.

Et si on utilisait les critères du tiers paysage pour envisager, justement, ce flux d'images qui a une certaine forme d'autonomie, qui a à la fois aussi une réserve d'images, qui, par exemple, servent aux machines de contrôle. Il y a tout un tas d'images, en fait, auxquelles nous n'avons pas nécessairement accès, qui alimentent, par exemple, les bases de données d'intelligence artificielle. C'est des processus sous-pactes, c'est des images auxquelles on n'a pas accès, et qui finissent par générer d'autres formes.

Reste qu'il y a tout un environnement d'images qui nous échappent et qui circulent en permanence. Et je trouve intéressant de les envisager aux prises de l'idée de l'infrastructure auxquelles elles appartiennent, en fait. Et, par exemple, plutôt que de considérer une image sur Instagram comme une simple image, c'est-à-dire que cette image a sa valeur esthétique dans l'ensemble du dispositif qui le comprend, et ce qui nous permet aussi d'avoir une approche peut-être critique aussi.

AS : Il y a une image que j'aime beaucoup, j'aime beaucoup rapprocher l'idée de l'image numérique de la taxidermie. Je me souviens de ce texte d'Harraway, taxidermie patriarchale, teddy Bear patriarchy.

GP : Exactement, on parle du Hackley Hall, c'est très intéressant parce que ce qu'elle dit, c'est que, parce qu'il y a cette idée avec le numérique aussi, c'est très intéressant quand on s'intéresse à la conquête spatiale. Je fais un petit pas de côté, mais tu vas comprendre pourquoi, c'est-à-dire qu'avec les débuts de la conquête spatiale dans la deuxième moitié du XXe siècle, il y a quand même deux idéologies qui partent dans l'espace, notamment le cosmisme russe, qui est une quête d'éternité, et qu'on retrouve déjà au Hackley Hall, parce que donner la mort, ce qui est assez fascinant, c'est qu'il y a cette volonté de préserver le vivant, de préserver les espèces, etc., mais par la taxidermie, c'est-à-dire qu'on va

éliminer, on va donner la mort pour éterniser. Et il y a quelque chose d'assez intéressant dans cette idée-là, c'est l'idée des coutures, justement.

Et quelque part, avec le monde en image dans lequel on vit, c'est cette envie d'éterniser le monde et l'univers par un dispositif électronique, etc., une forme de... Pour moi, il y a un héritage du cosmisme là-dedans, c'est de penser que par le développement technologique, on pourra atteindre l'éternité, mais cette éternisation, elle passe par une mise à mort, qui est en l'occurrence celle du vivant et de la Terre dans sa globalité, puisqu'elle, petit à petit, elle se substitue à un dispositif électronique, etc. Et ce qui est intéressant, c'est qu'au même titre que dans la taxidermie, c'est qu'on n'en voit pas les coutures. Et moi, c'est ce que je trouve intéressant, c'est l'idée dans l'imagerie numérique, c'est d'aller justement pointer les coutures, les... Donc rendre visible les procédés derrière le rendu.

Les procédés derrière le rendu, qui nous permettent de saisir non plus le... de prendre conscience du simulacre, comme dirait Baudrillard, et à partir de ces coutures-là, saisir l'infrastructure qui permet d'édifier ce dispositif, qui est aujourd'hui aussi un dispositif de surveillance. Oui, tout à fait. Et qui est de plus en plus opaque.

Et pour moi, l'image générative par l'intelligence artificielle, c'est un peu le climax de ça, c'est-à-dire qu'on ne voit définitivement plus les coutures, les images sont même plus structurées ensemble. Elles fusionnent dans un espèce de magma d'images qui finissent par générer une autre image, mais on n'a plus la possibilité, ou du moins c'est une étude qui pourrait être intéressante à faire, d'aller saisir où se trouvent les coutures dans ces images-là, où se trouvent... C'est des procédés, comme tu le dis, qui sont de plus en plus opaques aussi, parce qu'il n'y a pas seulement dans la big data, mais après le news space fait aussi partie de la big data, des institutions privées, et donc la privatisation non seulement de l'information, mais même de l'accès à l'information, donc de la technologie. Mais c'est aussi la privation de l'espace.

AS : C'est exactement ça, oui. C'est le mix du news space, et à partir du moment où l'espace se privatise, ça veut dire qu'on nous prive d'espace. Et à qui appartient l'espace, c'est ça aussi.

GP : C'est qu'avant, on était quand même dans des représentations très étatiques, ou d'ordre de gouvernance quand même, certes étatique, mais donc publique, avec, on connaît la course aux étoiles, etc. Et maintenant, il y a toujours eu des porosités entre les sphères privées IBM, avec les ordinateurs, même, enfin bon, je ne veux pas te refaire que tu connais l'histoire de la conquête spatiale, mais le fait que moi, dans mon premier chapitre, je fais une sorte d'analyse nationale et narrative de l'espace. Déjà, remettre dans le contexte, on sait tous que, bien sûr, la naissance de la course aux étoiles, elle a ses origines dans l'Allemagne nazie.

