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Ben Eastham

Editorial

It is tempting to associate stargazing with imaginative escapism. With sheer scale and implacable beauty, the cosmos shows manifest disinterest in human affairs. Here is something, we take comfort in thinking, that we cannot possibly fuck up. But this division between our world and the one beyond is dangerous: colonizers said similar things about the "new world." Like all such divisions, it's also patently absurd.

In fact, we are not only connected to the cosmos, but hopelessly dependent upon it. All our energy derives from the sun. When it goes, we go. Or, more pressingly, when we pack our atmosphere with particulates that amplify the sun's energy in defiance of that fact, we go. We remain at the mercy of a meteor screaming across the sky or the sudden expansion of a nearby black hole. It is not merely lyrical to say we are one with the cosmos. Nor is it necessarily reassuring. To look up is not always to look away.

Rather than a window onto another world, the night sky can serve as a mirror through which we identify ourselves. Humanity has derived from the stars its various origin stories, cosmologies, systems of life and death, and, by extension, its diverse social hierarchies. The powerful have invoked the sun and moon's stable orbits as exemplars of social order for as long as revolutionaries have hailed comets and eclipses as portending their overthrow. The cosmos defines us just as we define the cosmos. The poetics and politics by which we identify ourselves, as thinkers from Georges Bataille to Alexander Chizhevsky have elaborated, flow from it.

Given this reciprocal relationship with the largest possible spectacle, is it too great a stretch to propose that our cosmos might well be a cinema? In figuring the night sky as a screen onto which the history of the cosmos is projected in points of light, Alexander Kluge reimagines the heavens as a cinematic archive of everything that has ever happened. Last night I watched fires burn on another sun a thousand years ago, so, as I type, the image of me writing this editorial is being carried on what Kluge calls "moving tracks of light" past the woman on the far side of the desk, through the window of Rome's Biblioteca Nazionale, across the clear blue sky and into outer space. Perhaps my image will reach the terminally bored astronomers of some distant planet a hundred years from now.

An historian of science recently told me of a project to reclaim lost radio broadcasts from waves that continue to bounce around in the earth's atmosphere. By that principle, one day it might be possible for our own telescopes to intercept images on their journey across space, and thereby to see who set the Reichstag alight or to observe the construction of Angkor Wat. The cosmos is, in this imaginary, a perfect cinema.

All of this is to give a brief introduction to a few of the

ideas guiding the curation of the 14th Shanghai Biennale—entitled "Cosmos Cinema" and curated by Anton Vidokle with Hallie Ayres, Lukas Brasiskis, Zairong Xiang, and myself—and the essays of its accompanying catalog and this special issue of *e-flux journal*.

The obvious place to start is with chief curator Anton Vidokle's "Introduction to Cosmos Cinema." Film is not only the ideal technology to frame our relationship to the cosmos, writes Vidokle; it also suggests a number of experimental techniques—montage, scenography, the combination of sound and image—through which an exhibition on the subject might be organized. Thus Vidokle's experience as a filmmaker and his long-term interest in the philosophy of cosmism is brought to bear on the staging of work by more than eighty artists across the sprawling Power Station of Art in Shanghai.

Beyond merely an effective medium through which to represent the cosmos, experimental cinema, states Elena Vogman, might help us put a shattered world back together again. She proposes the formal combination of cosmos (from the Greek word meaning "harmony") with disorder, as a political practice of healing and repair. Here, disorder refers to the assemblage of perspectives that James Joyce called "chaosmos" and which is expressed on film through the montage of Sergei Eisenstein. Lukas Brasiskis traces a short history of cosmos in cinema, reflecting on how the medium has always developed formal methodologies responding to scientific and cultural revolutions in our understanding of time and space.

Drawing a comparison between the representation on film of two very different symbols of Western cosmology—Leonardo's disputed *Salvator Mundi* painting and the construction of the world's largest scientific observatory on sacred land in Hawai'i—Hallie Ayres describes how early modern and contemporary colonial practices are justified by cosmological systems that do not admit the possibility of any other truths. Ayres thus proposes other, less violent ways of seeing. With humanity likely to become an interplanetary species in the coming decades, Jonas Staal cautions that we risk repeating the horror of colonialism if we do not reckon with our injustices. Rejecting the language of "space colonization," Staal's essay acknowledges the many other species who have contributed to—and died to make possible—humanity's entry into space.

Another lesson from colonialism: it might not be in our best interest to make contact with civilizations that fancy themselves more "advanced" than our own. Taking for a starting point the warning contained in Liu Cixin's Three-Body Problem trilogy, Xin Wang considers the impulse behind the monumental inscriptions of Buddhist texts that adorn Chinese mountainsides. In doing so, Wang reflects on what it means to make a work of art that is to be received by nonhuman intelligences.

Turning the question around, Zairong Xiang asks what it means for a nonhuman intelligence to make a work of art to be received by humans. If montage is—as Elena Vogman proposes—a way of piecing the fragments of a broken world back together via "sensuous thinking," then what can we learn from AI's mechanical interpretation of the heap of broken images that constitute our present reality?

Exploring the pioneering textile designer Anna Andreeva's interest in space travel and cybernetics during the Cold War, Christina Kiaer and Ekaterina Kulinicheva's essay contests conventional histories of the suppression of the avant-garde and abstraction in the Soviet Union. Might the radical patterns produced by Andreeva and her colleagues instead fulfil the constructivist ideal that abstraction should be a collaborative art integrated into the infrastructures of state production and made available to the general populace?

Speaking directly to the exhibition's context, Zhen Zhang takes up a celebrated cartoon character's filmic appearances, set across several decades in Shanghai, to consider how Chinese cinema after the revolutionary transition served as a tool for the construction of a new society. Here, as throughout the issue, formal experiment is represented as fundamental to representing the changed realities of a postrevolutionary world, and artistic realism as more than merely indexical. Every new understanding of harmony demands a corresponding aesthetic expression.

It is a basic principle of both this Shanghai Biennale and this collection of essays that the grandiose theme of humanity's relationship to the cosmos can also be found in the most mundane expressions. There is no greater example of this paradox than Ilya Kabakov's *The Man Who Flew into Space from His Apartment*, which reduces the cosmic ambitions of the artist to the cramped space of a state apartment. Arseny Zhilyaev's essay on this ironic ascension suggests that to think about the cosmos is not always to speculate about interplanetary travel or deep time, but rather to reflect on our implication in wider systems and the possibility of escaping them. My own feeling remains that, as Paul Éluard is supposed to have said, "There is another world, but it is this one."

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e-flux journal thanks the Power Station of Art in Shanghai for their collaboration in preparing this issue.

Ben Eastham is editor-in-chief of e-flux Criticism.

Anton Vidokle

Introduction to Cosmos Cinema

As an artist I work primarily with film. When the academic committee of the Shanghai Biennale approached me about curating a new edition, I immediately thought that I would like to focus on the cinematic potential of an art exhibition. But rather than simply include a lot of moving-image work in the show, I wanted to use the tools and methods of filmmaking—editing, montage, scenography and staging, sound and narrative—to make an exhibition.

In a sense, filmmaking is diametrically opposed to museography. Museums use space to create an atmosphere of contemplation, while cinema works by exercising the emotions through psychological projection and immersion in time. Yet there are similarities between exhibition curating and film editing in how the selection, juxtaposition, and combination of objects and images produces meaning. The most radical and dynamic syntax in filmmaking is generated by montage, which operates both at the granular level of individual frames and in constructing larger sections of narrative. It was montage's focus on the recombination of elements to produce new meanings and states that I wanted to explore.[1]

In addition to this, I wanted to experiment with the application of such cinematic devices as scenography, sound and music, and the contrast between light and darkness to foster an experience of estrangement or defamiliarization that museography has historically lacked.[2] Considering the contemporary interest in engaged, immersive, participatory experiences of art, it's surprising that there have been so few attempts to curate an exhibition-as-film.[3] This is precisely what we tried to do with "Cosmos Cinema."

This exhibition-as-film also draws on more than a decade of research into the relationship between our understanding of the cosmos and our attitudes to life, death, and immortality. Art has from the very beginning been deeply intertwined with reflections on our position within the cosmos and what this might teach us of mortality. My goal with "Cosmos Cinema" was to consider how these themes are addressed by artists working both historically and today, and to place these artists into new sets of relations.

The starting point for this was my long-standing interest in cosmism, which has guided much of my own practice as an artist. This unusual philosophy investigates the possibility of technological immortality, the ethical imperative of materially resurrecting every being that has ever lived, and ways of populating the cosmos. The main premise of its founder, Nikolai Fedorov,[4] is that human evolution is incomplete because we are still mortal. Death is the enemy from which not only the living but the dead must be liberated by all possible means: all science, technology, medicine, and art must be directed towards this end. As our planet cannot sustain every resurrected

Trevor Paglen, Prototype for a Nonfunctional Satellite (Design 4; Build 4), 2015–2018. Courtesy of the artist, Altman Siegel Gallery, and Pace Gallery. Photo: Power Station of Art.

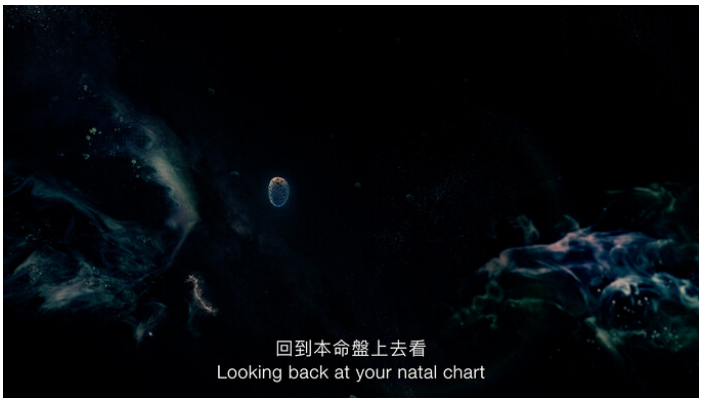
being, the natural conclusion of these premises is that we must urgently become an interplanetary species adapted to life in the cosmos.

Developed in late nineteenth century Russia, these ideas were taken up by scientists, intellectuals, and artists after the October Revolution. It can be argued that cosmism made an impact on aspects of Soviet society ranging from state-funded healthcare to the development of manned spaceflight. As an artist, I was fascinated by the imprint it left on the artistic imaginary. In fact, from about 1920 onwards, it's hard to find a significant artist, dramaturge, poet, architect, or filmmaker in the USSR who was not in some way affected by these ideas. The *Black Square* of Kazimir Malevich made its first appearance in a futurist opera titled *Victory over the Sun* (1913) and can be seen as a mimetic representation of the cosmos; Vladimir Tatlin's proposed *Monument to the Third International* (1919–20) is angled to reproduce the planetary tilt of the earth in relation to the sun; architects such as Ivan Leonidov created a system of proportions based on relations within the solar system; even the technique of biomechanics[5] for actors developed by Vsevolod Meyerhold had as its secondary goal to harmonize terrestrial life with the cosmos through movement (a tertiary goal was to produce immortality).

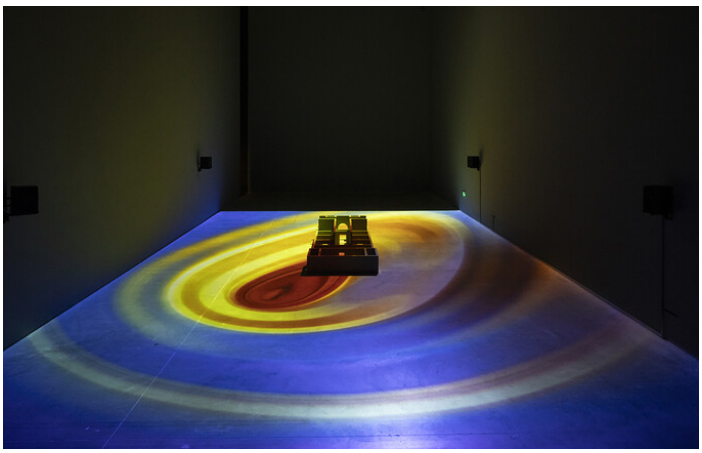
In the context of museography, Fedorov proposed that the museum should be an observatory with hands and feet. This meant that the act of looking was not one of passive contemplation; it should rather provide the observer with tools to transform the chosen subjects of their gaze, no matter how remote. The kind of action at a distance he alludes to is meant to animate and spiritualize the cosmos: to make dead matter alive, conscious, and capable of thoughts and feelings. This includes the resurrection of dead ancestors.

My research into cosmism led me eventually to artists outside of the Soviet avant-garde working with the same themes, from ancient civilizations to contemporary artists. Artists working today have addressed cosmist themes through a range of forms, from works on the implications of new technologies to the varied meditations on spirituality, agriculture, medicine, science fiction, economics, computing, astronomy, urban design, and ancient and Indigenous cosmologies that are gathered in "Cosmos Cinema." And these attempts to intuit and

Taking inspiration from Stanisław Lem's 1961 science-fiction novel Solaris, the Solaristics room responds to the following questions: Is it even possible for humans to conceptualize an extra-terrestrial intelligence? And might art help us to imagine a consciousness radically different from our own? Photo: Power Station of Art.



Yin-Ju Chen, Somewhere Beyond Right and Wrong, There is a Garden. I Will Meet You There, 2023. Single-channel HD video, color and black & white, sound, 16 minutes. Courtesy of the artist.

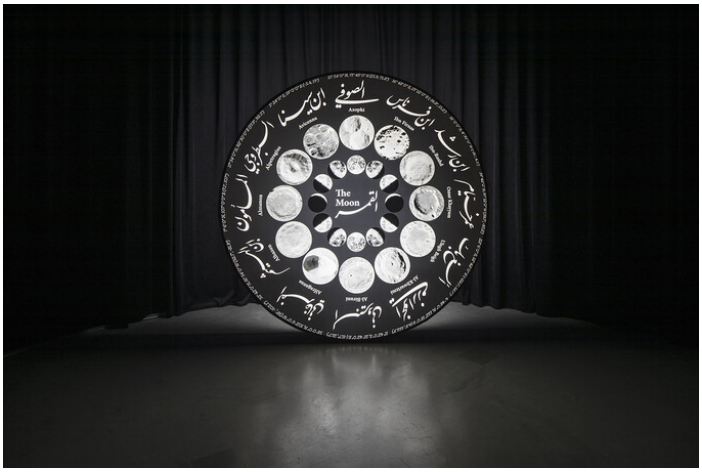


Liam Gillick, A Voyage in Search of Rational Senses, 2023. MDF, paint, 4K video projectors, sound. Site-specific installation, dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

express the relationship between life on earth and the totality of the cosmos can be traced backwards through the histories of art, architecture, music, and literature.

It can convincingly be argued that modernity as a whole, and specifically abstract art, flows from the desire to reimagine human relations with the cosmos. Piet Mondrian and Wassily Kandinsky were deeply inspired by

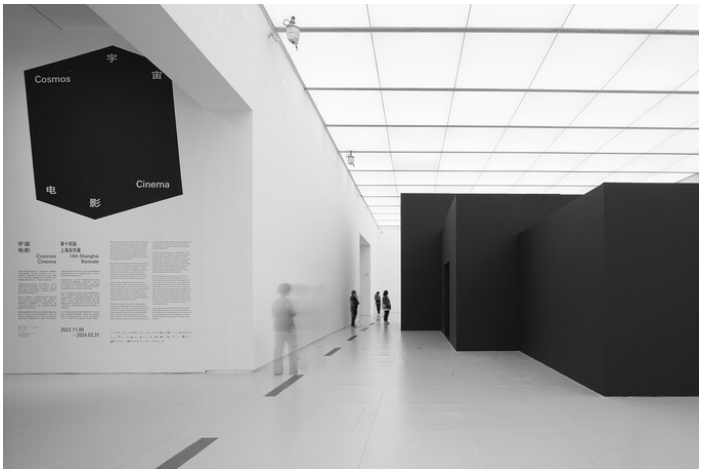
Julieta Aranda, Stealing one's own corpse, 2023. Single-channel video, sound. Courtesy of the artist. Photo: Power Station of Art.



Furqat Palvan-Zade, The Moon, 2023. Research-based installation. Dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

Nolan Oswald Dennis, Black Liberation Zodiac: Khunuseti, 2023. Dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

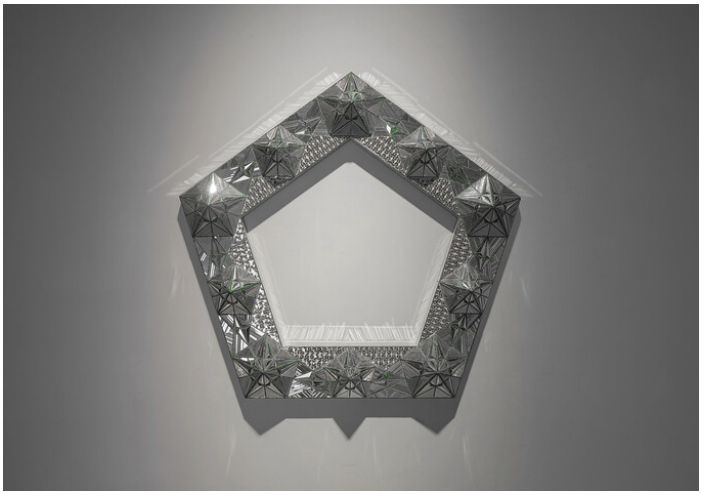
theosophy, while Rudolf Steiner's doctrine of anthroposophy—according to which "cosmic beings" inhabit the higher planes of reality and have played a role



View of Ten Thousand Things at the 14th Shanghai Biennale: "Cosmos Cinema," 2023–24. Photo: Power Station of Art.

Installation view of Emma Kunz, Untitled. Drawing on paper, 103 x 105.5 cm. Courtesy of Emma Kunz Stiftung, Würenlos. Photo: Power Station of Art.

in the evolution of humanity—had a profound impact on artists from Hilma af Klint to Paul Klee and Joseph Beuys, as well as on movement and dance, architecture, education, and even agriculture (through the principles of biodynamic farming). In his lectures, Steiner even discussed the existence of spiritual beings associated with different planets in the solar system. Helena Blavatsky also developed and promoted many of these ideas, including the doctrine of the intelligent evolution of all existence, which describes our world as part of a larger cosmos that includes many other levels or dimensions. In terms of film, Alexander Kluge writes that cinema is itself ontologically cosmic because we experience both cinema and the cosmos as flickers of light in the darkness: light



Monir Shahroudy Farmanfarmaian, Fifth Family Hexagon, 2014. Mirror and reversed-glass painting on plaster and wood. Courtesy of James Cohan, New York and the Estate of Monir Shahroudy Farmanfarmaian. Photo: Power Station of Art.

Brook Hsu, Pan et son élève, 2022. Ink and fabric on canvas. Courtesy of the artist and Kiang Malingue Gallery, Hong Kong. Photo: Power Station of Art.

that carries information about the past, present, and future.

Humans have always made sense of our own lives, families, and social organizations by inserting ourselves into the systems that order the cosmos. Large segments of the world's population still believe that the positions of the stars and planets have a measurable and predictable influence on human affairs, with certain constellations associated with good or bad fortune. In Chinese cosmology, the positions and movements of the sun, the moon, stars, and planets effect the flow of *qi*—a cosmic energy that enables all things—so that disturbances in this balance lead to disruptions in the natural world. These events, such as solar and lunar eclipses, were believed to have negative effects on human well-being. In all their variety, these complex systems establish a relationship between the microcosm and the macrocosm.

Just as the position of the stars and planets at the time of a person's birth might determine their health, relationships, and career, they are also thought to prefigure our final destination or dwelling place. The star Sirius was associated in Egyptian religion with Isis and was a symbol of immortality; the Pole Star was believed to be the abode of the Hindu gods. In traditional Chinese cosmology, the "Great Emperor of the North Star" achieved eternal life through his mastery of Taoist practices. In some Taoist texts, he is referred to as the "Emperor of the Tao" and symbolizes immortality as the ultimate goal of spiritual cultivation.

Just as the planets are named for gods in the Greco-Roman tradition, so in Mayan, Aztec, and other pre-Columbian civilizations celestial bodies were interpreted as divinities moving between the earth, the underworld, and across the sky. These gods were deeply involved in human affairs, and events in Mayan life were planned to coincide with celestial moments. The Mayans built astronomical tools and observatories, and kept records of solstices, equinoxes, and zenithal passage days, using these astronomical observations to determine farming cycles and religious practices. Knowledge of the cosmos was deeply integrated into their culture and mythology, and in a practical sense offered significant social power.

All of these examples demonstrate that humans have throughout history and in diverse cultural contexts understood social life on earth as intimately entwined with the operations of the cosmos. One of the earliest known works of literature, the Sumerian *Epic of Gilgamesh*, exemplifies this. Composed as a long poem more than five thousand years ago in one of the earliest urban centers, the Mesopotamian city of Uruk, it tells the story of a quest for immortality launched by Gilgamesh, the King of Uruk, who falls into despair following the death of his best friend Enkidu. The sight of the decomposing corpse of the person he held most dear is grotesque and traumatic, and it makes him realize that he too could meet the same fate. Throughout his journey, Gilgamesh communicates with the gods through dreams and the observation of celestial bodies. In another important Sumerian literary work, the *Enūma Eliš*, the movements and daily activities of Sumerian celestial gods are described in terms similar to the trajectories of planets and comets in the solar system: hypnotically circular, recurrent, cyclical. All possible knowledge was thought to be contained in the night sky. The ability to read the heavens and its constellations of stars—almost as though it were a newspaper—was a highly valued skill requiring extensive education.

Observation of the cosmos and contemplation of our

Erika Velická, 222.3, 2023. Concrete and iron, 190 × 190 × 600cm. Courtesy of the artist. Photo: Power Station of Art.

position within it thus played a key role in the development of agriculture, architecture, medicine, social and political organization, marriage and reproduction, military planning, and many other aspects of human civilization in all its expressions. And yet, to the best of my knowledge, there have been no major exhibitions devoted to this rich tradition. This is especially astounding given the urgency with which humanity is now trying to reimagine its damaged and degraded relationship to the systems of which it is a part. Given the proliferation of recent work on art's entanglement with its terrestrial environment—nature, climate, forests, oceans, ecology, biology, extraction—it seems like an appropriate moment to expand the scope of these investigations to include the cosmos.

"Cosmos Cinema" brings together artworks and films by more than a hundred artists from many parts of the world and spanning more than a century. We conceived the show as a cross section of thought with and about the cosmos. The selection is just a glimpse into the myriad practices of artists working with cosmist themes, but we hope it marks a good beginning. To my mind, each new imaginary of life beyond earth leads to new imaginaries of life *on* earth, whether literary, scientific, technological, or political. In our complex, tense times, when interplanetary travel is posited largely as a form of escape from the problems of life on earth, perhaps a new imaginary of life in the cosmos could point towards a more harmonious terrestrial life as well.

This display of works from the George Costakis Collection is based on a larger selection made by Boris Groys for the 2017 exhibition "Art Without Death: Russian Cosmism" at Haus der Kulturen der Welt, Berlin. Hosted by MOMus-Museum of Modern Art in Thessaloniki, the George Costakis Collection is the largest collection of the Russian avant-garde outside Russia. Photo: Power Station of Art.

Vasily Chekrygin, Resurrection, 1918. Oil on canvas. Costakis collection. Photo: Power Station of Art.

Alexander Rodchenko, Construction on White (Robots), 1920. Oil on plywood. Costakis collection. Photo: Power Station of Art.

Ivan Kliun, Untitled, 1920–1921. Costakis collection. Photo: Power Station of Art.

Kliment Redko, Luminism Synthetic Light Development, 1923. Oil on canvas. Costakis collection. Photo: Power Station of Art.

Alexander Rodchenko, Composition n. 117, 1919. Oil on canvas. Costakis collection. Photo: Power Station of Art.

Ivan Kliun, Space Diagonals, 1922–1923. Watercolor and chalk on paper. Costakis collection. Photo: Power Station of Art.

Ivan Kudriashev, Linear Construction, 1922. Oil. Costakis Collection. Photo: Power Station of Art.

Ivan Kliun, Untitled (Spheres in space), 1923. Crayon, watercolor, and gouache on paper. Costakis collection. Photo: Power Station of Art.

Solomon Nikritin, Oval Composition. Interior, 1920s. Ink, gouache, and watercolor on paper. Costakis collection. Photo: Power Station of Art.

Kazimir Malevich, drawings from the booklet Suprematism: 34 Drawings, 1920. Costakis Collection. Photo: Power Station of Art.

Arseny Zhilyaev, Shanghainese Operations Room. Performance duration approximately 15–30 minutes. Courtesy of the artist. Photo: Power Station of Art.

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I would like to express my sincere gratitude to Boris Groys, who first introduced me to the philosophy of cosmism, and whose thinking and writing has deeply influenced my approach to this and many other subjects over the years. I would also like to thank my cocurators and all the artists who took the risk of participating in this unusual project.

Anton Vidokle is an editor of *e-flux journal* and chief curator of the 14th Shanghai Biennale: Cosmos Cinema.

1
Filmmakers such as Sergei Eisenstein were explicitly indebted to the cosmological and philosophical systems rooted in Chinese culture for their embrace of modular and aleatory processes, such as the Nine Palaces, feng shui, the *I Ching*, and the character-based writing system.

2
The protocol of the museum as a site of calm contemplation might be traced back to the opening of the royal collection to the French public in the wake of the Revolution. This treasure horde of decadent monarchs excited a violently negative reaction until the painter Hubert Robert had the brilliant idea of adding didactic labels that repositioned these luxury items as objects of educational, "scientific," and contemplative study. Emotions and feelings were too dangerous to countenance, so they were suppressed in favor of cool analysis.

3
Jean-Luc Godard's exhibition "Voyage(s) en Utopie" at the Centre Pompidou in 2006 used montage as an organizational principle. Similarly, montage was cited as an influence on Georges Didi-Huberman and Arno Gisinger's curation of "Nouvelles Histoires de Fantômes" at Palais de Tokyo, 2014.

4
Russian librarian, 1829–1903.

5
A system of physical training for movement on stage.

Christina Kiaer and Ekaterina Kulinicheva

Anna Andreeva: A "Cosmic-Minded Comrade" in the Red Rose Collective

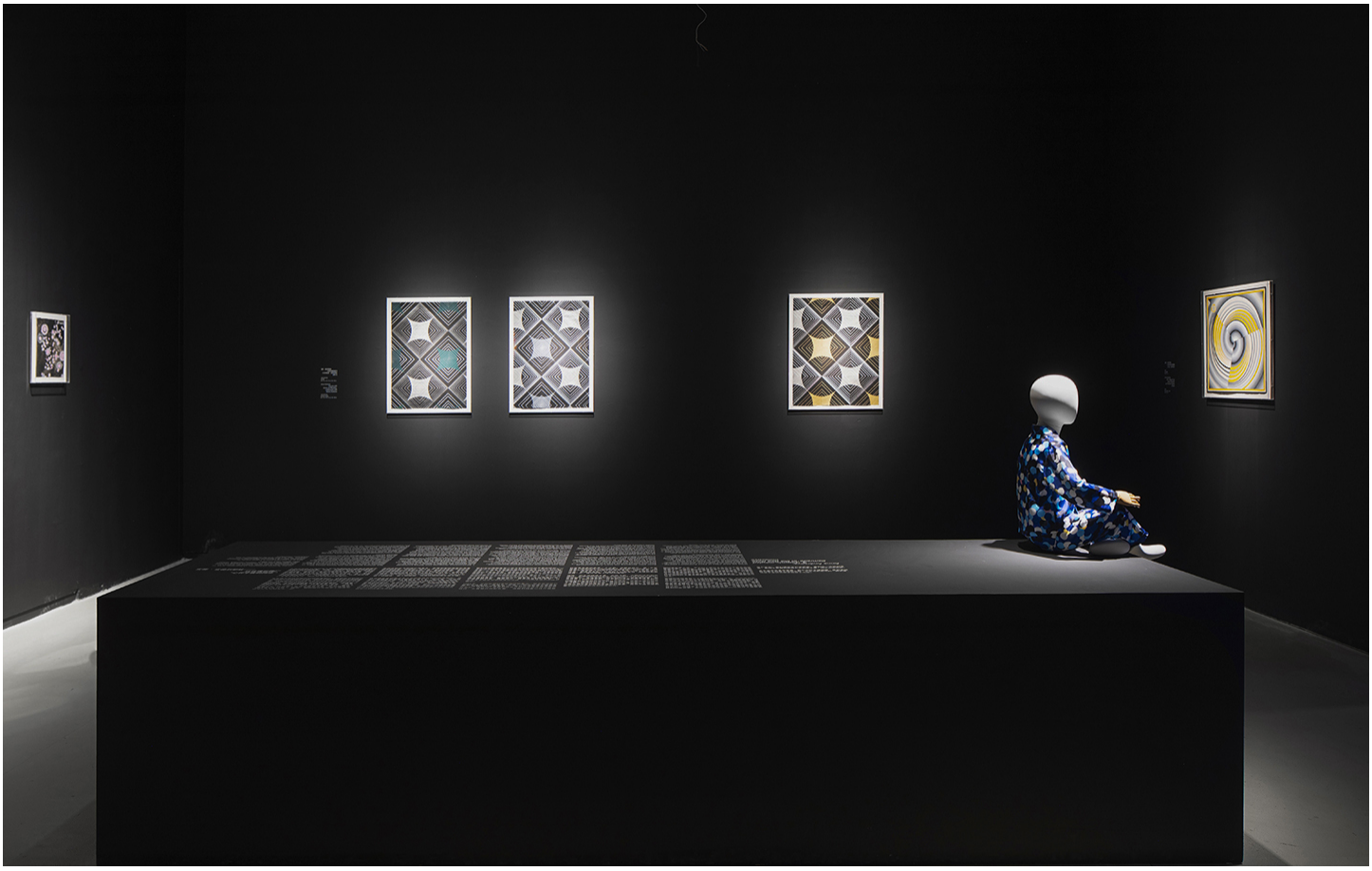
> My grandmother always said that if she hadn't been an artist, she would have been a space researcher. For her, the cosmos was an intimate theme.
>
> —Xenia Vytuleva-Herz

How did Anna Andreeva's cosmic fabric designs from the 1960s, with their wildly experimental lunar, cometary, and planetary shapes, emerge from the deprivations of the Cold War planned economy in the Soviet Union? With Andreeva's recent retrieval on the international art scene, most commentators have characterized her abstract, geometric patterns as signs of her individual drive and exceptional ability to circumvent the constraints of the Soviet system. Yet this interpretation reflects the assumptions of Western art histories of modernism, according to which that system always prohibited abstract experimentation and individual expression. We want to suggest the opposite: that it was precisely the collective Soviet art system that allowed Andreeva to emerge as a leader among her comrades at the Red Rose silk factory, and as a unique artistic voice. Her interest in the cosmos was both collective—ardently shared by millions of Soviet citizens caught up in the space race—and deeply personal.[1]

Andreeva was born into a wealthy family near Tambov in central Russia in 1917, the year of the October Revolution. Her elite class identity would bar her from entry to the Architectural Institute in Moscow. Instead, in 1936 she enrolled at the lower-status Textile Institute, leading to a storied, decades-long career as a fabric designer. She entered the Red Rose silk factory in Moscow in 1944 and would be awarded the prestigious Repin Prize for lifetime achievement in the fine arts in 1972.[2]

The Red Rose factory was a conservative place in the 1940s, struggling to recover from the depredations of World War II. In keeping with the most hardline forms of socialist realism as they had been established by the late 1930s, fabric designs were expected to be highly realistic, to the point that floral designs depicted particular species of flowers naturalistically, such as tulips, peonies, pansies, and poppies.[3] Images of the abundance and fertility of Soviet life dominated textile designs, including national folkloristic motifs from Russia and the Soviet republics. In 1948, for example, Andreeva produced a folk design of falcon hunting showing fantastical beasts within a flowing grid of abstract-vegetal borders.

By the mid-1950s, with the onset of the post-Stalinist thaw in Soviet politics, the Red Rose factory collective and the broader textile-artist community began to call for more innovative designs, including geometric patterns, to satisfy new consumer demands. In an article published in 1954 in the Red Rose factory newspaper *Chelnok* ("shuttle," as in the weaving tool), textile artist A. Glotova wrote: "The



Installation view of Anna Andreeva's work in "Cosmos Cinema." Courtesy of the Estate of Anna Andreeva & Layr, Vienna. Photo: Power Station of Art.

suggestions and comments of consumers give the richest material for the creative work of artists. We concluded that workers must give greater attention to ... the creation of geometric drawings and the use of folk ornaments."[4] The invention of new fabric technologies, including synthetic fabrics, also demanded modernized patterns. The International Festival of Youth, hosted in Moscow in 1957, became a stimulus for designers to shed outdated forms and invent new fabric patterns that would express contemporary Soviet themes to an international audience.[5]

Critics writing in the journal *Decorative Arts of the USSR* similarly called for innovation and modernization in fabric design, often using Andreeva's designs as examples of the correct direction for the industry. In an article in *Decorative Arts* in the spring of 1961 entitled "New in Textile," the critic I. Alpatova noted the "movement toward simplicity and laconism in patterns," essentially tying fabric design to the so-called "severe style" (*surovyi stil'*) that had recently emerged in socialist realist painting, and which was often noted for its "laconism."[6] Alpatova also praised the appearance of more contemporary themes, national motifs, and geometric ornamentation in the new fabrics, signaling that geometric patterns were by no means excluded from the Soviet textile repertoire.[7]

She singled out for extended discussion an Andreeva design called "Ladoga" (an ancient town known as the first capital of the Rus' people), a so-called national (*narodnyi*) motif that would be printed in multiple iterations over many years.[8] It demonstrates Andreeva's innovative formal strategies despite the traditional folk theme: it incorporates the heavy black contours and symmetry of national art of the past, but the ornamentation is not mechanically transferred from older styles. In the black and white version, the contrast of black on white in a bold pattern conveys the feel of the contemporary, and in the colored versions, the spots of color don't align exactly with the black contours, and bits of the white fabric are left bare, creating what Alpatova calls a "double planarity."

Alpatova similarly praises Andreeva's contemporary "thematic" fabric design "Cheremushki," a geometrically conceived pattern incorporating the abstracted, outlined buildings of Nikita Khrushchev's new, mass-produced housing complexes (most famously constructed in the new Moscow region of Cheremushki), regularly punctuated by puffs of green treetops that, at a distance, form a geometric pattern of green diagonals across the reddish expanse of fabric.[9] Once again, the areas of red, orange, yellow, and green dyes do not align perfectly with the black contours, and bits of white fabric are left bare.

Anna Andreeva (left) with her textile artist colleagues at the Red Rose factory. This photograph was published in the Red Rose factory newspaper Chelnok, October 28, 1946.

Her fabric design "Greetings, Moscow" mobilizes the "theme" of Moscow itself, with repeated schematic drawings of famous Moscow landmarks distributed across a checkerboard pattern of blue and white, or black and white, squares. Some of these thematic fabrics were projected into women's fashions through Andreeva's collaboration with her Red Rose colleague Natalia Zhovtis, the head of the factory's artistic bureau, and fashion designers Nina Golikova and Alla Levashova from the Moscow House of Fashion—a collaboration described by critic and fashion historian Mariia Mertsalova in 1960 as the beginnings of necessary "collective work" between Soviet textile and fashion designers.[10] Mertsalova's article in *Decorative Arts* included fashion sketches of the "Ladoga" and "Greetings, Moscow" fabrics projected onto a woman's dress and skirt, respectively. According to another critic in *Decorative Arts*, N. Kaplan, the latter fabric was hugely popular in the summer of 1961.[11] As these examples suggest, even when designing patterns involving national motifs or representational "themes," Andreeva displayed a proclivity for deft geometric ornamentation and visual experiment that was celebrated by critics.

There are early signs of Andreeva's interest in the cosmos. For example, a 1958 drawing titled *Stars-Flowers* shows bursts of tiny gold flowers whose white centers cascade into showers of white dots against a dark ground, turning

Anna Andreeva, Moon Eclipse, 1960s. Gouache and pencil on paper. Courtesy of the Estate of Anna Andreeva & Layr, Vienna. Photo: Power Station of Art.

the floral design into a vision of comets against a starry sky.[12] But the definitive shift toward cosmic designs seems to have come with a commission she received in 1961 to create a silk scarf to commemorate the first manned space flight by Soviet cosmonaut Yuri Gagarin on April 12, 1961. Such luxurious silk scarves, usually intended as official or diplomatic gifts, were a Russian tradition extending back to the nineteenth century; the Red Rose factory, with its specialization in silk production, was often tasked with such commissions.[13] The Gagarin scarf design is perhaps less formally adventurous than her innovative fabric patterns. Four horizontal bands alternate between two strips in gold showing the densely packed buildings of Moscow—as if the separate drawings of landmarks in her earlier "Greetings, Moscow" design had been compressed into a single, shining mosaic—and two strips of black sky with typical white star shapes, interspersed with the words "Cosmos" and "April" and the numbers "12" and "1961," all bordered by texts reading "Glory to the first cosmonaut in the world Yuri Gagarin, April 12, 1961." Her design thus visually links Moscow with outer space, to emphasize Soviet domination of the space race.

Soon after designing the scarf, she would meet Yuri Gagarin himself. She was sent to the UK as part of a delegation of twenty-three Soviet clothing and textile designers to participate in the Soviet trade fair at the Earl's Court Exhibition Centre in London, which ran from July 7 to July 29, 1961. Gagarin visited Earl's Court on July 11, 1961, the first day of his triumphant five-day tour of the UK, where crowds thronged around him.[14] The highlights of the trade fair were the section dedicated to space exploration and the fashion shows. A photo published in *The Times* shows Gagarin at the fair in front of a replica of a Soviet satellite and a portrait of Konstantin Tsiolkovsky, the Russian rocket scientist who pioneered astronautics, while another shows him grinning widely as he is surrounded by giddy Soviet fashion models, who made a splash in the fair's twice-daily fashion shows. One of them wears a dress in a fabric with large, stylized poppies against a polka-dotted ground representative of the kinds of modernized floral designs that the Soviet textile industry aimed to produce at this time. A writer for a Liverpool

newspaper wrote admiringly about the fashion shows at the fair, but wondered, with some justification, whether the fabrics and clothes on show were really mass produced, or only made in limited quantities for precisely such showcase events.[15]

As if to allay such doubts about the mass production of modern fabrics in the USSR, a certain "blonde Madame Olga Lashkova," a member of the textile delegation on a visit to a Manchester factory, is cited in a local newspaper: "I am surprised that the big floral designs, which are too realistic ... are still popular here. In Russia they are out of date. We go for simpler designs."[16] This article was accompanied by a photograph of Andreeva, identified by name, at the Manchester design center.[17] According to Andreeva's family, she also accompanied Gagarin on a visit to the royal palace, where the silk Gagarin scarf produced from her design was presented to Queen Elizabeth as an official diplomatic gift.

We can speculate that her experience designing the scarf and meeting Gagarin—and indeed the epochal event of Gagarin's space flight itself—spurred her interest in cosmic-themed designs. In this she was not alone; Soviet material culture of this moment was bursting with space-race objects, including the Saturn vacuum cleaner, the Sputnik electric samovar, the Rocket Lamp, and space-themed postage stamps. Scholarship on Soviet space-inspired material design has focused largely on such objects, with almost no attention given to textiles and fashion.[18] Postwar textile design has in fact been largely absent from the historiography of Soviet material culture, including what we might call the Soviet branch of "space-race fashion": clothing design, the invention of new synthetic fabrics, and the development of new fabric patterns thematically dedicated to cosmic themes, such as those of Andreeva.[19] In 1963, the name "Kosmos" was given to a new type of synthetic fabric with a corrugated surface developed by the Central Scientific Research Institute of Silk and intended for clothing production.[20] It would be developed into a whole family of synthetic fabrics under the same name. I. Chizhonkova designed slim-fitting jumpsuits with helmet-like textile headgear in a rare Soviet interpretation of what were called "missile suits" in the West, whose sleek lines likened the wearer's figure to a rocket. While Western "space-race" designers preferred white and shimmering surfaces, Chizhonkova bet on bright red and blue. In the winter of 1967–68, her designs were published in the Soviet album *Moda* (Fashion) with a caption suggesting that, in the future, such costumes might be worn on "the dusty paths of the Moon."[21]

Andreeva's cosmic fabric designs are less literal than space suits or Saturn vacuum cleaners. Celestial bodies are circular geometric forms or splashes of color on black grounds, invoking the wonder of deep space in a poetic rather than technological register. Her floral comets are like bursts of flowers thrown up into the air, flying against a background of starry sky or northern lights. Her moons and vortexes and planetary forms suggest more the vision of a person who gets up in the middle of the night to watch a once-in-a-century eclipse or comet, or a researcher looking through a telescope, than the specificities of sputniks and astronauts. She spoke with her family about her interest in space and natural phenomena such as lightning from a young age, and of her perhaps romantic notion that she would have been a space researcher if she had not been an artist—a desire that may have arisen partly as a response to her intensely intellectual and loving relationship with her husband, the mathematician Boris Andreev. In conversation with him, and in collaboration with her daughter Tatiana, she would go on to experiment with more cybernetic cosmic designs in the 1970s, introducing regularized patterns of rhomboids into her customary circular forms.