Donc là aussi, cet ordre de l'étendre de sa propre terre, ça aussi, ça rentre dans une perception et une conception idéologique très critiquable, mais avec la possibilité, je pense aujourd'hui, de la déplacer avec justement Gaïa, avec notamment aussi les imaginaires cosmologiques qui n'ont pas toujours eu cette envie autoritaire, mais de l'ordre du spatial, de la métaphore, de l'ordre de la métaphysique presque. Et pour venir à la question de la physicalité du déplacement, c'est ça. Donc moi, en matérialisant des dispositifs, c'est aussi une manière de s'affranchir du dispositif global pour le ré-ancrer dans des gestes situés aussi.

Par exemple, il y a cette pièce qu'on avait faite à l'époque à Laval sur un terrain vague où je fabrique une boîte dirigée par des vents aléatoirement pris sur terre et qui se compose d'un cube en plexiglas, mais ouvert sur le fond, qu'on venait déposer comme ça sur des fougères ou des plantes dans le terrain vague. Et c'était de faire dialoguer deux contingents, c'est-à-dire on avait cette plante à ce moment-là et on avait ce bras robot articulé autour de lui qui venait souffler à l'oreille de la plante, on pourrait dire des vents qui venaient d'ailleurs. Je trouvais ce geste assez poétique dans la mesure où ce qui m'intéresse avec l'univers numérique, c'est précisément de reconfigurer des distances.

Parce que l'expérience numérique globale d'aujourd'hui, c'est celle de la proximité-distance, c'est-à-dire de donner l'illusion de la proximité. Mais en fait, on est dans un rapport de distance comme Lady Virilius est en train de s'annuler, et moi j'essaie plutôt de prendre le contre-pied, que ce soit avec les performances de son, on y reviendra, ou avec ce type de dispositif, c'est de créer des distances fécondes de proximité. C'est-à-dire à partir d'une

relation reconfigurée à la distance, on peut recréer du collectif et du commun.

Par exemple, une séance où je vais jouer de la musique avec Saturne, c'est avant tout pour moi un moment où une vingtaine de personnes vont se réunir et à nouveau regarder le ciel collectivement. Et avoir une expérience physique, émotionnelle, et pas que cognitive, et une expérience de retrouver de la phénoménologie, sortir du cognitif, et ce que devraient pouvoir nous permettre ces nouveaux outils qu'on développe. Moi j'aime beaucoup cette idée de cosmotechnique, de se dire qu'on est aujourd'hui dans une monotechnique, qui est celle de la séparation nature-culture, mais c'est de se dire qu'il y a d'autres manières de penser la technique et la technologie, et que finalement la manière dont on entrevoit le cosmos, c'est-à-dire la manière dont on ordonne l'univers dans nos têtes, c'est la manière dont on développe des outils.

AS : Donc c'est déjà de peut-être reconsidérer notre manière d'être au cosmos pour pouvoir repenser les outils qu'on développe et à quelle fin on les développe. Et je le recentre un peu peut-être sur l'humain, mais justement c'est ça qui est intéressant, c'est que pour toi, dans ton travail, ce n'est pas seulement des collaborations on va dire anthropocentrées, mais ça va être... Bon, il y a des collaborations anthropocentrées bien sûr, mais il y a aussi quelque chose de l'ordre... C'est ce qu'on connaît, du Chtulucene, de Haraway, de croisements, inter-espèces, mais pas que espèces, on va dire, sapientes, conscientes comme on les entend. Donc notamment quand tu dis que tu vas faire l'expérience avec Saturne, c'est pas forcément que tu utilises Saturne, mais c'est que tu essayes de connecter avec.

GP : C'est ça, l'idée c'est plutôt de faire des projets sur quelque chose, sur Saturne, sur les planètes, c'est de faire des projets avec une altérité qui invite à la contingence en fait. Et c'est là où pour moi la notion cosmologique devient intéressante, c'est que plutôt que de penser l'univers comme quelque chose d'ordonné et de déterminé, c'est de penser comme... J'ai oublié cet astrophysicien, mais j'aime beaucoup, c'est de saisir qu'on vit dans un cosmos désordonné. Et j'aime bien cette idée de cosmos désordonné, parce qu'effectivement, l'univers est à un accident radical et permanent.

La Terre est arrivée de manière complètement accidentelle, comme les autres planètes. Et oui, là-dedans, il y a de la mécanique, il y a des orbites, il y a des choses comme ça, et c'est fascinant. Mais il y a aussi, et ça c'est très utile pour développer aussi des outils, il y a aussi une dimension mécanique dont on ne peut pas se passer.