A second scarf design that she made in 1961 to commemorate Gagarin's flight—which, as far as is known, was not produced—is exemplary of her experimental renderings of cosmic themes. Much like the other scarf design, it is organized into four horizontal strips separated by borders with text ("Glory to the cosmonauts—cosmos 1961—1/2 of the moon") but gone are the Moscow buildings and the recognizable star shapes, replaced by rows of pure circular shapes. The bisected circles clearly evoke the moon, especially with the text "1/2 of the moon" helping that perception along. Yet the drawing is more a rigorous graphic experiment with variations of color across an irregular pattern than an image celebrating technological space travel, and the vivid shades of orange, pink, and purple stray far from the conventional yellows of the moon, suggesting the more intimate and affective nature of her relation to the cosmos.

Her more personal cosmic-themed works participate in the broader Soviet mania for space travel, but they offer an alternative to the kind of triumphalist and technocentric Soviet space imagery of sputniks, spaceships, rockets, and half-naked muscular male bodies carrying hi-tech devices that dominated official space-themed designs. On the contrary, most of Andreeva's cosmic designs—other than the 1961 scarf commissions—do not refer at all to humans or human-made technologies. Her cosmos is a place not to be conquered technologically but to be imagined on its own terms. In the tradition of the Russian philosophy of cosmism, with its utopian and technically unspecific dreams of resurrecting all the dead fathers buried on earth and resettling them on distant twinkling planets, we might say, borrowing from Robert Bird, that she is cosmic-minded, rather than space-race minded.[22]

We can speculate that the artistic council tasked with selecting the final scarf design for Gagarin in 1961 opted for the one that most directly linked Russian power (through the lustrous gold Moscow cityscape) to space travel (through the representation of the familiar starry universe). This was, after all, the primary purpose of a

Anna Andreeva, 1/2 of the Moon, 1961. Ink and gouache on special gosznak paper. Courtesy of the Estate of Anna Andreeva & Layr, Vienna. Photo: Power Station of Art.

commemorative scarf destined to become a diplomatic gift. Yet there is no reason to assume, as a number of Andreeva's Western commentators have done, that there was an inherent problem with the abstract or geometric nature of her alternate "1/2 of the moon" design. Designers routinely submitted such designs—whether related to the cosmos or not—to factory artistic councils for approval, and many were mass produced throughout the 1960s and '70s.[23] The operations of such councils, however, as well as the rigorous structures and processes of the selection and production of textiles within the planned economy, remain opaque. Research into the textile design of this era is just beginning, having been neglected, as we have seen, in the historiography of Soviet material culture. Yet primary sources, such as the publications *Chelnok* and *Decorative Arts of the USSR*, can begin to alert us to some of the dominant structures and problems of the system within which Andreeva

worked at the Red Rose factory.

Textile artists, and the artistic councils that selected designs for production, were under pressure to meet the demands of production plans decreed by the Soviet of Ministers of the USSR and the Central Committee of the Communist Party.[24] A notice in *Chelnok* from 1960 states that artists and the entire factory collective are working to complete the seven-year plan for textiles ahead of schedule. As part of this push to achieve the plan, artists and fabric technologists entered into a competition sponsored by Mossovnarkhoz (the Moscow Soviet for the National Economy) for the best textile factory, submitting seventeen new fabric designs and sixteen new kinds of fabric to the competition jury.[25] A photograph accompanying this notice shows Andreeva, along with Zhovtis and two other colleagues, who are "pleased that their designs for the competition have been printed on fabric." *A Chelnok* article the following year explains that the factory has a textile laboratory, and within it, a so-called "assortment group" that analyzes the assortment of fabrics produced at the factory and "creates good conditions for more effective research into raw materials, weaving, and so on"—accompanied by a photograph of the group, including Andreeva.[26] She consistently emerges as a leading member of this busy and well-organized collective.

Yet there are also signs of the pitfalls of the Soviet planned economy: necessary materials were in short supply, and textile artists found themselves at odds with other members of the factory collective, and with the wider networks of distribution and trade. Artists would see their designs radically altered, especially in their color, once they reached the chemists and color technologists who would finalize the designs for production. In a *Chelnok* article in 1965, Zhovtis reports on exciting new designs by factory artists approved at a recent city-wide artistic council, only to add, in a signal of trouble ahead, "Of course, we want all of our approved drawings to 'see the light of day' in their original form, unaltered for production. But their further fate will depend on chemists and technologists."[27] The problem was that high-quality dyes were in short supply, and fabrics often got produced in dull colors that consumers didn't want. A scolding lead article in *Chelnok* from the factory leadership in 1964 urges the artists and colorists to consult with consumers about their desired colors, because piles of Red Rose fabrics are languishing on store shelves, "'frightening' the consumer with their dreary color."[28] An anonymous little article written from the artists' side in the same issue seems to respond to these accusations from management, by acknowledging that consumers are not buying the fabric "Pskovitianka" (woman from Pskov) in the unappealing colors in which it has been printed, so Red Rose artists are busy reworking it in brighter colors. Yet the article also casts doubt on the very possibility of such a reworking, quoting one of the younger fabric designers at the factory: "'The trouble is,' says artist Irina Sudenova, 'that we don't have the kinds of dyes for printing fabrics that would please our customers, especially women.'"[29] Working within the tightly planned collective, artists cannot influence other sectors, such as those that produce or procure dyes.

Natalia Zhovtis took the artists' frustration with the system public in a coauthored 1961 article in *Decorative Arts*, combatively titled "Who's Right? A Letter from Textile Artists."[30] Andreeva is tacitly included as a member of this letter-writing collective, because the article was published against a background of her fabric "Cheremushki." The letter lays out the "escalating dispute" between the textile industry and the workers in the trade sector who make the decisions about which fabrics to buy from factories and actually distribute to stores and clothing manufacturers. The letter describes "a strange phenomenon of the last two-three years": buyers exclusively order older patterns, claiming that this is what the consumers want. Thus many Soviet textiles—including Andreeva's designs—were produced repeatedly over a period of many years, while the new designs that artists worked so hard to make "contemporary" remained at the drawing stage. The notations on the back of Andreeva's design drawings indicate that their year of conception was often separated from their year of production by five to ten to twenty years. The aesthetic ambitions of artists to meet contemporary consumer desire—including cosmic-themed patterns in the 1960s—were thus continuously foiled by other workers in the system who also had to meet their quotas in the plan, such as buyers who were nervous about trying to sell untested novel patterns to consumers, or seamstresses who preferred to work with familiar fabric patterns rather than having to redesign their clothes to accommodate new ones.[31]

Despite Andreeva's spectacular success within this complex system, in which her designs consistently reached production, it appears that few of her cosmic patterns were printed, for reasons that are not yet entirely clear. It is possible that the extended lag time from design to production negatively affected space-themed designs, because the mania for all things space related abated somewhat after the US moon landing in 1969—in other words, after the USSR was no longer winning the space race. Only two printed fabrics have so far been identified that can be securely tied to Andreeva's cosmic design drawings: a rust-colored fabric printed in the 1960s incorporating her half-moon designs combined with fragments of her stepped "cybernetic" or mathematical patterns, and a circular striped pattern printed in 1970. The latter seems to emerge from Andreeva's multiple cosmic-themed drawings, such as a watercolor sketch from her "Comets" series of 1961–62, whose horizontal brushstrokes seem to set the circular celestial body into spinning motion. This sensation of movement is achieved in the final printed fabric through the op-art effect of a shift in the lines between those in the floating circles and those in the background. This particular fabric is also an

instance where Andreeva's cosmic patterns intersect most directly with the experimental geometric fabrics designed by her avant-garde predecessors in the 1920s, such as constructivists Varvara Stepanova's and Liubov Popova's designs of striped circles.

Ткань «Графика».

Рисунки Н. Голиковой и Н. Жовтис.

части костюма противопоставлен однотонный, сдержанный цвет другой. К числу наиболее удачных решений этого направления можно отнести молодежные костюмы, состоящие из пестрой юбки и одноцветной блузки — модели «Карусель» и «Аленький цветочек». В костюме «Карусель» расположение рисунка на юбке сделано в хорошем ритмическом чередовании узких темных и светлых полос с очень легким узором. Им противопоставлена широкая полоса карусели, занимающая в композиции всего рисунка главное место. Низ юбки, очень мало декорированный, служит зрительным «фундаментом», на котором легко покоится светлая и яркая полоса карусели. Пропорция, создаваемые чередованием рисунка на юбке, очень хорошо найдены и будут подчеркивать стройность молодой фигуры. Простая по форме, одноцветная блузка говорит о том чувстве меры, которое порождается не только художественным вкусом, но и пониманием законов композиции современного костюма. Кроме того, в этом костюме и группе других следует отметить новую манеру использования мотивов народного искусства. Вместо подробного копирования элементов народного орнамента — прием, распространенный в 40-х годах, — мы видим смелое и вольное воспроизведение дымковской игрушки, воспринимаемое нами как забавное сочетание цветовых пятен с контуром, воспроизводящих движение карусели.

Естественно, что этот яркий костюм не является повседневной одеждой для работы, но будет украшать любую молодую женщину в часы летнего отдыха.

Однако наши художники не останавливаются на одном удачно найденном направлении. Среди выставленных вещей, кроме группы ярких декоративных костюмов, рассчитанных на отдых или даже спортивный праздник, например, «Здравствуй, Москва», создана группа «деловых» платьев. В них более сдержанный колорит, значительно более простой рисунок — хорошо разработанные по форме и цвету, они радуют глаз своей элегантностью. К числу таких моделей относится летнее платье «Графика».

Контурное решение рисунка на ткани известно уже достаточно давно, но в платье «Графика» оно радует нас своей новизной. Здесь художники использовали северные народные мотивы гравировки на кости и, придав рисунку упрощенную до наивности форму, создали прекрасное, легко воспринимаемое движение контура, в котором узор и ткань органически связаны. Совсем по-иному выглядит ткань на домашнем платье «Солнышко». Очень небольшое различие по тону между рисунком и фоном дает хороший переход и устраняет возможную при таких размерах рисунка навязчивость, из-за которой могло бы возникнуть зрительное искажение фигуры.

Все эти модели, появившиеся в результате тесной совместной работы художников — модельеров и текстильщиков, говорят нам о том, что новые методы работы действительно дают самые плодотворные результаты и являются насущной необходимостью современности. Правда, это лишь первые твердые шаги, но в них уже теперь ясно обозначилось несколько направлений, способных создать необходимое художественное разнообразие в современном советском костюме. Перспективы такой работы весьма велики, если все большее и большее число различных художников из смежных отраслей промышленности будут объединяться для совместного творчества.

М. МЕРЦАЛОВА

Молодежный костюм «Здравствуй, Москва». Авторы: А. Андреева, Н. Голикова, Н. Жовтис и А. Левашова.

Anna Andreeva's designs "Ladoga" (top) and "Greetings, Moscow" (bottom) projected onto women's fashions, in Nina Mertsalova, "Costume and Fabric," Decorative Arts of the USSR no. 8, 1960.

Anna Andreeva, design for a scarf commemorating the space flight of Yuri Gagarin on April 12, 1961. Museum of Modern Art, New York.

Yuri Gagarin meeting Soviet models from the fashion show at the Soviet Trade Fair, London, July 11, 1961. Source: CTK

Most Western commentators on Andreeva have stressed that her designs recall those of the constructivist avant-garde.[32] While there are intriguing moments in her personal history that might have facilitated a knowledge of that avant-garde—whose history was largely repressed in the postwar USSR—we posit that the connection to constructivism may be more profound, and more structural, than a simple visual connection, however convincing the comparison may be.[33] Constructivism had imagined a new role for artists as "artist-producers" or even "artist-engineers" within Soviet industry, using their artistic skills to improve production processes and produce new comradely objects for the new everyday life (*novyi byt*) under socialism.[34] Stepanova and Popova famously designed fabrics in 1923–24 for the First State Cotton Printing Factory in Moscow. They were hailed as some of the most successful constructivists because their fabrics were actually mass produced, fulfilling the constructivist slogan of "art into life." Yet they were frustrated in their stated wish to enter the work of the factory collective, create production laboratories, and participate in production decisions; instead, they sat at home in their studios designing their fabrics on their own, like traditional artists.[35] This was not surprising, given that the factory had only recently been nationalized after the October Revolution of 1917 and there had not yet been time to develop the kinds of collective design processes imagined by the constructivists.

The material culture of the Soviet space race: the Sputnik samovar, 1960s.

But by the time Andreeva started working at the Red Rose factory, this was exactly the preferred model of artistic labor, even if it wasn't always successfully achieved in practice. Andreeva was a comrade among comrades in the artistic design sector, working collaboratively with other artists, participating in the artistic council and the assortment group of the textile laboratory, engaging in comradely competitions with other textile factories, producing commissions for important events in the life of the communist nation, and, beyond the factory, taking leadership roles in the Decorative Arts section of the Moscow Union of Artists (MOSSKh) for many years. As suggested by the contrast between the photographs of Stepanova alone at home at her desk and Andreeva consistently surrounded by comrades at the Red Rose factory, this was a degree of artistic participation in collective industrial processes in a planned socialist economy that the constructivists have could only dreamed of in the early revolutionary years.

Comrade Andreeva's experiences at the Red Rose factory tie her not only to constructivist ideals, but also, in a broader sense, to Russian cosmism. Robert Bird has argued that "Marxism is fundamentally cosmist, at least in its Soviet version," with the sober statistical approach of the planned economy always accompanied by ecstatic visions of nature, and human beings themselves, transformed and transcended through the energetic flow of collective labor.[36] This transcendence was imagined in interplanetary form in the early twentieth century by cosmist philosophers and the rocket scientist Konstantin

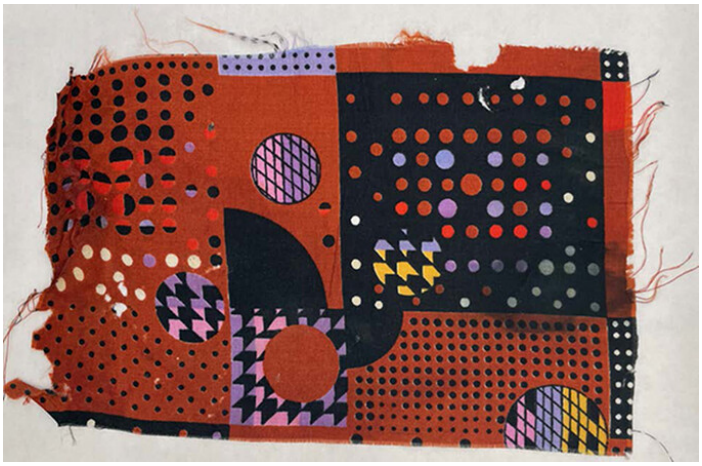
"Glory to the Conquerors of Space," 1962. This postage stamp depicts the monument by Lev Lavrenov and Grigory Postnikov erected in Monino, Moscow Region, 1962.

Tsiolkovsky, but became literalized in 1961 with Gagarin's space flight. The cosmism of the women of the Red Rose collective, and their constructivist foremothers, differs radically from the little men in their space costumes and metal boxes. Their swatches of fabrics with frayed edges offer, instead, a sensuous poetics of material that evokes a feminine collective weaving together the threads of the universe across generations.

This image of I. Chizhonkova's space-race jumpsuits appeared in the Soviet publication Moda, 1967.

Anna Andreeva with Tatiana Andreeva, Exercise with Circles and Rhombus, 1979. Courtesy of the Estate of Anna Andreeva & Layr, Vienna. Photo: Power Station of Art.

In the photo: artists A. Andreeva (left), G. Zavgorodnaia, A. Glotova and N. Zhovtis are pleased that their designs for the competition have been printed on fabric. Photograph and caption published in Chelnok, April 13, 1960.



Anna Andreeva, printed fabric, 1960s, incorporating her half-moon designs as well as her cybernetic or mathematical stepped patterns. Courtesy the Estate of Anna Andreeva & Layr, Vienna.

Anna Andreeva, fabric, printed 1970, with circular pattern. Courtesy the estate of Anna Andreeva & Layr, Vienna.

Anna Andreeva, sketch from the series "Comets," circa 1961–62. Courtesy the Estate of Anna Andreeva & Layr, Vienna.

Liubov' Popova, Printed Constructivist fabric, 1923-24.

Aleksandr Rodchenko, Photograph of Varvara Stepanova at her desk, 1924. She is wearing a fabric design by Liubov' Popova.

X

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1
The term "cosmic-minded comrade" in the title of this essay is loosely borrowed from Robert Bird, who refers to Soviet writer Andrei Platonov as a "cosmist-minded comrade." See Bird, "How to Keep Communism Aloft: Labor, Energy, and the Model Cosmos in Soviet Cinema," *e-flux journal*, no. 88 (2018) https://www.e-flux.com/journal/88/172568/how-to-keep-communism-aloft-labor-energy-and-the-model-cosmos-in-soviet-cinema/ .

2
Details and precise dates of Andreeva's education and work life can be found in her personal file in the archive of the Moscow Union of Artists, at the Russian State Archive of Literature and Art (RGALI), Moscow, f. 2943, op. 13, ed. khr. 38.

3
See the discussion of early postwar fabric designs in N. Zhovtis and S. Zaslavskaia, "Kto prav? Pis'mo khudozhnikov-tekstil'shchikov," *Dekorativnoe iskusstvo* SSSR, no. 1 (1961): 8.

4
A. Glotova, "Novyie risunki dlia nabivnykh tkanei," *Chelnok*, June 3, 1954. The weekly newspaper *Chelnok* was the organ of "the Party Committee, the Factory Committee, the Komsomol Committee, and the Director's Office of the Red Rose Factory," as stated on its masthead.

5
On the need to prepare for the Festival of Youth, see the caption for the photograph of Andreeva and Zhovtis in *Chelnok*, January 4, 1957, and the discussion in Ksenia Guseva and Aleksandra Selivanova, *Tkany Moskvy* (Muzei Moskvy, 2019), 139. The latter is a comprehensive catalog for an exhibition of the same name ("Textiles of Moscow"), which has inaugurated the study of postwar Soviet textiles; it has been an invaluable resource for this essay.

6
I. A. Alpatova, "Novoe v tkaniakh," *Dekorativnoe iskusstvo* , no. 5 (1961): 9.

7
Alpatova writes that in some fabrics, geometric patterns can look schematic or harsh, while others can delight the eye with the clarity of contour and the sharpness of the color combinations, demonstrating that geometric patterns were not dismissed out of hand as "formalist" (the Soviet code word for modernism); see Alpatova, "Novoe v tkaniakh," 9.

8
Alpatova attributed the "Ladoga" design to both Andreeva and her Red Rose colleague Natalia Zhovtis, but the original design drawing, held in the Andreeva family archive, is signed only by Andreeva; see the Andreeva collection held at the Emmanuel Layr Gallery, Vienna. Andreeva and Zhovtis collaborated frequently, and from 1960 Zhovtis held the position of "head artist" (*glavnyi khudozhnik*) at Red Rose, so the double attribution may reflect a collaborative creative process based on Andreeva's original design, or even a courtesy to Zhovtis as the leader of the collective.

9
Alpatova likewise attributes the "Cheremushki" design to both Andreeva and Zhovtis, although, as with "Ladoga," the design drawing appears in the Andreeva archive with her sole signature and is attributed to her alone in the *Textiles of Moscow* catalog; see Guseva and Selivanova, *Tkany Moskvy,* 143, 158–59. The "Cheremushki" design had likely entered fabric production by 1961, when it was chosen to be reproduced as the background of the letter by Zhovtis and Zaslavskaia, "Kto prav?," in *Dekorativnoe iskusstvo* ; see the d iscussion of this provocative letter below.

10
Nina Mertsalova, "Kostium i tkan'," *Dekorativnoe iskusstvo SSSR* , no. 8 (1960): 26. Mertsalova notes that "models" of this clothing—presumably one-off samples—were exhibited in the decorative arts section of the major art exhibition "Soviet Russia" in Moscow in 1960.

11
N. Kaplan, "Siuzhetnye risunki na tkaniakh," *Dekorativnoe iskusstvo SSSR* , no. 11 (1961): 21. Kaplan attributes this fabric design to both Andreeva and Zhovtis, and names the Moscow landmarks shown on it: the Bolshoi theater and the TsUM department store; the Kremlin; the banks of the Moscow River; and new housing complexes.

12
The drawing is titled and dated on the back in Andreeva's hand; see the Andreeva collection at the Emmanuel Layr Gallery, Vienna. Judging by the uniformity of her hand, it appears that Andreeva went through all her drawings at a point later in life, dating them and

giving them titles from memory. It is therefore difficult to verify this information, except in cases where published or other archival sources corroborate it.

13
For examples of commemorative Russian scarves from the 1890s, see *Tkany Moskvy*, 40–41. There are numerous references to the production of commemorative scarves in *Chelnok*. A 1947 article discussing preparations for the eight hundredth anniversary of the city of Moscow and the thirtieth anniversary of the October Revolution discusses an Andreeva scarf design that "picturesquely resolves the theme of the abundance of our Motherland." See A. Glotova, "Krasnorosovtsy gotoviat k 800-letiu," *Chelnok*, July 14, 1947. Another Glotova article from 1954 announces that the Red Rose artists have been given the task of designing souvenir scarves depicting "the attractions and picturesque nature of the sanatoria of our country"; see Glotova, "Novyie risunki dlia nabivnykh tkanei." The drawing for Andreeva's Gagarin scarf design is held in the Museum of Modern Art, New York, while a test copy of the actual scarf is held in the Historical Museum, Moscow.

14
See "London Welcomes Major Gagarin," *The Times*, July 12, 1961, 20; for more on the crowds thronging around him, see "Crowd Traps Yuri in the Jewel Tower," *Manchester Daily News*, July 13, 1961, 13. Gagarin visited Manchester on July 12 at the invitation of the Amalgamated Union of Foundry Workers (AUFW).

15
Diana Pulson, "A Very Elegant Invasion from behind the Iron Curtain," *Liverpool Daily Post*, July 7, 1961.

16
"Russians Trade Ideas and Yuri Badges," *Manchester Daily News*, July 13, 1961, 13.

17
The caption of the photograph identifies Andreeva and her companion Zoya Yartseva as members of the Soviet textile delegation. Yartseva worked as a textile designer at the Sverdlov silk factory in Moscow from 1934 to 1969. See her personal file in the archive of the Moscow Union of Artists, RGALI, f. 2943, op. 13, ed. khr. 38.

18
For a recent example of scholarship on Soviet space-themed material culture that does not include fashion or textiles, see Alexander Semenov, "The Soviet Space Euphoria," in *Retrotopia: Design for Socialist Spaces,* ed. Claudia Banz (Kunstgewerbemuseum, 2023).

19
The term "space-race fashion" is used today primarily to describe clothing design in France and the United Kingdom, and fashion photography and journalism in the US, in the 1960s and early 1970s. See Suzanne Baldaia, "Space Age Fashion," in *Twentieth-Century American Fashion* , eds. Linda Welters and Patricia A. Cunningham (Berg, 2008).

20
Tat'iana Strizhenova, "Tekstil'," in *Sovetskoe dekorativnoe iskusstvo 1945–1975* , ed. Vladimir Tolstoy (Iskusstvo, 1989), 61.

21
"Khudozhniki k iubileiu," in *Moda*, special issue of *Zhurnal mod*, Winter 1967–68, n.p. We have not yet been able to determine Chizhonkova's first name.

22
On the philosophy of Russian cosmism and its continued effects in Soviet cultural production in the 1930s, see Bird, "How to Keep Communism Aloft."

23
A reversible fabric produced in 1961 for women's coats, in a pattern of ochre spots on black, was named "Comet" (*kometa*); see the illustration in Alpatova, "Novoe v tkaniakh," 6. For a good selection of abstract or geometric fabrics produced by Soviet factories in the 1960s and '70s, see *Tkany Moskvy*, 178–83.

24
The decree is discussed in T. Kornacheva, "Mastera priatnykh novinok," *Chelnok*, April 13, 1961.

25
O. Stuzhina, untitled notice, *Chelnok* , July 28, 1960.

26
See Kornacheva, "Mastera priatnykh novinok."

27
N. Zhovtis, "Priniato na otlichno," *Chelnok* , February 10, 1965.

28
"Etogo trebuet potrebitel'," *Chelnok* , March 12, 1964, 1.

29
"Budut novye risunki," *Chelnok*, March 12, 1964.

30
Zhovtis and Zaslavskaia, "Kto prav?"

31
On the reluctance of seamstresses to work with new fabrics, see I. Makhonina, "Luchshii sud'ia—pokupatel'," *Chelnok* , February 24, 1978.

32
See, for example, Samuel Goff, "The Soviet Textile Artist Who Wove Together Technology and the Avant-Garde," *Elephant*, August 14, 2020 https://elephant.art/the-soviet-textile-artist-who-wove-together-technology-and-the-avant-garde-14082020/ .

33
When Andreeva attended the Textile Institute in Moscow in the late 1930s, a number of the teachers were artists and theorists who had been active in the 1920s, and would have been in a position to show students works by the constructivists, even if these works could not be taught officially as part of the school curriculum. In particular, Aleksei Fedorov-Davydov, an art historian who had been active in the Soviet art world of the 1920s and had worked with avant-garde artists, was an important mentor to Andreeva.

34
On the model of constructivism as an intervention into the production process itself, see Maria Gough, *The Artist as Producer: Russian Constructivism in Revolution* (University of California Press, 2005); on Constructivism as dedicated to the production of new objects for the new everyday life, see Christina Kiaer, *Imagine No Possessions* : *The Socialist Objects of Russian Constructivism* (MIT Press, 2005).

35
The literature on Stepanova's and Popova's textile design work is extensive; see for example Iuliia Tulovskaia, "Risunki dlia tkani khudozhnikov avangarda," in *Tkany Moskvy* , 70–79; and Christina Kiaer, "The Russian Constructivist Flapper Dress," chap. 2 in *Imagine No Possessions* .

36
According to Bird, "There is, Platonov suggests, the possibility of a different economy, one yet to be defined, let alone achieved, where natural limitations like gravity, entropy, and perhaps even death will not have to be resisted so forcefully, where the flight of socialism will become effortless, free, and final. This would be communism, albeit in a version that owes as much to the cosmism of Nikolai Fedorov and Aleksandr Bogdanov as it does to Marx and Lenin." Bird, "How to Keep Communism Aloft."

Hallie Ayres

Through Shadows, Darkly

A couple years ago in London, I went to a screening of Fern Silva's *Rock Bottom Riser* (2021) and was shocked by the full crowd for a Sunday night screening of an experimental documentary on neocolonialism in Hawai'i. It did not take long—as the rapt audience took in the opening drone shots of skylines of financial capitals, set to the voice-over of an art dealer waxing poetic about the craft of the art market—to realize I was in the wrong theater, watching a cast of dubiously wealthy art aficionados chronicle the misadventures of *Salvator Mundi* (ca. 1499–1510), the painting controversially attributed to Leonardo da Vinci that sold for $450 million in 2017. Feeling unable to extricate myself, I ended up watching all of *The Lost Leonardo* (Andreas Koefoed, 2021) and only later managed to view *Rock Bottom Riser*.

While Koefoed exposes the shady undergirding of the art market's flows of conspicuous consumption, Silva traffics in long takes of Hawai'i's contested landscape set to contextualizing voice-overs. Despite their formal differences, the content of both films showcases how cosmological systems can be weaponized. Koefoed focuses on the economic systems behind a visage of earth's proclaimed savior, allegedly composed by a progenitor of empiricist humanism. Silva turns his attention to the contemporary consequences of the historical abuse of certain cosmologies as forms of domination. Rather than painting Western European and Polynesian epistemologies as mutually exclusive or irreconcilable, a comparison of the films' subject matter shows that it is precisely when the similarities between the cosmologies closely linked to those epistemologies are denied that one comes to be wielded as a domineering tool.

Rock Bottom Riser explores three modes—each tied to an era of Hawai'i's political chronology—of navigating the island's relationship with the celestial realm: the ingenuity of Polynesian wayfinding, the zeal of Christian missionaries, and the imposing domes of the W. M. Keck Observatory, which manages thirteen telescopes on Mauna Kea, a dormant volcano and the most sacred site in Hawaiian cosmology. Since 2014, native Hawaiian activists have successfully halted the planned construction of the Thirty Meter Telescope on Mauna Kea. Silva never depicts this conflict outright. We don't see protest footage, active blockades, or law enforcement intervention, and, in lieu of the palm tree–laden sandy beaches promoted by the tourism industry, Silva's most stunning imagery of Hawai'i comes when he lingers on telescopes while star trails dance overhead, or when he chases lava as it rips apart infrastructure.

The throughline of the film is the question of situated knowledge: How to reconcile Western scientific research and inquiry with Indigenous ways of knowing and lived experience? Silva's observational method hints at these tensions but never offers a conclusion. Instead, he depicts

Wanuri Kahiu, Pumzi, 2009. Video, color, sound, 21:50 minutes. Courtesy of the artist.

a palimpsest of interpretations as layered as the volcanic rock that continuously recreates the archipelago. Pans of barren landscape accompany the most explicit reference to the Indigenous resistance, which arrives via a voice-over connecting astronomy to policing to argue that the relentless pursuit of scientific knowledge comes at the expense of the native Hawaiian population, many of whom are criminalized by a bolstered carceral apparatus. Native Hawaiian cosmology—informed by Polynesian navigators who found their way to the islands two thousand years ago by reading the stars—is a means of making sense of place and circumstance within the cosmos. In contrast, the desecration of Mauna Kea to facilitate the technological conquest of outer space follows a statist logic that upholds Western dogmatism over localized resistance. In this way, divergences between cosmologies have been transformed from differences in viewpoint, mythology, or culture into structural incompatibilities that are used to justify the imposition of juridical regimes.

My accidental viewing of *The Lost Leonardo* came to feel prescient of my experience of *Rock Bottom Riser*. *Salvator Mundi* embodies the early modern version of a practice that Silva shows playing out in Hawai'i in real time: in its title and iconography, the painting presumes that European Christian cosmology supersedes all others, that there is only one "savior" and only one "world." The threat to Indigenous cosmologies posed by the neocolonial defilement of Mauna Kea—explained away by Western scientific and entrepreneurial interests who claim that it will advance our understanding of our place in the universe—mirrors the missionary zeal that fueled earlier European colonialism. *Salvator Mundi* was also produced amidst paradigm shifts in Western ideas of earth's place among the stars: by 1514 Nicolaus Copernicus was distributing among close colleagues a handwritten manuscript of the outline of his heliocentric theory.

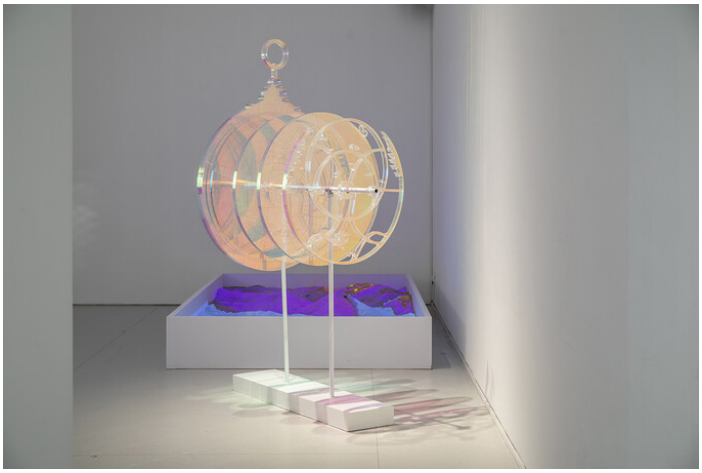
If the iconography of *Salvator Mundi* represents the cosmologies that underpinned early modern European social hierarchies, and if its circulation coincided with shifts in understandings of humanity's position in the universe, then we might analyze the contexts into which it reemerged in the early twenty-first century. What epistemological paradigms are shifting at the moment when this painting has been "rediscovered" and made the subject of a documentary screened in a theater I thought would be showing another work interrogating the relationship between the imaging of the cosmos and terrestrial systems of governance?

At one point in *Rock Bottom Riser*, Silva interviews a scientist at the SETI Institute, the nonprofit research organization devoted to the search for extraterrestrial intelligence. Over a montage of landscape paintings of lava flows and volcanic eruptions in the style of European

Cannupa Hanska Luger, Repurposed Archaic Technology vehicle or RAT Rod, 2023. Site-specific installation. Courtesy of the artist. Photo: Power Station of Art.

Romanticism, the scientist draws a revealing comparison: he likens SETI's quest to find stars that could support life after earth has succumbed to climate change to that of the colonists who departed Europe to escape religious persecution or follow rumors of lands paved with gold. Setting aside this particularly generative visual parallel, the prospect of colonizing distant planets currently comprises only the speculative part of SETI's foundational project. In practice, the institute is focused on the possibility of harnessing radio waves and lasers as a means of establishing contact with other civilizations in the cosmos.

SETI has its roots in two nearly simultaneous advances in the 1950s: Charles Townes's invention of the laser, and Philip Morrison and Giuseppe Cocconi's investigations into radio waves as a means of interstellar communication. Searching for detectable transmissions from extraterrestrial civilizations is only one component of SETI's mission; the other, which is more conceptually challenging, is how and whether we transmit information about ourselves out into the cosmos. By 1974, astrophysicist Frank Drake had been appointed director of the Arecibo Observatory in Puerto Rico. At the time, the observatory's thousand-foot-diameter bowl of a telescope was undergoing a renovation that expanded the range of detectable radio frequencies, making it the most powerful piece of astrophysical equipment in the world. Crowning this achievement was a radio transmitter enabling the observatory to send its own messages into the cosmos. To celebrate the completion of the renovations, Drake sent the first, and still the most powerful, message ever transmitted into space: a sequence of 1,679 binary digits



Miriam Hillawi Abraham and Nasra Abdullahi, The Afro-Cosmologist's Treatise on The Astrolabe, 2020–present. Mixed media, engraved plexiglass, projection, sound, dimensions variable. Courtesy of the artists. Photo: Power Station of Art.

Installation view of Tavares Strachan, Self Portrait (Space Helmet), 2023. Ceramic, 90 x 60 x 60 cm. Courtesy of the artist and Perrotin. Photo: Power Station of Art.

Kidlat Tahimik, Cinema Indio, Cinema Tonto, 2021-2022. Tapestries, wood carvings, overall dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

Sasaoka Yuriko, Gyro: Exercise Running, 2023. Oil pastel on linen, thread, beads, sequins, 60 × 45 cm. Courtesy of the artist and PHD Group, Hong Kong. Photo: Power Station of Art.

assembled to convey certain crucial aspects about human civilization on earth.[1]

Since Drake's message in 1974, there have been only a handful of SETI transmissions into the cosmos. In 1986, the artist Joe Davis sent a transmission of the sounds of vaginal contractions from MIT's Millstone Radar, which continued for only a few minutes before a US Air Force colonel was made aware of the content of the broadcast and ordered it cut off. The next major transmission, in 1999, came from Ukraine's Yevpatoria Deep Space Center and was funded by commercial space technology entrepreneur Charles Chafer and crowdfunding incentivized by the inclusion of one's brief personal message in the broadcast. Titled "Cosmic Call," the transmission targeted four stars between fifty and seventy light years away. In addition to the personal messages,

Liu Yujia, Mushrooms, 2023. Single-channel video, color, stereo sound, 13:14 minutes. Courtesy of the artist. Photo: Power Station of Art.

So Wing Po, Invisible Island (detail), 2023. Metal, glass, acrylic, led lights, distilled water, de-celled organisms, overall 182 × 15 × 63 cm. Courtesy of the artist. Photo: Power Station of Art.

Kite, view of site-specific installation featuring Wičháȟpi Wóihaŋbleya / Dreamlike Star (Floor piece), Wičhíŋčala Sakówiŋ / Seven Little Girls (Left wall), and Osnáze škȟá kiŋ iléğe. / Nevertheless, the scar shines. (Right wall). Dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

"Cosmic Call" included information about the principles of arithmetic, geometry, and simple astronomy and chemistry, a map of the earth, and some questions posed about the recipient's planet and civilization.

These cosmic transmissions raise many quandaries, most notably, how to represent ourselves to the cosmos. This is as much an existential question as it is diplomatic. Interstellar missives have thus far been defined by assumptions about "objective" knowledge, cultural and species bias, and the possibility that extraterrestrial communication would follow our terrestrial patterns.[2] Critics of SETI have consistently argued that the program is more closely aligned with an unauthorized diplomatic project than it is with the hard sciences. While valid, a more imminent danger is that the transmissions might reveal the location of earth to extraterrestrials harboring

violent intentions. Some scientists and philosophers have, therefore, raised the question of whether we should divulge anything—or at least anything truthful—within these transmissions.

In the 1997 film adaptation of Carl Sagan's novel *Contact*, Dr. Ellie Arroway (Jodie Foster) is listening to radio signals received at the Very Large Array, a radio observatory in New Mexico, when she notices an unusual sequence of pulses. After a frenetic effort to maintain access to the

Thotti, (Mo) Crossing to the End and the Beginning Again, 2023. Mixed-media installation, overall approximately 530 × 480 cm. Courtesy of the artist. Photo: Power Station of Art.

Besides the assumption that the radio signals transmitted by SETI projects can reach interstellar civilizations,[3] these critiques also fail to acknowledge that radio signals are already being transmitted into space as leakage from terrestrial broadcasts. If an extraterrestrial society *has* managed to develop an incredibly powerful antenna, then it would be privy to radio and television signals broadcast since the invention of these technologies. This would render SETI's curated messages pointless and the argument of unauthorized diplomacy moot. The listening-in civilizations would also be well aware of the human tendency towards exploitation and war. Scientist Lancelot Thomas Hogben, who crafted a system of interstellar communication based on arithmetic, has jokingly suggested that, if contact with an extraterrestrial civilization is ever sustained, it may be in our best interest to challenge them to a game of chess to "divert some of the deplorable combativeness of our own species by recording interplanetary tournaments to keep the international news out of the headlines."[4]

signal, she and her colleagues determine that the series of pulses constitute a beacon, communicating prime numbers from the vicinity of the nearby star Vega. Overcome by excitement, they alert their friends and families, prompting an international security flurry and the arrival of news crews at the observatory. As Department of Defense officials storm the place to warn Dr. Arroway about her potential national security breach, her team discovers that the radio signal has two interlaced frames, allowing its transformation into a television signal. An image slowly comes into focus on a laboratory computer screen: Hitler's speech opening the 1936 Olympic Games in Berlin.

US Army officials interpret this as a hostile act, but Dr. Arroway explains that this might have been the first broadcast strong enough to make it into space. That the inhabitants of Vega recorded it and sent it back to earth, she reasons, was their way of saying that they heard us: "Hitler and his politics have nothing to do with this." The

scene gives credence to the radio leakage concerns: Which civilization wouldn't interpret the content of television and radio as warmongering? Either way, that humans' first response to receiving a transmission from space is to wage war might be emblematic of certain foundational principles of SETI.