Mais si ces expériences-là sont dépourvues, je dirais, d'une part d'expériences sensibles qui nous permettent de les incorporer, de faire corps, eh bien, ce qui explique qu'aujourd'hui, pour moi, on est dans un rapport très géocentrique à l'univers, en fait. Malgré Copernic, malgré tout ça, on continue à dire que le Soleil se lève, ce qui est une aberration totale. Et ce genre d'exemples-là.

Donc, aller dans l'espace, pourquoi pas ? Bien qu'aujourd'hui, on a des soucis, et puis il y a plein de moyens d'aller dans l'espace. Mais la question qu'il faut se poser au préalable, au-delà de développer les techniques pour le faire, c'est développer les axiologies qui nous permettent d'y accéder d'une autre manière que par le simple fait technique. Parce que ce qui va se passer, c'est que si demain on va sur Mars, mais qu'on est toujours dans un rapport géocentrique, on va, comme le dit très bien Hannah Arendt, c'est qu'en fait, on va déplacer notre point d'archimède, et on va ni plus ni moins que déplacer la Terre avec nous.

Et donc, la rencontre avec l'altérité n'arrivera jamais. Pour moi, c'est la même chose que d'aller dire qu'on va en Afrique du Nord, et qu'on finit dans un Club Med, quoi. C'est un peu la même chose.

On ne peut pas dire qu'on voyage au Maghreb quand on va au Club Med. Pourtant, techniquement, on s'est déplacés de Marseille, disons, à Casablanca ou je ne sais où. Mais pour autant, est-ce qu'on a découvert l'Afrique ? Non, on est dans un Club Med, avec tout ce que ça comporte.

Et pour moi, la relation à l'espace, elle est un peu analogue, finalement. C'est aujourd'hui, on voudrait ramener nos présupposés terrestres ailleurs, mais ce n'est pas ça, un voyage. Non, on est assez d'accord, malheureusement.

AS : Mais ce qui est justement intéressant, c'est que j'ai l'impression, et on en a souvent parlé, parce que je t'ai souvent partagé mes retours, sur si on le ressent d'un point de vue de l'imaginaire artistique qu'il y a derrière, il

y a quand même dans les nouvelles pratiques artistiques contemporaines dont tu fais partie, que j'analyse dans mon mémoire, cette radicale opposée à l'institution qui gère les espaces et qui va quand même continuer à favoriser un certain imaginaire. Notamment, on a vu avec les nombreux appels à projets, la mélancolie de l'espace, du CNRS, tous ces appels à candidats à résidence, où il y a cet intérêt pour la critique institutionnelle, mais qui rentre dans l'institutionnalisation et dans le discours global dominant. Et donc, toi, tu as un travail qui est entre l'institution, mais aussi à la marge, même si je n'aime pas ce terme.

Et comment jouer aussi avec rapport à l'institution ? Parce que tu es quand même assez institutionnalisé aussi, notamment dans l'Académie avec le CAM, avec par exemple les biennales NEMO, avec l'exposition Oscillation. Là, tu sors d'une résidence Glitch. Donc, comment tu joues de cette ambivalence-là, même si les expos que tu fais, elles ne sont pas dans des institutions, on va dire, ce n'est pas la Cité de l'espace de Toulouse ou le Musée de l'art et de l'espace.

Mais comment jouer justement dans ces off-spaces et comment continuer à faire évoluer ce discours, tout en étant conscient des enjeux artistiques qui essayent d'être rattrapés aussi ?

GP : Pour moi, c'est au cœur du problème. Au début, j'étais dans une posture presque radicale, de dire que je n'y vais plus. Et là, ma dernière résidence m'a conforté là-dedans.

C'est plutôt le contraire, en fait. Si on veut que ça change, il faut aussi s'y mêler, mais il faut s'y mêler avec nos manières de faire et d'assumer nos manières de faire, qui parfois peuvent paraître, dans certaines institutions, un peu saugrenues même. Mais il faut composer avec, et je pense que c'est important de le faire.

Où est-ce que je m'en vais avec ça ? Je ne sais plus. Aujourd'hui, j'aime autant aller faire une performance à l'extérieur, donner deux coordonnées GPS et arriver n'importe où, au Marais Beauchamp ou sur un pont. Mais je trouve ça aussi intéressant en tant que chercheur, parce qu'il y a aussi cette dimension-là.

Pour moi, c'est un enjeu méthodologique à ce moment-là. C'est comment concilier cette dimension presque... Moi, j'aime bien, même si les comparaisons sont

parfois un peu douteuses, jouer avec cette ambiguïté entre la dimension rationnelle et la dimension de l'expérience sensible. C'est cet écart entre les deux que je trouve assez... et qui, pour moi, fait cosmos.

C'est de ça que je parle quand je parle d'instabilité. Il faut à la fois vivre des expériences rationnelles, ce que nous amène par exemple le CNES, c'est hyper intéressant, il y a bien des aspects. Et c'est parce qu'on a eu des Copernic et des gens comme ça qu'on peut aussi considérer que la Terre tourne autour du Soleil et qu'on n'est pas un astre central, comme ça a été longtemps perçu.

Mais à un moment donné, ce savoir-là ne suffit pas. C'est-à-dire qu'à un moment donné, une fois qu'on l'a saisi d'un point de vue rationnel, il faut le saisir aussi d'un point de vue intérieur et il faut saisir aussi le saisir d'un point de vue relationnel. Et c'est l'enjeu de la relation qui rentre en ligne de compte, l'enjeu relationnel entre les humains déjà et les non-humains, mais aussi l'enjeu relationnel que tu peux avoir avec les planètes.

Il y avait l'astrologie pendant longtemps pour ça. L'astrologie, l'horoscope, c'est regarder l'heure et c'est comprendre que regarder l'heure, ce n'est pas simplement regarder le temps du capital, on va dire, c'est-à-dire la journée qui défile, mais l'heure, c'est aussi l'orientation de la Terre par rapport au Soleil. Donc c'est aussi un rapport qui est spatio-cosmologique et spatio-temporel.

Et un calendrier, de la même manière, détermine la position de la Terre autour du Soleil. Donc c'est de reconsidérer, et reconsidérer, j'aime beaucoup ce mot-là parce que ça veut dire considérer, c'est considerare, c'est avec les étoiles, donc c'est de nouveau avec les étoiles, donc c'est comment aujourd'hui on ramène notre rapport au temps et à l'espace, et quand je dis espace, je dis espace au sens large, à quelque chose qui nous excède, et non seulement qui nous excède, mais on met beaucoup d'efforts pour comprendre l'univers, mais on met beaucoup moins d'efforts à saisir que l'univers nous comprend. Et c'est ça qui m'intéresse, moi, c'est de proposer des expériences où, à la fois, on est dans une compréhension nécessaire du cosmos, mais cette compréhension du cosmos, pour moi, n'a d'utile ultimement que de vivre l'expérience de l'univers qui nous comprend.

AS : Tu m'as déjà donné énormément de choses, et je sais que notre temps est un peu limité, malheureusement. Est-ce que peut-être il y a quelque chose d'autre, on continuera les échanges, de toute façon je ferai un petit transcript, et c'est vraiment une bribe de conversation que j'espère on aura l'occasion de continuer dans d'autres contextes, mais est-ce qu'il y a quelque chose d'autre que tu penses serait intéressant sur lequel on peut clôturer la discussion, sachant que là, on a vraiment parlé de sensible, et ce qui me dérange, un peu peut-être, mais ça c'est peut-être juste une pensée qui n'est pas encore bien formulée, c'est cette opposition qui souvent revient entre le sensible et le tangible, et qui, je pense, n'est pas le cas dans ton travail, et n'est pas le cas dans beaucoup de pratiques que je vais analyser, et je me demande comment, parce qu'on a parlé, culture, nature, spatiale, informelle, ces espaces de seuil, justement, c'est peut-être là où il y a encore les processus de négociation, parce que quelque part j'ai l'impression que c'est sans cesse des négociations. Peut-être c'est mal choisi comme terme parce que la négociation implique une forme de pouvoir, mais tension ou oscillation...

GP : oscillation pour sûr, surtout moi qui fais de la musique, c'est un mot que j'aime beaucoup, et justement pour moi, le processus de musique générative avec des mouvements planétaires, pour moi c'est aussi osciller entre le tangible et le sensible, ou l'émotion et la raison, mais ce qui m'intéresse là-dedans, c'est peut-être l'erreur qu'on fait souvent, moi c'est comme ça que je l'entrevois, j'aime beaucoup ce texte de François Julien, justement, l'écart et l'entre. C'est hyper intéressant en fait, ce qu'il explique c'est que nous autres occidentaux, on est dans un rapport de la différence, et lui ce qu'il dit c'est qu'on va faire des antagonismes, nature, culture, donc on va séparer et couper net, là où par exemple, et c'est là où ça devient intéressant en termes de programmation, je peux vraiment vite faire après, là où lui cultive des écarts, c'est-à-dire que plutôt de considérer des différences, c'est-à-dire de vouloir soustraire, diviser ou quoi que ce soit, des comparaisons quantitatives, c'est d'être justement, c'est de dresser des... et c'est là où on retrouve la distance aussi, c'est de se dire que plutôt que de penser que les choses ont fusionné, ça a été peut-être aussi un peu l'erreur, justement avec Blue Marble, Blue Marble, quand

on a l'Overview effect, c'est de se dire, ah le monde est uni, mais il est uni comment ? Il est uni dans l'œil du capitalisme, il est uni dans l'œil des Américains qui conquièrent l'espace, mais ce n'est pas ça l'unité, c'est avant tout voir la Terre depuis l'espace, pour moi c'est avoir conscience des écarts qui nous séparent les uns des autres, mais l'écart c'est quelque chose de souhaitable, moindrement qu'on reconfigure les distances, non pas pour créer des différences ou les accentuer, mais au contraire, pour...