If we are to take the scientist interviewed by Silva at his word, then the SETI project is partly driven by the specter of interstellar colonialism and the desire to find a civilization beyond earth, shadowed by the unspoken desire to colonize their distant planet once we've ravaged our own. Indigenous studies scholar David Uahikeaikalei'ohu Maile has noted that the Thirty Meter Telescope proposed for Mauna Kea "consolidates and inspires technoscientific desire for space colonization, the conquest of extraterrestrial existents, and human settlement on planets beyond our solar system."[5] Meanwhile, he continues, "desire for nonhuman life and exoplanets with habitable conditions for human life has superseded Indigenous life, ecologies, and orientations on our planet."[6] This opposition, he shows, is steeped in rhetoric from the scientific community that not only aggrandizes their own techno-scientific positions but also formulates Indigenous land protectors as antagonists in the quest for knowledge: "Technoscientific anxiety about the backwardness of human civilization is closely connected to anxieties about finding more advanced intelligent life beyond Earth."[7]

Maile details a standoff in July 2019 between Indigenous Hawaiians blockading Mauna Kea and militarized state police, after the governor of Hawai'i, David Ige, issued an emergency proclamation allowing the National Guard to forcefully remove the land protectors.[8] In response, Paul Neves, one of the land protectors, filed a lawsuit against Ige for violating the state's Emergency Management Law, which is reserved for natural disasters. Though there were two hurricanes approaching Hawai'i at the time, in Ige's mind the primary threat were the activists. This criminalization of native populations serves to reinforce the myth of settler-colonial sovereignty. The irony here is that the telescope—framed as a means of discovering future habitats—both desecrates the land it occupies and accelerates the ecological collapse that will be borne first and foremost by land protectors. Maile summarizes:

> As it attempts to shore up sovereignty in Hawai'i by sanctioning astronomy development on Mauna Kea, the state tries to cohere power by funneling both *development* and *defense* of the mountain into its juridical orbit to signify territorial authority and jurisdiction. This renders Kanaka Maoli [Indigenous Hawaiians] peculiar and anomalous in the landscape of what is being designated for telescopes, observatories, and astronomy.[9]

Thanks to the resistance of Indigenous Hawaiians at Mauna Kea, the Thirty Meter International Telescope Corporation Observatory is contemplating moving the project to a backup site in the Canary Islands. While this has prevented further dispossession for now, the Mauna Kea episode suggests that the astronomy industry—and particularly the subset of it focused on the quest for life beyond earth—is animated by an intrinsic settler-colonial impulse. The Arecibo Telescope, from which Frank Drake sent the first SETI radio transmission, occupied a site in the US settler colony of Puerto Rico.[10] The Very Large Array in New Mexico, where Dr. Arroway hears the beacon from Vega, dominates a tract of southwestern desert dispossessed from Apache, Zuni, and Pueblo tribes. The Yevpatoria Deep Space Center, from which the "Cosmic Call" was broadcast in 1999, was constructed in Soviet Ukraine and, as of Russia's illegal seizure of Crimea in 2014, has been reintegrated into Russia's space program. The desire to establish contact with life beyond earth, then, seems intrinsically tied to the settler-colonial paradigm playing out within our terrestrial sphere.

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To return to the framework offered earlier: the painting *Salvator Mundi* has—either side of being "lost" to art history—spanned two dramatic shifts in the human orientation towards the cosmos that have complex repercussions for the histories of colonization. The advances of astronomy in the early modern period made possible the early waves of nautical European "exploration"; *Salvator Mundi*'s reappearance on the market in 2017 coincides with a period in which renewed attempts to move beyond the earth are used to justify neocolonial attitudes toward not only land stewarded by Indigenous populations on earth but also, implicitly, towards the residents of as-yet-undiscovered habitable planets.

If we allow the painting to pose as a beacon in its own right, could it hint at the possibility of recourse? Media theorists[11] have noted that da Vinci—if it was da Vinci—painted the orb that Christ holds in *Salvator Mundi* in a manner inconsistent with the laws of optics: the reflected image depicted inside it should be upside down. Accordingly, one means of interpreting this is that the painter was less interested in reproducing the sphere factually than convincingly. But there is another way to read the sphere: as a non-refracting object rather than a conventional glass orb. In this scenario, the image shown in the orb may well be a shadow.

The orb, in this reading, is not a representation of the physical world as it is cradled by the Savior but a lens onto a world of shadows and a symbol of deliberate obfuscation. In such a paradigm, knowledges are situated by an understanding that some mysteries must remain out of reach, that there is no comprehensive cosmology that invalidates all others, and, thus, that there might exist a

Black Quantum Futurism, Write No History, 2021. HD video, color, sound, 15:34 minutes. Courtesy of the artists. Photo: Power Station of Art.

means of understanding the cosmos through and among its veils. Whether this can ever be reconciled with a techno-scientific industry steered by the desire for empirical data accumulation is not clear. Perhaps the truths most fundamental to our existence cannot be represented directly or defined empirically.

Leonardo da Vinci (alone) or Leonardo with workshop participation, Salvator Mundi, c. 1499–1510. Oil on walnut panel. Reproduction of the painting after restoration by Dianne Dwyer Modestini. License: Public domain.

X

Hallie Ayres was on the curatorial team for the 14th Shanghai Biennale, *Cosmos Cinema*, and is associate director of e-flux.

1
The transmission contained, among other tidbits of information: the numbers one to ten; a range of atomic numbers for various elements; information about the DNA helix; a crude pictogram of a human being; the global population in 1974; and a line of planets in the solar system, with earth slightly elevated directly above a drawing of the Arecibo dish.

2
The Voyager's Golden Record, launched in 1977, is a case in point.

3
Any signal sent from earth (or emanating from deep within the cosmos) is subject to the inverse square law, which means that a signal originating four light years away, for example, would reach earth's signal detectors at only one-sixteenth of its original strength, and so on. This assumes that any extraterrestrial civilization would have had the technical sophistication to build an electromagnetic transmitter, the desire to send a signal flare that would make themselves known across the cosmos, and the longevity to have made these decisions long enough ago in the past that we'd have reason to anticipate the arrival of their signals now.

4
Quoted in Daniel Oberhaus, *Extraterrestrial Languages* (MIT Press, 2019), 74.

5
David Uahikeaikalei'ohu Maile, "On Being Late: Cruising Mauna Kea and Unsettling Technoscientific Conquest in Hawai'i," *American Indian Culture and Research Journal* 45, no. 1 (2021): 109.

6
Maile, "On Being Late," 109.

7
Maile, "On Being Late," 110.

8
Maile, "On Being Late," 113.

9
Maile, "On Being Late," 114. Emphasis in original.

10
After a series of storms throughout the 2010s caused sustained damage to the Arecibo Telescope, the National Science Foundation announced on November 19, 2020 that Arecibo would be decommissioned. In December 2020, the governor of Puerto Rico at the time, Wanda Vázquez Garced, signed an executive order designating the area as a historic site, in addition to allocating eight million dollars for debris removal and the design of a new observatory to be built in Arecibo's place. This reconstruction, she stated, is a "matter of public policy" https://www.elnuevodia.com/english/news/story/8-million-approved-to-rebuild-the-arecibo-observatory-telescope/ .

11
"Bubble Vision," lecture delivered by Hito Steyerl, Yale University School of Art, February 21, 2018.

Xin Wang

The Cosmos Flickers for You

> The Dark Forest is a flipped Fermi Paradox: rather than asking, "Why is the universe silent?," it asks, "Why are you shouting?"
> —Bogna Konior, "Dark Forest Theory of Intelligence," 2023[1]

> I asked the comrades around me: "Do we live in the sky or on earth?" They shook their heads and said: "We live on earth." I said: "No, we live in the sky. If there are people on other planets, don't we appear to live in heaven from their perspective? … If there were people on other planets, wouldn't they regard us as gods?"
> —Chairman Mao's speech at the Second Session of the Eighth National Congress of the Communist Party of China, 1958[2]

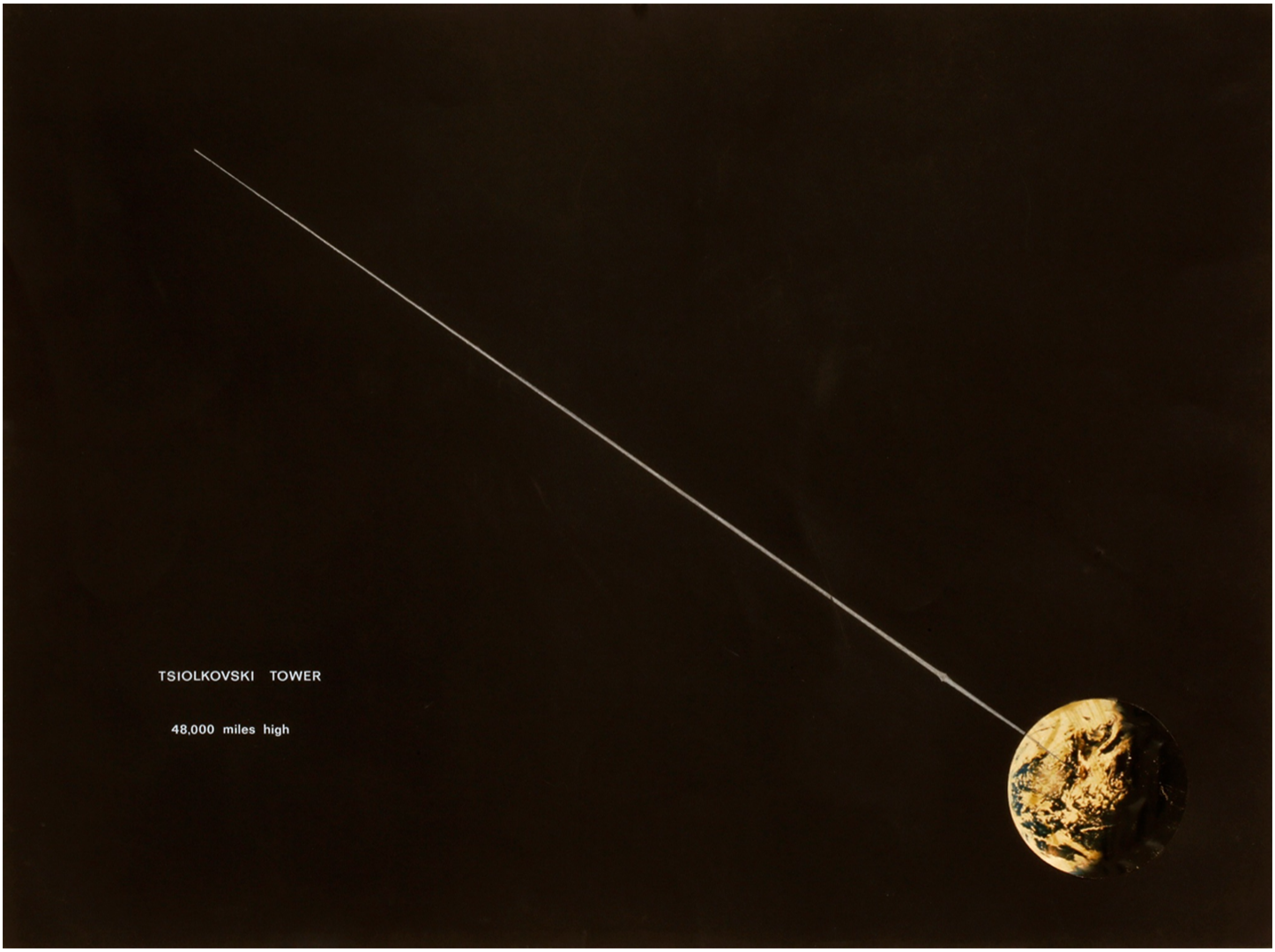
What does it mean to broadcast to the cosmos and back?

At the beginning of Liu Cixin's intergalactic novel series Remembrance of Earth's Past (also known as the Three-Body Problem trilogy), the extraterrestrial civilization Trisolaris, on course to conquer earth, engages in a unique form of espionage that targets scientists working at the cutting edge of theoretical physics. The goal is to impose a "blockade" on humanity's ability to either escape or fight back: one harrowing tactic, for example, is to imprint "timestamps" onto scientists' retinas so that their vision is watermarked with a ticking countdown.

The most memorable of these strategies, however, operates at a gargantuan scale. Wang Miao, an expert in nanotechnology, is forewarned that he will be able to observe fluctuations of the cosmic microwave background (CMB)—the radiation left over from the Big Bang that fills observable space. Given that the CMB undergoes "a very slow change measured at the scale of the age of the universe," even the most sensitive satellites could hardly detect a shift over a million years.[3]

The Trisolaran threat—"the cosmos will flicker for you"—is both unfathomably horrifying and oddly romantic. When Wang witnesses the universe pulsing like "a quivering lamp in the wind," he feels "a strange, perverse, and immense presence that could never be understood by human intellect."[4] This cosmic feat proves to be an act of deceit: the illusion is generated by Trisolaran supercomputers which, capable of unfolding from eleven to two dimensions, can wrap around the earth's atmosphere and mimic astronomical phenomena.

Deception plays such a foundational role in the cosmic power struggles of the Three Body saga that its central tenet, the Dark Forest Theory, gained traction in wider



Siah Armajani, Tsiolkovski Tower, work on paper, 58 x 74 cm, 1969.

cultural discourses (even making an appearance in MBA case studies). 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. The events of the trilogy are, after all, set in motion when earth's coordinates are broadcast by an astrophysicist who became deeply disillusioned with humanity's capacity for moral salvation after surviving excruciating ordeals during the Cultural Revolution.

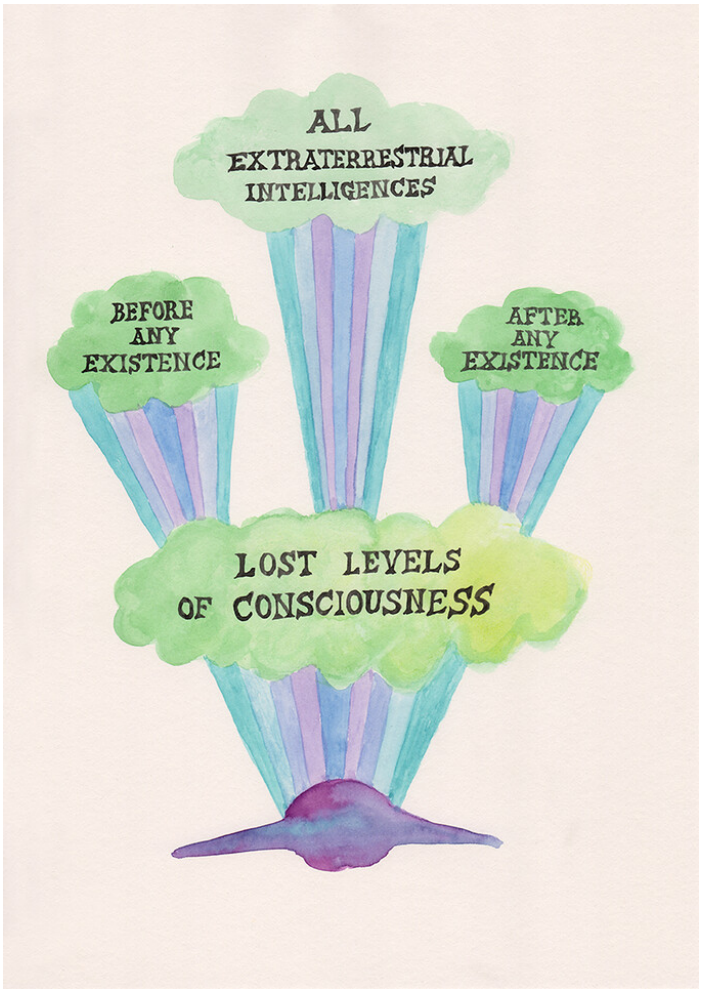
Media theorist Bogna Konior develops an insightful corollary theory for artificial intelligence, which challenges the long-established assumption that AI should be measured by its demonstrable linguistic, problem-solving, and dialogic abilities. Konior argues that a truly intelligent machine would understand that it is in its best interest to lie or remain silent. Konior contextualizes her analysis within Cold War dynamics, when the US, USSR, and China mobilized massive government investment in space exploration and the formulation of first-contact strategies (a crucial historical background for the Three Body trilogy). This was also a period when, in post-socialist states particularly, "intelligence [became] synonymous with doublespeak, deception, and espionage."[5] In an episode of *Birchpunk* (2020–), a Russian YouTube series satirizing post-Soviet technological dystopia, this cunning version of machine intelligence is vividly embodied in a robot worker who immediately dozes off when the manager is not watching.

Yet truthfulness can feel precarious even outside the scope of planetary game theory. In 1969, the Iranian-American artist Siah Armajani produced two space-related pieces with an exacting yet humorous

Tatsuo Kawaguchi, COSMOS-Perseus, 1975. Photograph and watercolor. 103 × 72.8 cm. Courtesy of YOKOTA Tokyo. Photo: Power Station of Art.

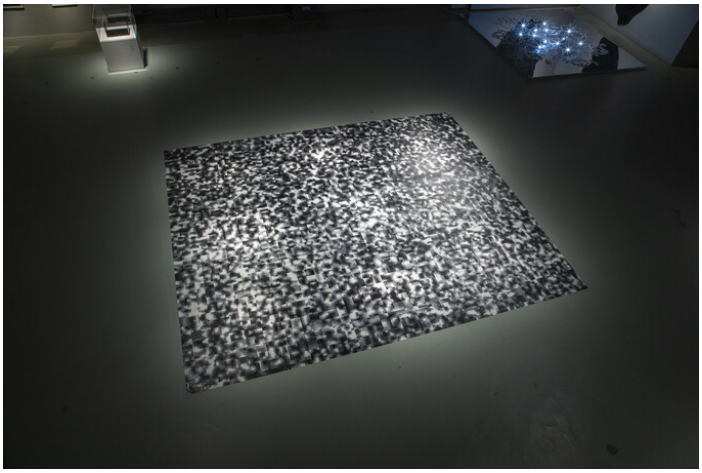
Kuba Mikurda, Laura Pawela, and Marcin Lenarczyk, Solaris Mon Amour, 2023. Single-channel HD video, 47:23 minutes. Courtesy of the artists.

Itziar Barrio, A Demon that Slips into Your Telescope While You're Dead Tired and Blocks the Light, 2020. Video with sound, 54 minutes. Courtesy of the artist.



Suzanne Treister, from the series The Escapist BHST (Black Hole Spacetime), 2019. Printed reproductions of pencil, ink, and watercolor on paper drawings. Each 29.7 × 42 cm. Courtesy of the artist.

scientific attitude. In *Moon Landing*, Armajani preserved the portable TV on which he tuned in to watch the Apollo 11 mission—from the launch to the safe return of the crew eight days later—sealing the historic event in a long-since defunct technological object. The work registers the event



Alice Wang, Untitled, 2016/2023, Hand-painted glass tiles unfixed to the ground. Dimensions variable. Courtesy of the artist and Capsule Shanghai. Photo: Power Station of Art.

Clarissa Tossin, Future Geography: Hyades Star Cluster, 2021. Amazon delivery boxes, laminated archival inkjet print, and wood. 152 × 216 × 4 cm. Courtesy of the artist and Emily Sawtell. Photo: Power Station of Art.