François Julien parlerait plutôt de tensions, pas productives, parce que ce n'est pas du tout le mot qu'il emploie...mais des tensions fécondes, voilà. Tensions fécondes. C'est-à-dire qu'encore une fois, plutôt que de dire je vais sur Jupiter, c'est que j'ai conscience que cette impérie est radicale, qu'on ne parle pas de la pluralité...

AS : C'est une question d'échelle aussi, donc une échelle qui est tendue...

GP : C'est une question d'échelle et un écart. Il s'agit de reconsidérer cette distance qui nous sépare et de voir comment cette distance radicale peut nous permettre de nous ré-envisager sur Terre, non plus comme des terriens, des Français ou des Américains, mais comme des êtres vivants dotés d'un excédent cosmologique régi par tous ces mouvements.

GP : Dans la programmation, le cœur du sujet est le langage binaire. Ça m'agace : aujourd'hui on parle de « non-binaire » sans replacer cela dans l'histoire du langage, comme l'arithmétique binaire de Leibniz. Quand Leibniz élabore l'arithmétique binaire, il s'inspire du Yi Jing chinois : les hexagrammes y représentaient des états mutants du présent, un art cosmologique. On a conservé la dimension opératoire, mais on en a perdu l'essence cosmologique. C'est là que mon travail sur les données prend tout son sens : je travaille avec des données brutes, en n'utilisant pas les valeurs elles-mêmes, mais leurs changements d'état. Disons qu'il s'agit de 0 et de 1, pour simplifier. Mais en réalité, ce ne sont pas que des 0 et des 1 : ces changements métamorphosent en temps réel ma matrice de notes et mes événements musicaux. C'est justement un moyen de renouer avec une forme de généalogie du langage binaire qui avait autrefois une valeur cosmologique. Cela met fin à cette approche

purement binaire, et on se retrouve dans une ambivalence : ce n'est pas simplement une opposition entre 0 et 1 ou entre le yin et le yang, mais un ensemble d'ambivalences. Ce qui est intéressant, c'est qu'on n'est pas dans une séparation stricte entre le sensible et l'intelligible : on se trouve dans une ambivalence entre le yin et le yang, le 0 et le 1.

GP : Pour cela, il faut accepter de reconfigurer les distances. Or aujourd'hui, on voudrait les annuler. Pourquoi ? Peut-être par souci d'hégémonie, peut-être par peur. Tout simplement parce qu'on a peur des distances.

AS: On a peur des distances et en même temps on en crée de plus en plus.

GP : C'est tout le paradoxe.

AS : Peut-être que c'est cela aussi qui est intéressant : donner l'illusion de proximité. Voilà, on en revient à ce que je disais tout à l'heure.

GP : C'est-à-dire que c'est ça, la proximité-distance : plus on prétend être proches, plus on a de distances entre nous. (...) Oui, on est censés être à proximité, mais en réalité une distance persiste. On a tendance à l'oublier. Par contre, on vit de moins en moins d'expériences collectives à distance. C'est ça que j'aime dans ces performances que j'appelle Astro-Musique : elles se distinguent des partitions itératives qui constituaient mes premiers travaux musicaux, qui n'étaient pas forcément liées au cosmos. C'est pourquoi, par la suite, j'ai fait la différence : c'était de la musique générative. Nous envisagions notamment de sonifier les câbles sous-marins transatlantiques, ou des projets du même genre.

Puis, quand je me suis réellement concentré sur ma thèse, axée sur des thèmes davantage liés au cosmos, j'ai commencé à réaliser des performances hors des lieux institutionnels.

Dans des lieux, idéalement, où il y a peu de pollution lumineuse, on organise à la fois un événement de musique générative – on y suit l'animation d'une matrice de notes par des oscillations entre 0 et 1 – et parallèlement des séances d'observation au télescope. Cela permet au public de regarder, pendant que je joue de la musique, l'astre avec lequel je compose. Par exemple,

si je joue avec Saturne, le public peut observer Saturne et participer à ce que Néra appelle des « expériences planétaires » : reconsidérer cet « excédent cosmologique » et la notion de distance. Ainsi, grâce à ces dispositifs sensibles et physiques, toujours en mouvement, nous expérimentons différents états : qu'il s'agisse de visions ou de sons, mais aussi d'expériences mentales de voyage, on se sent transporté, puis ramené à soi.