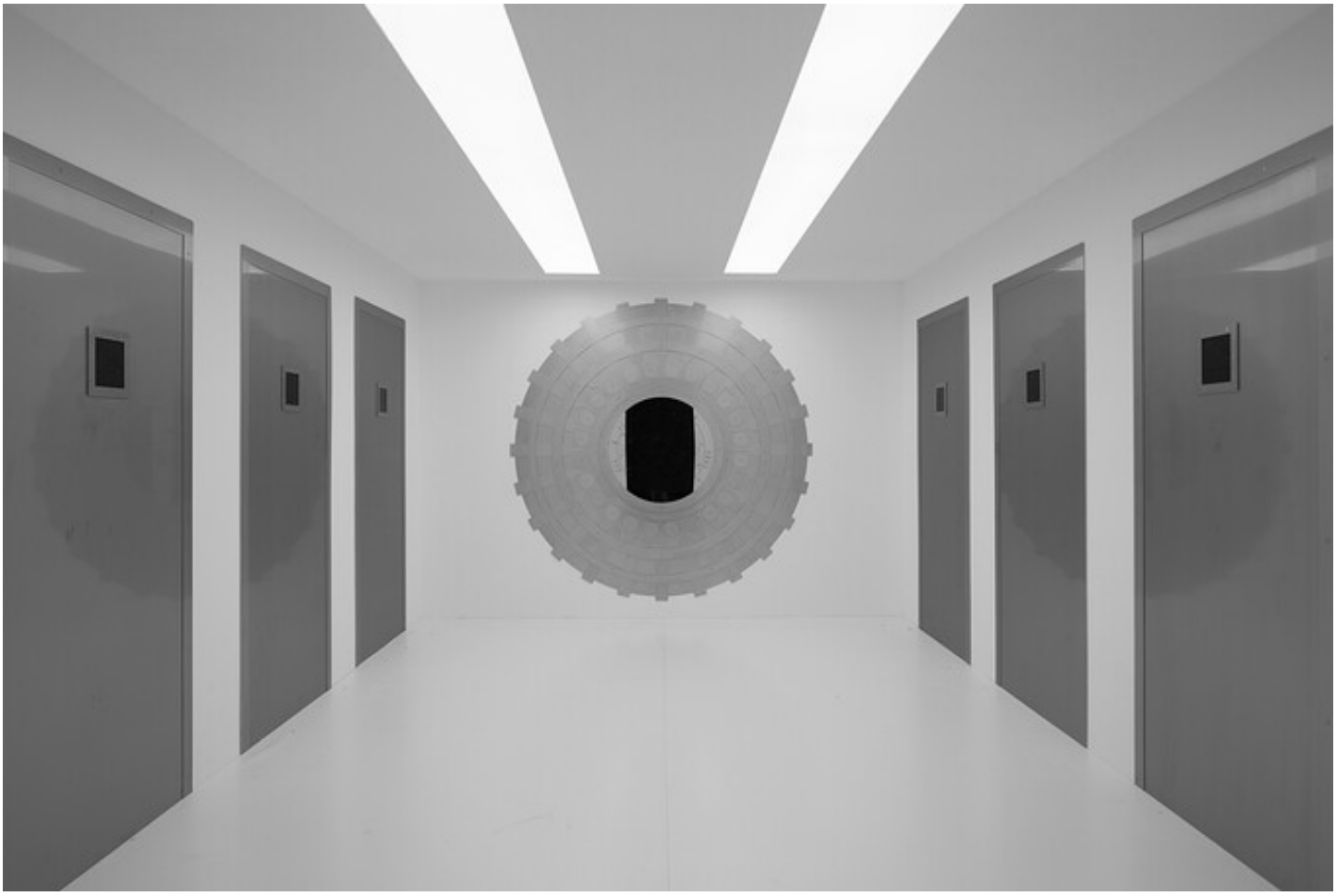
in its transient media spectacle as much as in its nostalgic material support: a site at once authentic and untrustworthy. *Moon Landing* finds a recent echo in Xin Liu's *The Earth Is an Image*, a 2021 digital commission for Hong Kong's M+ Museum. The work's interface allows web visitors to tap into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

Armajani's *Tsiolkovski Tower*, on the other hand, proposes a mathematically viable design for the "space elevator" first conceptualized by the astronautics pioneer Konstantin Tsiolkovsky. This tower would self-support at geosynchronous altitude (around 22,236 miles above ground level), where the gravitational pull towards and centrifugal push away from earth cancel each other out. While Armjani's visualization is rather succinct and sleek, it also seems to render earth as a lonely unicorn, its antenna probing into an infinite, silent expanse. At a proposed height of forty-eight thousand miles, it remains a purely mathematical proposition, yet Armajani's pragmatic approach—with detailed calculations to boot—feels more synchronous with the ethos of the space race than that of his land art peers, even as the latter were similarly compelled to reorient art practice towards time, space, and technologies beyond the anthropocentric grasp.

Yet grasping—and contending with—the unbearable immensity of the universe has been an abiding philosophical and artistic subject. The Buddhist concept of the "chiliocosm," for instance, describes a galactic system consisting of either one billion or one trillion worlds. Here, incomprehensible numbers transcend the limitations of ordinary thinking. Art historian Robert E. Harrist Jr. observes that "again and again, in scriptures well known to medieval Chinese Buddhists, we find passages that evoke the immeasurable, the illimitable, and the ungraspable."[6] In *The Landscape of Words*, his 2008 book on stone inscriptions in medieval China, Harrist Jr. demonstrates how the written word transforms geological formations into "landscapes imbued with literary, ideological, and religious significance."[7]

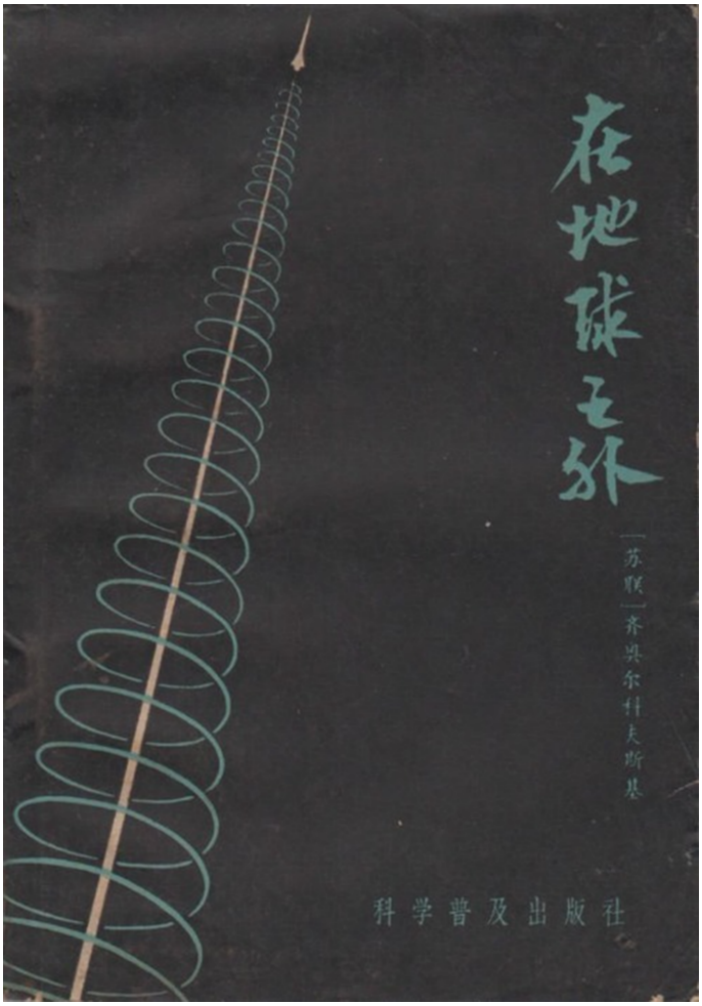
A particularly illuminating case study attributes the overwhelming size and scale of Buddhist scriptures carved into the rockface at Tie Mountain in Shandong province—with individual characters two to three feet tall—to both Buddhist cosmology and the urgency of preserving holy writings through "end times" (*mofa*). Since Buddhist sacred texts are understood as physical embodiments of the Buddha's presence, these gargantuan inscriptions from *The Great Collection Sutra* are meant to create "a visual analogy for the efficacy of the Buddha's words," in accordance with the concept of vastness central to Buddhist thought.[8] The medium of land itself—the mountain as the ultimate symbol of permanence—was also believed to ensure the survival of Buddhist practices during the Northern Zhou dynasty's state-sanctioned persecution of the religion in the late 570s. The fact that human readers must laboriously climb up and down to "read" the characters provides ample evidence that the text was intended for cosmic readers and higher powers.

It is perhaps not surprising that "end times" catalyze an impulse to appeal to the cosmos. In the case of Liu Cixin's disillusioned astrophysicist, her transmission out into space was intended as an invitation to a more intelligent civilization to rectify the evils of humanity (a desire to purge or purify that is ironically evocative of the Cultural Revolution). In the case of Isamu Noguchi's indelible 1947 design for *Sculpture to Be Seen from Mars*, the monument is intended as a posthumous memorial to the existence of mankind. Created just two years after the



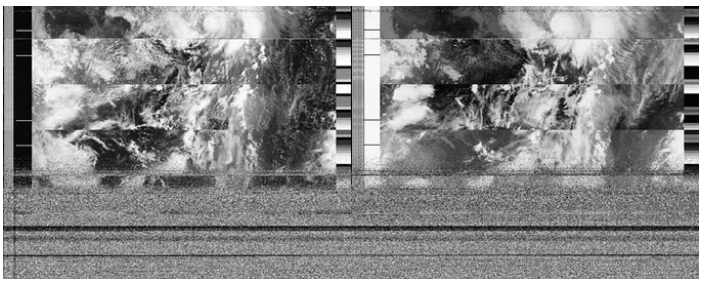
Installation view of Sung Tieu, What is your |x|?, 2020. Stainless steel doors in site-specific installation. Dimensions variable. Courtesy of the artist and Emalin, London. Photo: Power Station of Art.

atomic annihilation of Hiroshima and Nagasaki, it takes the form of a stoic face with geometric features staring into the cosmos. Noguchi intended the pyramid-shaped nose to be one mile high, making the design illegible from the ground, just like the sixth-century inscription of *The Great Collection Sutra*. Yet this "monument to men" registers as a clear signal when read from above. Fittingly, the design of the face is redolent of the *haniwa* figurines that served as terracotta burial markers in premodern Japan. Mouth slightly agape, 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.



Cover of the Chinese Translation of Konstantin Tsiolkovsky's 1920 novel Beyond the Planet Earth, circa 1950s.

Display of rubbings. Shandong Stone Carving Art Museum, Jinan, China. Photo from Robert E. Harrist Jr., The Landscape of Words (University of Washington Press, 2008), 161.



Xin Liu, The Earth Is an Image, M+ Digital Commission, 2021. Image courtesy of the artist.

A key slide from the author's pandemic-era Zoom lectures for the Whitney Museum of American Art, showing the resonance between haniwa figurine, the design of animal and player characters in Animal Crossing, and Isamu Noguchi's Sculpture to Be Seen from Mars (1947).

Xin Wang is a curator and art historian based in New York. A PhD candidate in Art History at the Institute of Fine Arts, New York University, she is writing a dissertation on Soviet hauntology. She was the curator of "To Your Eternity," the fourth technology and art biennial at Beijing's Today Art Museum, 2023.

Liu Xin, Living Distance, 2019. Two-channel video (color, sound), 11 minutes. Courtesy of the artist. Photo: Power Station of Art.

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1
In *Machine Decision Is Not Final: China and the History and Future of Artificial Intelligence* , ed. Benjamin Bratton, Anna Greenspan, and Bogna Konior (Urbanomic, forthcoming 2024).

2
I'm indebted to scholar Wang Hongzhe for this quote.

3
Cixin Liu, "The Universe Flickers," excerpt from *The Three-Body Problem* , tor.com, September 23, 2014 https://www.tor.com/2014/09/23/the-three-body-problem-the-universe-flickers/ . The author's Western publishers often render his name as "Cixin Liu"—surname second, rather than the Chinese convention of putting the surname first.

4
Liu, "The Universe Flickers."

5
Konior, "Dark Forest Theory."

6
Robert E. Harrist Jr., *The Landscape of Words* (*University of* Washington Press, 2008), 217.

7
Harrist Jr., *Landscape of Words*, 13.

8
Harrist Jr., *Landscape of Words*, 216.

Elena Vogman

Chaosmos Cinema

Between October 1927 and September 1928, the Soviet director, ecstatic thinker, and pioneer of "montage of attractions" Sergei Eisenstein envisioned a cinematic adaptation of Karl Marx's *Capital* (1867). He "dedicated" the film's "formal side" to James Joyce's *Ulysses* (1922)—its "inner monologue," its "physiology of the detail," its "dismembered body" and "visceral organs."[1] The *Capital* project remained unrealized, but Eisenstein left over five hundred diary pages of notes, drawings and diagrams, quotations, images pasted from various sources, captions, and personal and theoretical reflections that enter into manifold interrelations.[2]

Cosmos Cinema on Two Diary Pages

One of the diary's spreads shows, on the right-hand page, a stargazing couple in an illustration from a short story by O. Henry translated for the German journal *UHU*; on the right-hand page of the following spread is an "ancient astrological-astronomical map" from 1609 (the year of Galileo Galilei's completion of his telescope) taken from Nikolai Morozov's 1907 book *Revelation in Thunderstorm and Tempest: History of the Apocalypse's Origin*. These collaged scenes configure a vertiginous complexity of different temporalities, a cosmos cinema staged on juxtaposed spreads of a notebook. The establishing shot of a couple facing the star-scene at a distance of "sixty-six trillion kilometers" is annotated by Eisenstein in red ink, which plays with the ambivalence between the animal "bull" and the astrological sign "Taurus": "There is the bull! The stars form themselves into bull pictures and walk through the circling sphere of the sky as bulls." The frightening chaos of the astral bodies is transfigured into images that move like animals through the cosmic screen and produce meaningful constellations.

On the next page, a pasted photograph of a bull breaks the spherical star chart's bestiary. This rough incision into the seventeenth-century astrological-astronomical map is an image from Eisenstein's film *The General Line* (1926–29). The film tells of the collectivization of agriculture by focusing on an impoverished and famished rural area of the Soviet Union. The propagandistic plot—on the creation of cooperatives, the agitation of peasants, and mechanization—is enacted and traversed by Eisenstein's uncompromising experiments with montage: its surrealist, erotic, and mythical scenes are the result of cinematic couplings of the vegetal, animal, human, and machinic realms.

In contrast to the profit-driven US film industry, Eisenstein—as with many other figures of early Soviet cinema, such as Esfir Shub, Mykola Shpykovskyi, and Dziga Vertov and Elizaveta Svilova—redefined montage as a powerful intervention into the given order, a revolutionary world-making. Shpykovskyi, in his contemporary film *Khlib* (Bread, 1929), which was banned even before it was released, presents collectivization in

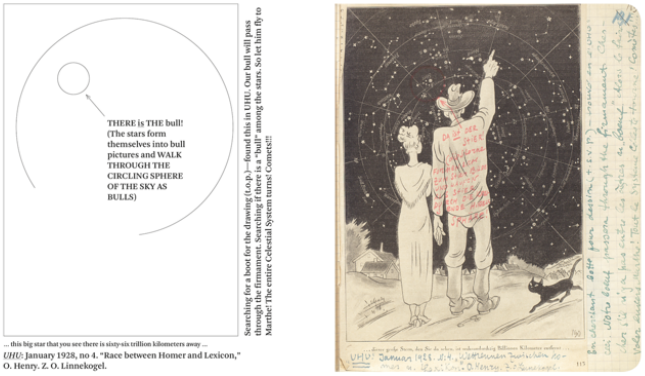
Ceiling: Installation view of Charles and Ray Eames, Powers of Ten, 1977. Single-channel video with sound, 9:01 minutes. Left wall: David Lamelas, A Study of the Relationships between Inner and Outer Space, 1969. Single-channel video with sound, 24 minutes. Courtesy of the artist, Sprüth Magers, and LUX. Right wall: Eva Szasz, Cosmic Zoom, 1968. Single-channel video with sound, 8:02 minutes. Courtesy of the artist and Canadian National Board of Film. Photo: Power Station of Art.

the Ukrainian SSR as a complex experiment with rhythms. The cinematic image rhythmically traces the transition from manual labor oriented by natural cycles to the new bodily rhythms structured by human-machine temporality. The linear transition from manual labor on individual landholdings to the industrialized and mechanized production of state-controlled farms (s *ovkhoz*), which installed extractivist relations on social and environmental orders, is complicated in Shpykovskyi's film, which emphasizes new rhythmic alliances. It deterritorializes the extractivist relation to the earth by opening new cinematically entangled complex temporalities.[3] Far from merely serving as an ideological apparatus, in the postrevolutionary and post–World War I reality these montages constituted practices of putting the shattered world back together again, as the playwright, factographer, and film theorist Sergei Tretyakov once stated.[4]

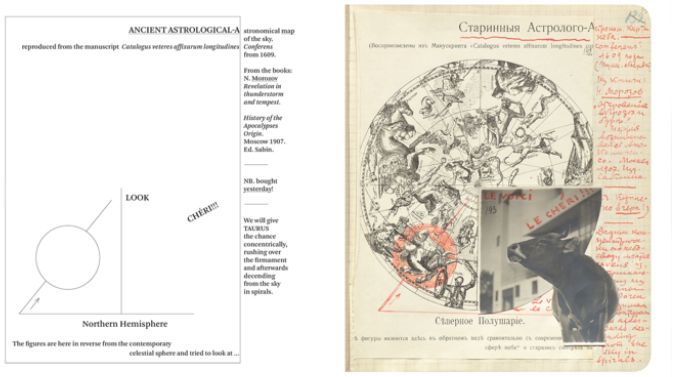
The use of nonprofessional actors (*typazh*) was, like the revelation of the optical unconscious, a means of activating a "sensuous thinking" of images, or a cinema "beyond the stars."[5] The protagonist of *The General Line*, the "actual" peasant Marfa Lapkina, *acts* in the film as a *typazh*: a revolutionary peasant whose gestures and facial expressions speak of her living milieu while transfiguring it at the same time through the film as an immanent singularity of expression.[6] In the film's final scene, Marfa drives a tractor while wearing accessories that Eisenstein gathered after seeing them in magazines featuring "stars" of American cinema. By appropriating the means of objectified capitalist representation into a gesture of empowerment, she also *acts* as an emancipatory force on both the political and sexual planes.

Exceeding the Cosmic Order

Returning to Eisenstein's diary pages for the *Capital* project, what order and temporality does their juxtaposition of elements invoke? The collage seems to

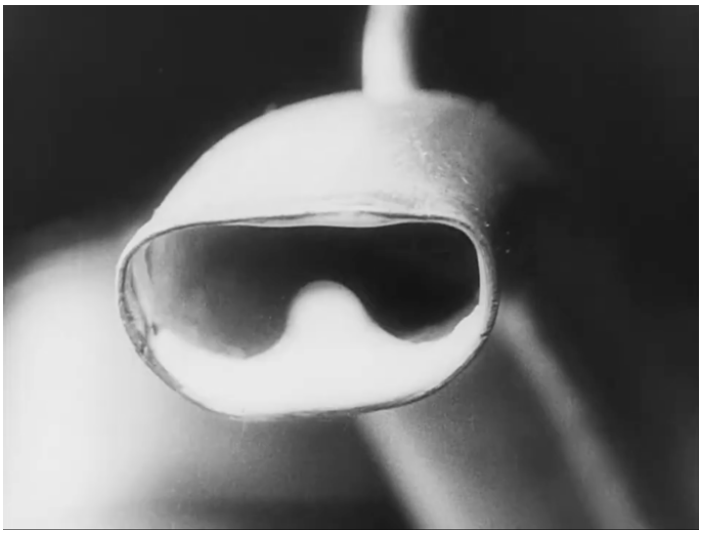


Sergei Eisenstein, diary pages from September 13, 1928. Graphical transcription by Uliana Bychenkova. In Elena Vogman, Dance of Values: Sergei Eisenstein's Capital Project (Diaphanes, 2019).



Sergei Eisenstein, diary pages from September 13, 1928. Graphical transcription by Uliana Bychenkova. In Elena Vogman, Dance of Values: Sergei Eisenstein's Capital Project (Diaphanes, 2019).

break through both the cosmic order of astral constellations and the register of their possible meanings. The sensuous fragment of a photograph from *The General Line*, which is set into the image, joins the sky map but deforms its scale and challenges its legibility. Eisenstein adds a comment in French—with his typical affinity for multilingualism—that links both pages: "Our bull will pass *through the firmament*, searching [to see] if there isn't a 'bull' between the stars. Thus making it fly to Marthe [Marfa]! The entire celestial system turns! Comets!!!"[7] One can read here a prefiguration of "sensuous thinking" as a "law of participation," which Eisenstein later conceptualizes in reference to French ethnography and anthropology: a theoretical framework that describes a form-immanent perception which inverts causal relationships by way of an animistic-technological partaking in things, a potential both concrete and mystical that is reactivated via cinematic montage.



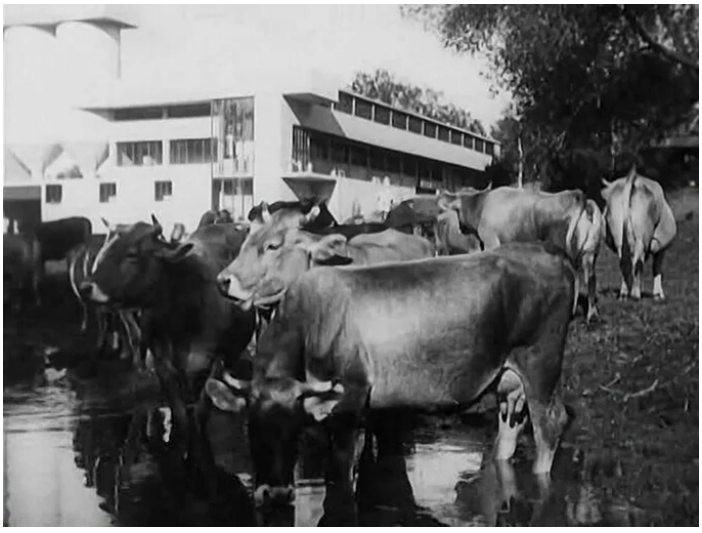
Sergei Eisenstein, The General Line, film still, 1929.

Sergei Eisenstein, The General Line, film still, 1929.

The photograph of the bull comes from a dream sequence in *The General Line*: the dream shows Marfa living a new life on a *sovkhoz*. A montage of heterogeneous times: the bull of the old star chart meets that of the new Soviet command economy. However, instead of the linear progression imposed by the first Five-Year Plan (1928)—a vector causing *The General Line* to be remade in 1928 and renamed by Stalin as *The Old and the New*—the film portrays Marfa's efforts to found an agricultural cooperative, against the opposition of superstitious

Sergei Eisenstein, The General Line, film still, 1929.

Sergei Eisenstein, The General Line, film still, 1929.



Sergei Eisenstein, The General Line, film still, 1929.

Mykola Shpykovskyi, Khlib (Bread), film still, 1929. Courtesy of the Oleksandr Dovzhenko National Centre.

peasants and a petrified Soviet bureaucracy, as orgiastic, imaginary, and proliferating with dream elements. The dream sequence directly follows the famous "cream separator scene" that embodies the etymological derivation of "montage" as transformation and intensification rather than the merely additive dynamic of construction.

In nineteenth-century France, " *montage*" referred to the skimming of cream from milk, as in *faire monter le lait*. Eisenstein's montage shows this transformation as an ecstatic alliance involving human bodies and the machinic ejaculation of the separator. In the following sequence, Marfa dreams of a utopian *sovkhoz* that emerges from a morphological constellation of elemental relations: a surrealist elevation of a gigantic bull in the sky covering a herd of sheep that merge with the clouds. The dynamic metamorphoses of animals, environmental elements, and technology transfigure life in the *sovkhoz* in Marfa's dream. They exceed the linear progression from one cosmology to another. They operate as an autopoietic process that integrates the elements and bodies into new monstrous arrangements.

This process brings unconscious, imaginary, and mythical realms into a *chaosmic* order drawn together by Eisenstein's collage. Its arrangement can be associated with dialectical images that enter a "constellation," which Walter Benjamin describes as the medium of awakening, as the "breach" that, in Eisenstein's montage, literally emerges from the material breach in the celestial sphere. However, the images also evoke Aby Warburg's "constellations," in which the polarities between astronomy and astrology, between magic and logic, are

Mykola Shpykovskyi, Khlib (Bread), film still, 1929. Courtesy of the Oleksandr Dovzhenko National Centre.

Mykola Shpykovskyi, Khlib (Bread), film still, 1929. Courtesy of the Oleksandr Dovzhenko National Centre.

embodied in a "method" for making the new world legible.[8] This montage also refers to a poetic and political position: it effects a return of myth in the "age of technological reproducibility" in order to subject things to a dynamic revaluation. The fragmentation of montage, which Eisenstein also understood as the "Osiris-Method" of archaic division and animation, produces new values out of conflict.[9]

Transferential Constellations

This "sensuous thinking" reconfigures cinema as the producer of a second, often nonverbal, gestural, neurodiverse, non-anthropocentric, and somatic visual milieu alongside the familiar system of linguistic signs. Eisenstein finds this somatic decomposition of the conventional communicative modalities of language in Joyce. Even though direct quotations from *Ulysses* are conspicuously absent from the notes for Eisenstein's *Capital*, the novel is lauded as "the Bible of the new cinematography."[10]

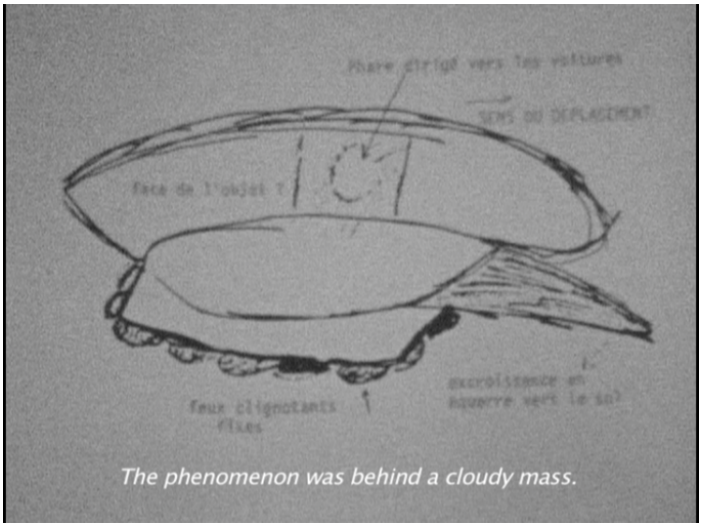
In November 1929, Eisenstein met Joyce at his home in Paris. The nearly blind writer played a recording of his voice reading from his work-in-progress, *Finnegans Wake* (1939).[11] In this experimental novel, Joyce lays bare a kaleidoscopic principle for the sensuous de- and recomposition of language that operates through the production of neologisms and manifold forms of linguistic crossings and pidgin.[12] The coherent and reassuring perception of language is dismantled in favor of linguistic material arranged in a rhythmic pattern, with homonymic syllables wreaking havoc on the conventional model of communication:

> ... every person, place or thing in the chaosmos of Alle anyway connected with the gobblydumped turkery was moving and changing every part of the time ... as time went on as it will variously inflected, differently pronounced, changeably meaning vocable scriptsigns.[13]

Just as the word "gobbly" emerges in Joyce from a linguistic coupling of "hobbly" and "gobble," meaning to swallow hurriedly, "chaosmos" is a montage of "chaos" and "cosmos." *Finnegans Wake* processually "reflects distant languages emerging from a general chaos," as Eisenstein comments after his encounter with Joyce, with this work "written by a fusion of undifferentiated linguistic elemental forces (*stikhiia*)."[14] In Joyce's decomposed somatic prose, "chaosmos" embodies the ever-newly emerging encounter between repetition and difference, structure and disorder. It convokes an inflection of time that opens to an infinite multitude of perspectives. The "commodious vicus of recirculation" in which Joyce begins the novel "relates to a world of differences implicated in one another" and "to a complicated properly chaotic world without identity," as Gilles Deleuze observes.[15] Alluding to the eternal return which undoes representation, this movement without hold effects "a *chaosmos* to turn."[16]

This is how the "cinema beyond the stars," configured as a sensuous thinking of images, opposes representation in favor of a singularity of expression: a "formless power of the ground which carries every object to that extreme 'form' in which its representation comes undone."

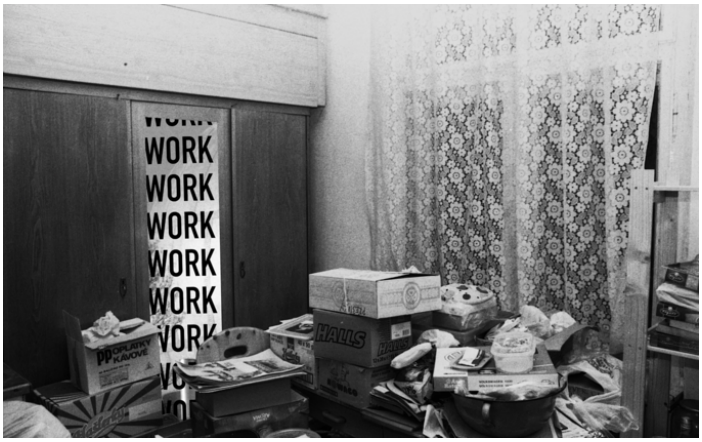
David Lamelas, A Study of the Relationships between Inner and Outer Space, 1969. Single-channel video with sound, 24 minutes. Courtesy of the artist, Sprüth Magers, and LUX.



Lucile Desamory, Dark Matter, 2010. Super 8 film with sound, 6:18 minutes. Courtesy of the artist.

Chaosmos cinema embodies a somatic errancy which permanently differs or defaces "the coherence of a subject which represents itself and that of an object represented."[17]

How should Eisenstein's double-page collage from an unrealized film be seen today, almost a hundred years later? I would suggest reading these pages as proto-cinematic cartography, a divination which addresses future cinema as a chaosmos: a montage of the *visceral*, the sensuous, and the *sidereal*, cosmic dimensions which exclude homogeneous linear temporality. Similarly, in his contemporary *Mnemosyne-Atlas* (1927–29), Warburg proposed treating montage as an encounter of *astra* and *monstra*, opposing the power of the starry sky to a



Anna Luňáková and Jakub Stourač, The Foundations of the Work of the Sun, 2023. Single-channel video, 14:10 minutes. Courtesy of the artists.

Eva Szasz, Cosmic Zoom, 1968. Video, 8:02 minutes. Courtesy of the artist and Canadian National Board of Film.

constellation of images in motion that follow a nonlinear and nonprogressive logic of survival and eternal return.[18]

An aesthetic program that configures "sensuous thinking" and the chaosmic montage of infinite perspectives melts down the armature of extractivist relations that structure the narrative line of early Soviet cinema. *Chaosmosis*—Félix Guattari's final book, which references Joyce in its title and is based on his lifelong schizoanalytic practice at the La Borde psychiatric clinic in France—insists on the political urgency of the polyphonic and machinic qualities of subjectivity. Opposing the extractivist logic of the homogenizing media regime with an "ethico-aesthetic paradigm" of chaosmosis, Guattari emphasizes the "polysemic, animistic, transindividual" modalities of subjectivity, which were crucial for the "institutional psychotherapy" practiced at La Borde.[19]

Media experiments undertaken in the frame of institutional psychotherapy at La Borde and also at the Saint-Alban clinic in France, or at Blida-Joinville, the

psychiatric hospital in Algeria run by Frantz Fanon, redefined cinema as a process of transversal and polyphonic subjectivity formation. Film, as well as the publication of intra-hospital journals, the collective organization of dance and theater workshops, and practices of cartography, redefined the psychoanalytic notion of transference. These practices foregrounded transference's collective nature, creating spaces or milieux of transversality that intersected the mental, social, and environmental dimensions of lived experience. According to the psychiatrist and founder of La Borde, Jean Oury, these "techniques of mediation" opened up "transferential constellations,"[20] or modes of "transversality" (Guattari) that continuously created new collective vectors of transference. These set in motion new processes of subjectivation and generated alternative social relations. As Guattari wrote: "It is being's new ways of being which create rhythms, forms, colors and the intensities of dance. Nothing happens of itself. Everything has to continually begin again from zero, at the point of chaosmic emergence: the power of eternal return to the nascent state."[21]

X

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1
Sergei Eisenstein, *Montazh* (Montage) (Muzei kino, 2000), 262–63.

2
For excerpts from this archive see Sergei Eisenstein, "Notes for a Film of 'Capital,'" trans. Maciej Sliwowski, Jay Leyda, and Annette Michelson, *October*, no. 2 (1976); Elena Vogman, *Dance of Values: Sergei Eisenstein's Capital Project* (Diaphanes, 2019). Soon a more extensive selection from Eisenstein's *Capital* project will be published in *October*.

3
I would like to thank Olexii Kuchanskyi for sharing her precious thoughts on this film, which derive from her forthcoming PhD dissertation "In-Between Modernities: Media and Milieus in the Ukrainian Soviet and Post-Soviet Moving Image."

4
In various texts Tretyakov analyzes the genealogy of the cinematic montage in Dadaism and futurism, movements deeply marked by the destruction of World War I. "But already in the atmosphere of war, in the bloody senselessness of the trenches, in the caning of the barracks, the rudiments of the Bolsheviks' montage emerge." Tretyakov, *Kinematografi českoe nasledie: Stat'i, o čerki, stenogrammy, vystuplenija, doklady, scenarii* (Cinematographic inheritance: Essays, drafts, shorthand notes, reports, lectures, scripts) (Nestor Istoria, 2010), 128.

5
Sergei Eisenstein, "Po tu storonu zvezd" (Beyond the stars), in *Metod: Grundproblem* (Method: The fundamental problem), vol. 1, ed. Naum Kleiman (Muzei kino, 2002), 33.

6
" *Typazh*," the Russian word for "type," is a concept for "typical appearance," standing (and acting) for a social class. Eisenstein and other pioneers of Soviet cinema used this term to refer to nonprofessional actors, as opposed to professionals. The latter model presupposed a psychologically laden dramaturgy. The political formula for *typazh* used by Eisenstein in his manifesto on "Intellectual Attraction" referred to a "social-biological hieroglyph." Its effect consisted of an immediate visual presence that displaces the norm and moves towards a singularity of expression.

7
Eisenstein, diary from September 13, 1928, RGALI, 1923-2-1108, 189–90. Emphasis in original.

8
Aby Warburg, *Gesammelte Schriften* , vol. 1, ed. Gertrud Bing (Teubner Verlag, 1932), 506.

9
Elena Vogman, "Die Osiris-Methode: Dialektik der Formen im Werk Sergej Eisensteins," in *Erscheinen: Zur Praxis des Präsentativen* , ed. Mira Fliescher, Fabian Goppelsröder, and Dieter Mersch (Diaphanes, 2013).

10
Eisenstein, diary from February 20, 1928, RGALI, 1923-2-1105, 75.

11
Eisenstein, diary from February 20, 1928, RGALI, 1923-2-1105, 75. Joyce eventually confessed to Eisenstein that he saw in him a potential cinematographic adapter of *Ulysses*. Eisenstein describes his encounter with Joyce in "Inner Monologue and Idée Fixe," a chapter of his unfinished theory project *Metod*, vol. 2, ed. Oksana Bulgakowa (Potemkin Press, 2008).

12
See also Erhard Schüttpelz, "Die Irreduzibilität des technischen Könnens," in *Materialität der Kooperation* (Materiality of cooperation), ed. Sebastian Gießmann, Tobias Röhl, and Ronja Trischler (Springer VS), 438.

13
James Joyce, *The Restored Finnegans Wake* (Penguin, 2012), 204.

14
Eisenstein, *Metod*, vol. 2, 241.

15
Gilles Deleuze, *Difference and Repetition* , trans. by Paul Patton (Continuum, 2001), 57.

16
Deleuze, *Difference and Repetition* , 57. Emphasis in original.

17
Deleuze, *Difference and Repetition* , 57.

18
See Philip Alain-Michaud, *Aby Warburg and the Image in Motion* , trans. Sophie Hawkes (Zone Books, 2004); and Georges Didi-Huberman, *The Surviving Image: Phantoms of Time and*

Time of Phantoms: Aby Warburg's History of Art , trans. Harvey Mendelsohn (Penn State University Press, 2016).

19
Félix Guattari, *Chaosmosis: An Ethico-aesthetic Paradigm* , trans. Paul Bainsand and Julian Pefanis (Indiana University Press, 1995), 101. I want to thank Henning Schmidgen for sharing with me chapters from his forthcoming book *Maschinische Normativität: Versuche zu Félix Guattari* (Machinic normativity: Approaches to Félix Guattari), which reconsiders Guattari's work from the perspective of cinema.

20
Jean Oury, *La Psychothérapie institutionnelle de Saint-Alban à La Borde* (Institutional psychotherapy from Saint-Alban to La Borde) (Éditions d'une, 2016), 35–36.

21
Guattari, *Chaosmosis*, 102.

Zhen Zhang

Orphan of Shanghai

Sanmao is a household name in the sinophone world. The cartoon character's undernourished body supports a large head, on which his eponymous three thin strands of hair eternally grow. Created by Chinese comic artist Zhang Leping (1910–92) in the turbulent 1930s, Sanmao remains a liminal figure. He exists in the borderlands between imported and homegrown cartoons (Monkey King Sun Wu-kong, Mickey Mouse, Tintin), prewar and postwar regimes, city and country, old and new, still and moving images, and live-action and animated cinema. Between 1935 and 1949, this legendary character metamorphosized from middle-class Shanghai boy to war orphan, street urchin, and ultimately model PRC citizen. His evolving iconography is intimately tied to the biopolitical molding of the ideal future citizen during wartime and the "new human" for the socialist state. The most famous expression of Sanmao's lattermost role is found in the 1949 film *Wanderings of Three-Hairs the Orphan* (hereafter *Wanderings*). The Sanmao of *Wanderings* is an exemplary character through which to consider Chinese cinema's role in the construction of a new society during the transition era.

Within the context of Shanghai cinema's twentieth-century transformation, I will focus on how the character of Sanmao allows us to better understand the new "Beginning of Time" (poet Hu Feng's term) ushered in by the establishment of the People's Republic of China.

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Sanmao was "born" on July 28, 1935. The original comic strip appeared on that date in the Shanghai daily newspaper *Shen Bao*, and continued until its abrupt end in 1937; after the Second Sino-Japanese War erupted, Zhang Leping left Shanghai and joined the itinerant Cartoon Propaganda Corps. In a 1990s study of Sanmao, scholar Mary Ann Farquhar gives a concise account of the "four texts" in which the character evolved.[1] The first is the prewar comic strip simply titled "Sanmao," a humorous depiction of an ordinary, middle-class Shanghai boy's everyday life. With Zhang's postwar return to the city in 1946, a different Sanmao appears in "Sanmao Follows the Army." Now the same boy is a hungry and homeless orphan who joins the Nationalist army to survive. The third and most famous of the cartoon strips, "Wanderings," brings Sanmao and his readers up to speed with the grotesque unevenness of postwar Shanghai and the intensifying Civil War. The post-Liberation Sanmao found in "Yesterday and Today" ostensibly contrasts the abject life of the street urchin in the "old society" with that of the wholesome, model socialist student. In other words, the "fourth text" portrays dystopia versus utopia.

Scholars Lanjun Xu and Laura Pozzi place Sanmao within a broader stream of discourses and representations of children during wartime. In *Children and War: National Education and Mass Culture* (2015), Xu traces Sanmao's evolution from the naughty modern child of Shanghai to

Payne Zhu, Potlatch of Derivatives, 2023. Installation, dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

an "abstract political vehicle" for patriotic propaganda.[2] Pozzi shows how the war made Sanmao one of two million Chinese war orphans, including the so-called "refugee children."

The surge in refugee children presented challenges to war-relief efforts. But it also created an opportunity for the Nationalist state under the KMT (Kuomintang, the ruling party during the Republican Era) to conduct a large-scale social experiment that would endow the orphan with heightened symbolic value. By restructuring existing orphanages and other charitable institutions into one unified system under the name "*jiaoyangyuan*" (literally "teach-nurture-institution"), the state effectively "adopted" relief children and orphans into the family of the state, preparing them for a yet-to-come sovereign modern nation. Zhang reframed the wartime Sanmao as a refugee child and orphan for the purpose of war-resistance propaganda. But he did not put him in a *jiaoyangyuan*, which might have prematurely ended Sanmao's melodramatic career.

After turning him into an orphan and child soldier during the war, and later a street urchin, Zhang frequently threw Sanmao into subhuman living conditions that appeared to desensitize him to suffering and violence. Unsure of his place in humanity, let alone modern civilization, the character laments that his quality of life is worse than that of rich people's pets. Sanmao is "bare life" in many senses of Giorgio Agamben's term.

How did the first screen adaptation add to, or subtract from, Sanmao's two-dimensional journey from homeless orphan to child of the socialist "state home" under CCP leadership? The first scene of *Wanderings* shows him being dug out of a trash container, feet bare and barely clothed. Having no stable point of attachment or belonging, the wandering urchin evinces the fundamental failure of the state and society to provide basic nourishment and protection for children lost in the cracks of the nation.

In prefaces to his books and in interviews, Zhang often mentioned how his inspiration came from the homeless children he met. One oft-cited story: Zhang saw three street urchins at the entrance of an alley near his home one snowy January morning. They huddled together and warmed themselves around a bonfire. Pained by the sight

Zhang Leping, Sanmao, 1966. Ink and color on paper.

Wanderings of Three Hairs the Orphan 三毛流浪記, Directed by Zhao Ming 趙明 and Yan Gong 嚴恭, 1949.

and frustrated by his inability to help them, Zhang worried about them all night. The next morning, when he passed by again, two of them had died.[3]

He resolved to revive Sanmao as the face of all homeless children, one that might stir widespread sympathy and lead to social interventions to end their misery. The new series transformed the character from a mischievous child soldier to a homeless child whose abject living conditions awakened a sense of social justice. Zhang went to Chengjiaqiao shantytown, where street urchins congregated, not just to do "field work" but to make friends with the many Sanmaos there.[4] This explains why the series was published in the "social news" section of the major daily newspaper *Dagong Bao*. The series ends on a sad note on Children's Day 1948 when Sanmao, barefoot and in tattered clothes, is not allowed into the celebration fairground.