Moi, j'aime beaucoup – je ne sais pas si tu l'as déjà lu – le texte de Wolfgang Kretschmer intitulé « Sentiment de la totalité ». Nous sommes en 1971, un an avant la photo Blue Marble. Kretschmer est consterné : il ne comprend pas pourquoi, dans les journaux ou chez certains scientifiques, le discours sur l'espace trahit encore un certain géocentrisme, alors qu'avoir été dans l'espace devrait nous ouvrir l'esprit. Il explique qu'on essaie bizarrement de saisir la totalité à travers le voyage dans l'espace, alors que, selon lui, ce sentiment de totalité est avant tout intérieur – c'est dans notre casque, dans notre esprit – car on ne peut pas embrasser la totalité du monde. C'est, selon lui, le problème du totalitarisme aujourd'hui.

Je pense que, comme on en discutait récemment avec mon directeur de thèse, plutôt que parler de techno-fascisme, il faudrait évoquer le techno-totalitarisme. Les technologies actuelles ont une volonté totalisante : dès que l'on cherche à tout totaliser, c'est vain. Ce sentiment de totalité ne se réalise que dans notre esprit, par des expériences sensibles. Paradoxalement, il y a de nombreuses façons de répondre à ça, mais justement vouloir totaliser par la conquête de l'espace physique est contradictoire. Plus on voyage dans l'espace, plus on réalise que la distance est infinie et en constante expansion : la totalité demeure hors de portée. Cette dissonance finit par déstabiliser la logique totalisante, cette volonté d'aller toujours plus loin, toujours plus haut.

Interview 2: Vincent Fournier
Interview with Vincent Fournier – 01.12.2025

For the purpose of fluidity in the exchange, the interview was held in French.

Alma Sammel : Nous sommes le lundi 1er décembre, il est 18h25. Je suis en présence de Vincent Fournier et nous allons commencer l'entretien. Alors, première question un peu banale, certes. On se connaît déjà et on a déjà commencé à échanger, mais est-ce que tu peux te présenter, présenter ta pratique, et notamment les deux projets que j'aimerais analyser dans cette recherche — ce mémoire qui s'intitule « Who is going to planet? ».

Vincent Fournier : Je m'appelle Vincent Fournier, je suis artiste. J'utilise la photographie, mais aussi d'autres médiums comme la photogrammétrie, les techniques immersives, l'animation 3D, etc. Je m'intéresse de manière générale aux grands récits utopiques. Je suis très influencé par la science-fiction, ce qui rejoint beaucoup de choses liées à l'enfance. C'est un terrain de jeu qui se déploie autour de plusieurs séries. La première s'appelle Space Project. J'ai aussi travaillé en parallèle sur d'autres thèmes : des robots humanoïdes, des écosystèmes spéculatifs, l'architecture utopiste — notamment celle de Brasília — et des architectures des pays de l'Est. Voilà, mon terrain de jeu, ce sont les imaginaires du futur et la manière dont ils sont représentés.

AS : Et notamment pour Space Project, tu as fait un travail qui commence comme une sorte de néo-documentaire, mais qui évolue ensuite. Tu as une collection d'images assez impressionnante — plus de 500 je crois — et c'est un projet mené sur près de 15 ou 20 ans ?

VF: Oui, quasiment 20 ans : j'ai commencé en 2006-2007. Je n'ai pas compté précisément, mais il y en a beaucoup. On peut voir ça comme une sorte de tour du monde des sites les plus emblématiques de l'exploration spatiale : centres de lancement, bases de tir, centres techniques... tout ce qui a un lien avec l'exploration spatiale. J'ai travaillé un peu partout dans le monde : avec

les Français (Arianespace en Guyane), avec les Russes au Kazakhstan, mais aussi en Asie, en Europe… C'est un corpus assez large.

Le point de départ est documentaire : j'emprunte au style du reportage. Mais les images sont en réalité mises en scène. Il n'y a aucun traitement de post-production numérique — ce sont des photographies prises sur le moment, mais organisées de manière picturale. Ce sont des images de grand format, qui renvoient aussi à l'histoire du paysage. Il y a une réflexion sur la représentation et sur les échelles. C'est un travail situé entre documentaire et mise en scène.

AS : Oui, c'est pour ça que j'ai utilisé le terme de néo-documentaire. En parcourant le PDF que tu m'as envoyé, j'ai remarqué qu'il y a très peu de présence humaine. Parfois on aperçoit quelques silhouettes floues, mais on ne reconnaît personne. Pourquoi ce choix ?

VF : J'ai choisi de montrer le « hors-champ », en quelque sorte. Je ne montre pas la fusée en train de partir, ni les images attendues ou iconiques. Je montre plutôt les scènes périphériques. C'est davantage une évocation qu'une démonstration. Cela renvoie à des expériences très personnelles — des sensations d'enfance, le ciel qui t'enveloppe, la sensation de faire partie d'un tout — mais aussi à des projets de société. Il y a une esthétique qui m'intéresse beaucoup, et qui devient un support narratif fort. C'est à la fois la dimension narrative — le fait de convoquer des histoires — et l'esthétique produite qui m'intéressent.

AS : En parlant justement de narration, je pensais à Donna Haraway qui dit que ce qui compte, c'est de savoir quelles histoires racontent quels mondes. J'aimerais que tu nous parles de ton nouveau projet, qui s'inscrit aussi dans cette logique.

Vincent Fournier : Avec Flora Incognita, on passe davantage à un mode uchronique. Je pars du réel pour proposer une version spéculative. J'aime beaucoup cette idée — empruntée à Emmanuel Carrère — que « le réel est une option ». Je travaille à partir de plantes terrestres existantes, et j'imagine comment elles pourraient évoluer sur des exoplanètes, où les contraintes (gravité, vent,

lumière) seraient différentes. C'est une façon de faire un pas de côté pour observer comment, dans un contexte extrême, les formes du vivant pourraient évoluer.

Il y a un effet miroir : imaginer d'autres formes de vie renvoie aussi à la manière dont les choses pourraient évoluer sur Terre, notamment avec le changement climatique. Je ne mets pas l'accent uniquement là-dessus, mais c'est présent. Cela permet aussi de réfléchir à l'adaptation du vivant et de proposer un inventaire de formes. Plus un environnement est contraint, plus le vivant développe une diversité de formes. Une forme est toujours le résultat d'un ensemble de forces — c'est un diagramme de forces.

Techniquement, le projet repose sur la photogrammétrie : les plantes sont photographiées à 360° puis reconstituées en modèles 3D. On passe ainsi de la 2D à la 3D, à la frontière entre photographie et design. Ensuite, ces modèles 3D sont intégrés dans une sorte de « machine à évolution » : j'y introduis des paramètres liés à des exoplanètes. Les formes évoluent alors selon ces contraintes.

Ce travail est aussi le résultat d'échanges avec des scientifiques : Marc Jeanson (MNhn) pour la partie botanique, et Jean-Sébastien Steyer pour l'exobiologie spéculative. Cela questionne la définition même de la vie et permet de l'élargir. C'est à la fois très concret — car basé sur le réel — et totalement ouvert, puisque tout reste possible.

AS : Tu travailles souvent avec des scientifiques — je trouve que cette distinction entre art et science n'est pas toujours pertinente. Comment as-tu réussi à établir ces collaborations, notamment au début avec Space Project ?

VF : Je suis un peu un ovni : je n'ai pas du tout suivi les voies habituelles. J'ai travaillé de manière totalement indépendante. Ce qui m'a guidé, c'est une forme d'obstination — presque une obsession. Tout s'est enchaîné progressivement. Le point de départ, c'était la France : Arianespace m'a fait confiance, ils m'ont ouvert leurs portes et ça s'est très bien passé. Ensuite, d'autres portes se sont ouvertes. Avec les Russes, c'était plus compliqué — surtout pour des raisons financières. Je suis passé par un magazine qui a financé le projet et par une productrice locale. La vodka a beaucoup aidé aussi ! (rires)

La NASA a été la plus difficile d'accès, notamment à cause de la nationalité : ne pas être américain ajoute une barrière de sécurité. Finalement, j'y suis entré grâce à une collaboration avec une chaîne américaine liée à VICE, qui réalisait un documentaire sur mon travail (Space Project notamment). Cela leur a permis de justifier ma présence à Cap Canaveral.

Par la suite, j'ai continué à travailler en indépendant : je proposais des projets artistiques à des magazines (Time, New York Times, Wired, etc.) et en parallèle je contactais les organismes spatiaux (NASA, Google Lunar X-Prize, etc.) pour obtenir des accès. Ces médias me servaient de légitimité. Par exemple, pour la NASA, j'ai réalisé un projet où je traversais tous les centres spatiaux américains, appuyé par la confiance de ces magazines. J'ai également travaillé sur le Google Lunar X-Prize pour National Geographic, ce qui m'a conduit à un tour du monde des projets lunaires indépendants (aucun n'a gagné le concours, mais j'ai rencontré tous les acteurs du domaine).

Je finance entièrement mes projets par la vente de mes œuvres, sans passer par les circuits institutionnels classiques. Un appui important a été le MET (Metropolitan Museum of Art), qui a acquis plusieurs de mes œuvres. J'ai notamment été invité au MET en 2019 pour présenter mes projets. Une fois leur confiance acquise, j'ai obtenu de plus en plus de facilités : autorisations de photographier dans des installations généralement très surveillées. Parfois j'avais à peine une demi-journée de tir, ce qui rendait la mise en scène encore plus cruciale. Mais je trouve que la contrainte est très créative, c'est plutôt stimulant.

Je continue d'explorer ces territoires. L'Islande, par exemple, a été très inspirante : la NASA s'y entraînait dans les années 60 pour les missions lunaires, c'est un excellent site analogue de la Lune ou de Mars. J'y ai pris certaines de mes dernières images pour Space Project. D'ailleurs, j'ai fini ce projet avec une image très symbolique : la combinaison spatiale de 2001 : L'Odyssée de l'espace. C'était un prototype de combinaison, aujourd'hui abîmé et fatigué, que j'ai photographié comme une icône de cet imaginaire usé. Cette combinaison de Dave (le héros du film) allongée, comme un guerrier fatigué, représente pour moi le futur « daté » des années 60 — cet « âge d'or du

futur ». J'ai trouvé intéressant de terminer sur cette note nostalgique et puissante.

AS : Je voulais aussi poser une question plus personnelle : d'où te vient cette fascination pour l'espace et la science-fiction ? Tu en parles dans l'introduction de ton projet.

VF : Je suis né dans les années 70 et j'ai grandi dans les années 80, une époque riche en représentations du futur. Il y avait beaucoup de références — comme Cosmos 1999 (j'adorais cette série pour son esthétique), la bande dessinée de Moebius (Les Maîtres du Temps), Blade Runner, etc. Cet imaginaire m'a profondément nourri et inspiré. La science-fiction est pour moi une boîte à outils très puissante : elle permet de mettre en perspective les choses, de faire un pas de côté, de voir dans le présent des reflets d'autres réalités ou futurs possibles. C'est très fertile en termes de récits, de représentations et de formes.

C'est un peu la période de l'adolescence, où tout devient possible. Bien sûr, on réduit souvent ça à l'adolescence, mais c'est normal : à ce moment-là de la vie, on a l'inventaire des possibles très larges. J'ai gardé ce levier-là, je continue d'y revenir dans mes projets.

C'est cette démarche qui m'amène jusqu'à Flora Incognita. J'ai une grande passion pour la botanique et pour la façon dont le vivant peut être reconfiguré grâce aux nouvelles techniques comme CRISPR-Cas9 (le « copier-coller » du vivant). Cette dimension un peu surréaliste m'a semblé un pont entre l'imaginaire spatial et l'imaginaire végétal. Mon nouveau projet prend la forme d'images, mais il va aussi se développer en dimension immersive animée.

AS : Multi-volet là aussi, parce que tu sors de résidence, d'après ce que j'ai compris ?

VF : Eh bien non, je n'ai jamais vraiment fait de résidence ! (rires) Mais oui, c'était sous la forme d'une résidence au Domaine des Étangs. C'est un lieu consacré à l'art contemporain, dirigé par Garance Primat, qui est l'une de mes collectionneuses depuis plus de dix ans. Je leur ai proposé ce projet d'herbier. Cette fois, au lieu d'explorer plusieurs sites, j'ai choisi de partir d'un seul territoire, le Domaine des Étangs. Mon idée est toujours de partir du réel pour raconter une histoire : à un certain

point, ça bascule vers l'imaginaire. Ici, j'ai imaginé un pont entre ce domaine et une planète jumelle de la Terre.

Cette planète, que j'ai appelée Prima Sidera, est née des Étangs. En astronomie, un « éjecta » est un corps céleste provenant d'un impact ; par analogie, j'ai pensé aux morceaux de terre projetés dans l'espace par un impact ancien. Il y a environ 200 millions d'années, un astéroïde a frappé ce qui est devenu le Domaine des Étangs et en a éjecté des fragments. J'imagine que ces fragments, emportant avec eux une « soupe » de matières organiques issues des différentes zones du domaine (prairies, sous-bois, etc.), se sont agglomérés pour former une nouvelle planète.

Je me suis inspiré de la phytogéographie : j'ai repéré les plantes typiques des différentes parties du Domaine. L'idée était de recréer un panel représentatif de son écosystème, mais sur cette planète extraterrestre. Sur Prima Sidera, on retrouve nos espèces terrestres — on les reconnaît à leur nom latin — mais elles ont évolué autrement, sous de nouvelles contraintes. Ces contraintes évolutives très fortes génèrent une grande diversité de formes : chaque espèce doit trouver une solution pour survivre. Par exemple, l'artichaut du multivers se développe dans plusieurs réalités simultanément. Une autre plante pousse sur un sol très ferrugineux : elle métabolise le fer et devient rouge, et, comme elle se trouve sur une planète au champ magnétique intense, elle s'allonge comme pour s'aligner sur les lignes magnétiques.

En somme, plus un milieu est contraint, plus le vivant se réinvente et offre de nouvelles formes. C'est l'idée d'un miroir déformant de la Terre. On peut comparer cela à l'étude des espèces extrêmophiles sur Terre pour voir comment la vie s'adapte à l'extrême. Je ne cherche pas à être anxiogène sur le climat, je n'insiste pas lourdement là-dessus, mais bien sûr ce projet en parle aussi. J'ai volontairement une tonalité plutôt joyeuse et esthétique. Pour moi, c'est un terrain de jeu fertile : je peux composer une palette de formes très variées, très différentes. C'est cet aspect créatif et très riche qui est intéressant dans ce projet.