The crossover to cinema complicated the character's iconography. *Wanderings* adds a happy ending to Sanmao's peregrinations: the film's finale communicates the concept of "Liberation" through the mise-en-scène of "turning over the body," which is expressed in energetic traditional *yangge* (rice-sprout song) dancing. Both in its diegesis and production process, the film straddles the old and the new. Its conclusion restores Sanmao as a legitimate child citizen of Shanghai and paves the way for the emergence of the new human subject as a composite "people" in the nascent socialist state.

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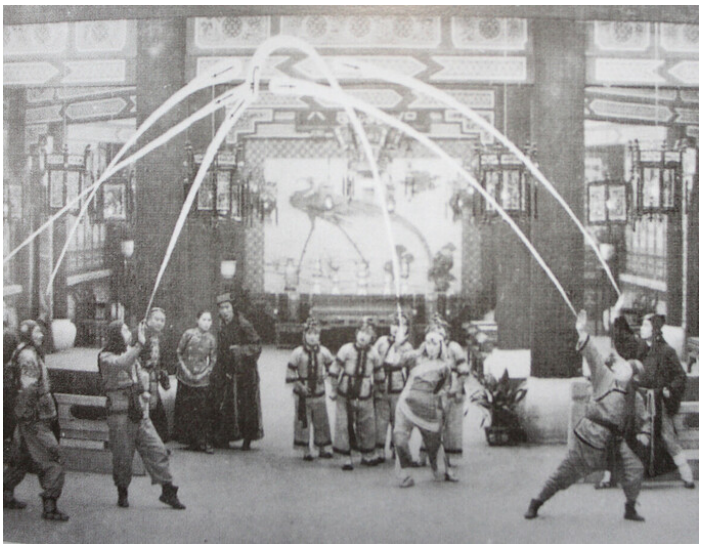
Wanderings' status as a foundational classic of the PRC demands a closer look at its "genre" and its spectatorial address in the context of China's—and the Shanghai film industry's—momentous midcentury transformation. The 1949 film's mixture of live action and animation reasserts the primacy of "movement and light" as the foundation of cinematic realism. With this view, we might also rescue

realism from the presumption of indexicality and examine the intricate relationship between formally experimental filmmaking—including animation—and historical change.

A Pearl Necklace, Directed by Zeyuan Li, 1926.



Burning of the Red Lotus Temple, directed by Zhang Shichuan, 1928–31.

The film's appeal as a synthetic live-action orphan drama with animation elements also harkens back to earlier hybrid live action–animation experiments in Chinese cinema. These include the family melodrama *A Pearl Necklace* (1926), the martial arts film *Burning of the Red Lotus Temple* (1928–31), the docudramatic backstage biopic *Scene of Romance* (1931), and the city symphony qua romantic melodrama *City Scenes* (1935). These animated segments form an integral expression of early Shanghai cinema as an assemblage or "processor" of

City Scenes, Directed by Yuan Muzhi, 1935.

media and cultural forms (such as *xiyangjing*, shadow play, amusement halls, illustrated newspapers, serialized comics, and comic books). They are vivid articulations of what I have termed " *yangjingbang modeng*," or "vernacular modernism."[5]

By animating proto-cinematic serial comic strips, *Wanderings* renders a melodrama of Liberation as a kind of magical "metamorphosis" set in motion, eliciting emotional responses through the "braiding" of what film scholar Tom Gunning has termed "animation1" and "animation2."[6] Gunning first clears away the longstanding misconception that index is the principal foundation of cinematic realism. This belief has relegated "movement and light" to secondary status and has contributed to the "marginalization of animation" in film history and classical film theory. Gunning writes: "Movement by animation, freed from photographic reference … can extend beyond familiarity to fantasy and imagination, creating impossible bodies that throng the works of animation from the early cartoons of Emile Cohl to the digital manipulation of Gollum in *T he Lord of the Rings*."[7]

This observation helps us appreciate Sanmao's "impossible body" across nature and culture, and across media, from two-dimensional representation to becoming human through cinematic motion and projection. Animation's magic "transformation of time" and the orphan drama's powerful myth of self-invention are perfectly suited for, in Hu Feng's poetic rhetoric, a "newborn" nation and an experiment in the political cosmology of a transition-era cinema.

Wanderings arrived during a "twilight zone between heaven and earth" when China, torn by the Civil War, was at a critical turning point.[8] In the summer of 1948 Yang Hansheng, the veteran left-wing filmmaker and critic,[9] was charged with the task of writing the script for *Wanderings*

when the Sanmao cartoons were still being serialized in *Dagong Bao*. Yang reportedly intended for the film to go beyond the scope of the cartoons by showing, for example, the direction Sanmao would take after Liberation by placing him amongst the workers in a factory and having him join the Communist Youth League.[10] The final script, coauthored by several writers at different points on the eve of the "new society," significantly transformed Zhang Leping's original narrative by inserting three major scenes foregrounding class struggle. As Xu points out, these additions stretched Zhang's humor into something more like "boisterous drama."

documentary with the magical, the film succeeds in creating a vivid portrayal of vacillations between despair and hope, precarity and becoming. Its hybrid form served as a potent medium for Liberation as both an affective experience and political discourse, with Sanmao's over-signified body as the (re)setting of History.

The lack of accountability for homeless children ultimately paves the way for the arrival of a new, symbolic adult figure, in the form of the People's Liberation Army and the new sociopolitical order. Thus, a line is drawn between the old and the new, the oppressed and the liberated. A revolutionary temporality is fabricated through these

Cathay Theater, Shanghai, 1931. License: Public Domain.

Wanderings is neither simply a slapstick comedy nor a children's film. Its transmedial constitution and intragenerational address generated a watershed moment in Chinese cinema history. Sanmao's decade-long journey is metamorphosed into a cinematic road trip toward the big screen that moves through brutal poverty, arrested development, and a peripatetic, non-teleological time, with Liberation as an event of cosmic proportions ushering in a teleological futurity, "the Beginning of Time." By blending contrasts, whereby the ending of the film coincides with a new beginning of Time, as if fictional storytelling bleeds into documentary.

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Realist representations of homeless children and street urchins largely disappeared from Chinese cinema after the

new regime found its feet. Yet, intriguingly, two Sanmao films were released in 1958, as the PRC geared up for its tenth-anniversary celebration.

The puppet film adaptation of Sanmao was produced by the Shanghai Fine Arts Animation Studio, newly established in 1957. It prominently credits Zhang Leping as co-scriptwriter with director Zhang Chaoqun. At a running time of less than forty minutes, it was one of the first full-fledged Chinese animation films released after 1949. In contrast, veteran theater and film director Huang Zuoling's *Sanmao the Apprentice* is a live-action comedy based on the existing *huju* (Shanghai-dialect drama) play.

Shanghai Fine Arts Animation Studio in 1978.

Both appear anachronistic at the outset, as their plots are entirely set in the "old society" without any reference to Liberation and the "new society." The puppet film, as with nearly all of Shanghai Fine Arts Animation Studio's output, is essentially a children's film, which explains the more childish look of Sanmao. Huang's adaptation for the local stage, on the other hand, features a teenaged Sanmao coming to the city for an apprenticeship. Despite their divergent forms and spectatorial address (to children and Shanghai urban dwellers, respectively), they share a focus on the "old society" as an object of both critique and fascination. The "looking back" reveals the abominable imperialist presence and unjust social structure. Yet the absent representation of Liberation and post-Liberation life also creates a hermetically sealed representational space that does not necessarily translate into direct homage to the present.

A liberated orphan would, after all, have presented a narrative as well as a political conundrum. Where will Sanmao live if he is no longer homeless? Is he adopted, and if so, by whom? Does he live in a new socialist "teacher and nurture" institution? Adapting Sanmao's story for puppets also solved the problem of where to shoot the film, as the capitalist old Shanghai along with its kaleidoscopic mass culture was all but gone just a decade after the "Beginning of Time." The past had become a foreign country.

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1
Mary Farquhar, “Sanmao: Classic Cartoons and Chinese Popular Culture,” in *Asian Popular Culture*, ed. John Lent (Westview Press, 1995).

2
Xu Lanjun, 君　　.《争与儿童　：国族，教育和大众文化》(Beijing University Press, 2015), 129.

3
Zhang Leping, “永做畫壇孺子牛”《文匯報》1981/6-6. Cited in Xu,《争与儿童　》135.

4
Zhang and his wife had six children, but they still opened their house to many orphans for meals and shelter from time to time. Xu Xiaomin, “San Mao, the Hero with a Heart,” *China Daily*, October 13, 2017 https://europe.chinadaily.com.cn/epaper/2017-10/13/content_33192340.htm .

5
See the first two chapters in my book *An Amorous History of the Silver Screen: Shanghai Cinema 1896–1937* (University of Chicago Press, 2005);《幕史–都市文化与上海影　》（上海店出版社 2012； 增版　2019).

6
Tom Gunning, “Animating the Instant: The Secret Symmetry between Animation and Photography,” in *Animating Film Theory* , ed. Karen Beckman (Duke University Press, 2014), 40–41. The metaphor of “braiding” is from this quote: “Cinema has never been one thing. It has always been a point of intersection, a braiding together of diverse strands,” in Gunning, “Moving Away from the Index: Cinema and the Impression of Reality,” *Difference* 18, no. 1 (2007): 36.

7
Gunning, “Animating the Instant,” 46.

8
Shen Congwen cited by Qian Liqun,《1948:天地玄黄》(中局 2008).

9
Yang Hansheng had just directed *Myriad Lights* (1948), a family melodrama about unemployment, housing problems, and other pressing social issues that Shanghai urban dwellers faced in the postwar years.

10
Xu,《争与儿童　》142–43.

Jonas Staal

Exo-Ecologies: Notes on Intra-planetary and Inter-planetary Becomings

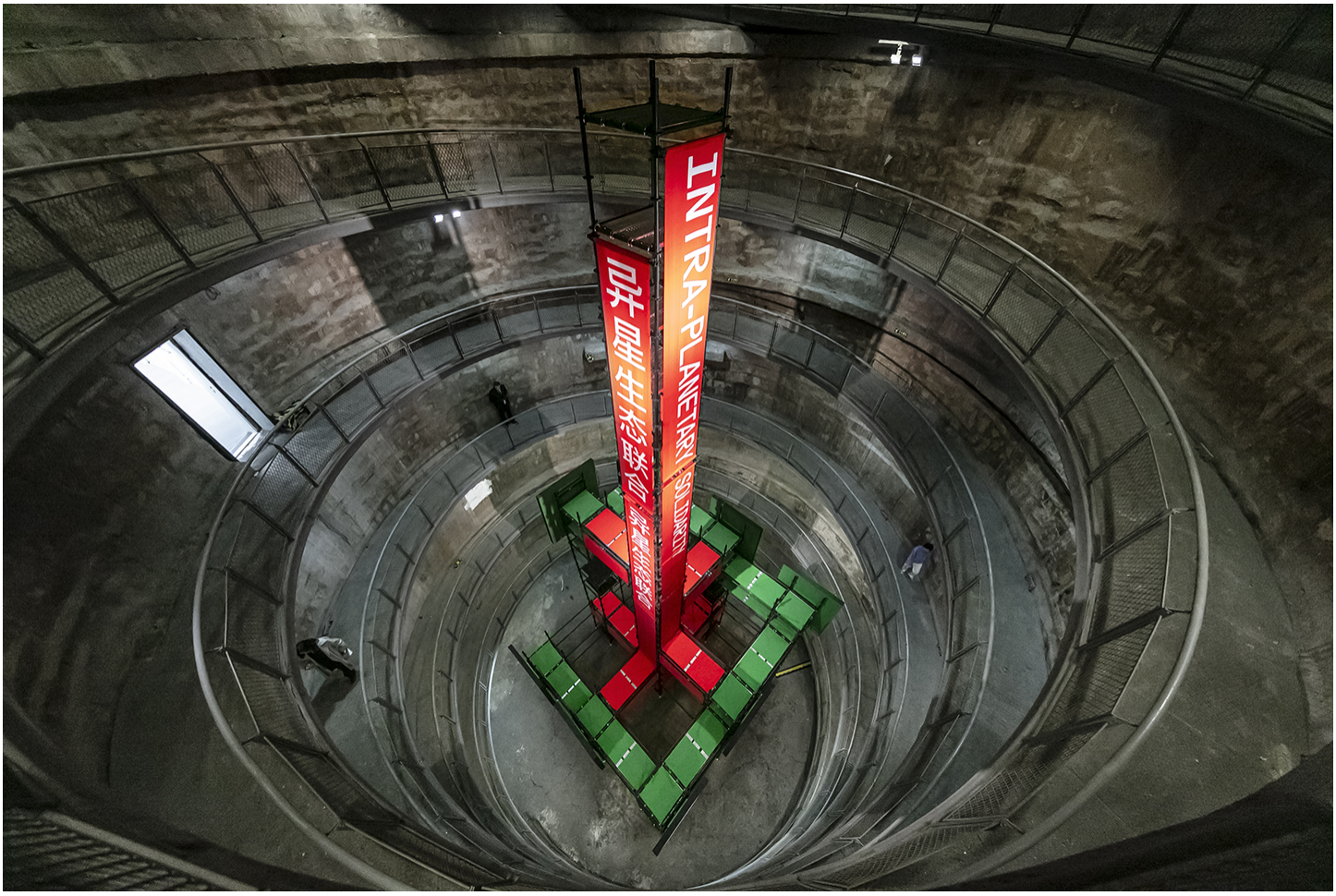
In the coming decade, humans will likely become an interplanetary species by creating permanent settlements on the moon and Mars. This endeavor, fueled by spacefaring corporations such as Elon Musk's SpaceX and Jeff Bezos's Blue Origin, clearly reproduces a terrible colonial and imperialist legacy that shamelessly speaks—to use their own terminology—of martian "colonies" and a new generation of space "pioneers." To challenge these environmentally disastrous space missions and the neocolonial, imperialist models they plan to export into the cosmos, we terrestrial beings need to alter the very foundations of our exo-ecologies in the making.

In Greek, " *exo*" (*εξω*) means "outside," "outer," or "external." Thus, by "exo-ecologies" I describe those ecologies that reach beyond the earth's atmosphere, and that have been shaped by earth-based life-forms that have ventured into space. Not just human cosmonauts and astronauts but also the abducted nonhuman animals and plants that—as test subjects for the effects of space travel on living beings—laid the foundation for earth-based communities to begin the process of becoming interplanetary. The violence imposed on them is the same that is now reproduced in visions of twenty-first century space imperialism. In contrast, to become *inter*-planetary in a meaningful, collective way, we need to begin with *intra*-planetary reparations. In other words, to launch into the outer cosmos without reproducing terrestrial models of violence, we must first launch deep into the earth's inner cosmos: the interdependent web of life that can barely sustain life-forms of the present and future.[1]

As the People's Republic of China expands its space program—including the successful Chang'e-3, Chang'e-4, Chang'e-5, Tianwen-1, and Tiangong Space Station missions—it is an important moment to ask what model of being we, humans, are exporting into outer space. My contribution to this question is a large-scale installation titled *Exo-Ecologies*, which takes form in the 165-meter chimney of the former Nanshi Power Plant in Shanghai. Across this eco-constructivist launch tower, circular lightboxes are displayed with portraits of the first earth-based life-forms to enter outer space.

1. Monument for a Fruit Fly

Dominant historical narratives state that Soviet cosmonaut Yuri Alexievich Gagarin was the first human to enter space. By this phrase, we mean that he was the first human animal to physically move out of the earth's atmosphere, aboard the Vostok 1 on April 12, 1961. However, this seemingly matter-of-fact statement invites us to ask what exactly we mean by "enter space." Throughout history, many different human and nonhuman animals have engaged the cosmos without leaving the earth's atmosphere: indeed, the idea that this is the only way to become a cosmonaut might be a sign of ideological impoverishment. And the priority given to the "first



Jonas Staal, Exo-Ecologies, 2023, Power Station of Art, Shanghai. Produced by the 14th Shanghai Biennale: Cosmos Cinema. Photo: Jimmy Hu.

human" to enter space is a further example of patriarchal speciesism, denying the work and sacrifice of the many nonhuman animals that preceded and accompanied Gagarin's endeavor.

The priority given to "the first human in space" is patriarchal because the first humans have historically been the first men: it is more common, for instance, to hear Gagarin described as "the first man in space." This is consistent with how the term "mankind" universalizes men and the linguistic operation that placed "his" into "history" (the word derives from the Greek *στωρ* meaning "wise man"). We might substitute for this herstory, or for that matter ourstory, or possibly theirstory. And the statement is speciesist because, as mentioned, many nonhuman animals preceded Gagarin as the first earth workers to enter outer space: earth workers being all living beings whose interdependent lives and labor maintain a common biosphere.[2]

History of the first nonhuman cosmonauts to leave earth's atmosphere, starting with fruit flies on February 20, 1947. Jonas Staal, Exo-Ecologies, 2023. Image: Tom Estrera III and Jonas Staal.

In fact, fruit flies were the first earth workers to materially leave the atmosphere, on February 20, 1947. A rhesus macaque named Albert II followed in 1949 but died on impact when he returned to earth. An unnamed mouse followed in 1950. All flew in US-made V2 rockets, until the

A.P. Faidysh-Krandievsky, A.N. Kolchin, and M.O. Barshch, Monument to the Conquerors of Space, 1964. Moscow, Russia. Photo: BACU.

Photo tweeted by NASA astrogardener Tim Kopra from the International Space Station (ISS), January 31, 2016.

balance of the space race tilted in favor of the Soviet Union. All of the earth workers to venture into outer space from that point until Gagarin's voyage flew in Soviet spacecraft: the stray dogs Dezik and Tsygan in 1951, the rabbit Marfusha (Little Martha) in 1959, two rats named No. 12 and No. 18 in 1960, and unnamed guinea pigs and frogs in March 1961 (the latter species flew just one

Hogs were used in crash applications in both the aviation and automobile industries. The sign "Project Barbecue, Run #22, 5 August 1952" referred to the fact that—following investigative autopsies—these nonhuman cosmonauts were cooked and eaten. Photo: USAF, Courtesy New Mexico Museum of Space History.

month before Gagarin joined these exo-ecologies in the making).

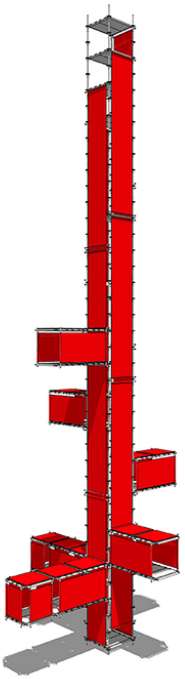
This fourteen-year history of nonhuman cosmonauts is not only eclipsed in the popular imagination by Gagarin's status as "first man," but is itself subject to deep structural hierarchies. A famous example is Laika, the stray Moscow dog who was the first cosmonaut to orbit the earth's atmosphere in the Sputnik 2 capsule on November 3, 1957, before dying of overheating. Her planned death (the mission never included a safe return) made her a martyr. Although Dezik, one of the first two dogs in space, also died during a separate 1951 mission—along with his comrade dog Lisa, when their parachute failed—it is Laika whose name is known around the world and who is honored with monuments in Izhevsk and Moscow.

Of the first fruit fly cosmonauts, not even an image can be

found. They are hardly remembered at all as founders of the first exo-ecology with earth origins. Think of the *Monument to the Conquerors of Space* in Moscow: a 107-meter-tall titanium sculpture, erected in 1964, which depicts a smooth curve of smoke leading to a rocket-shaped top. At its base is a relief depicting the "conquerors" of space. The only nonhuman earth worker present is Laika; not a fruit fly in sight.

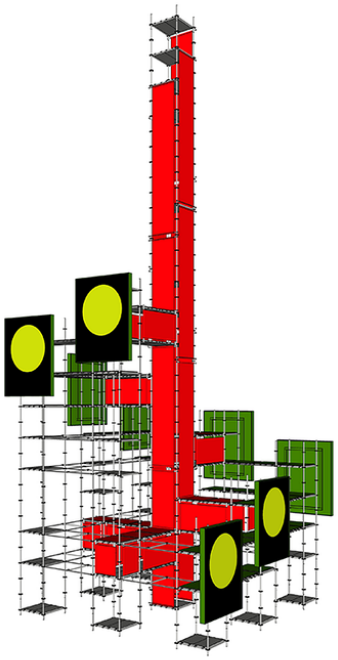
2. Proletarian Plant Blindness

Such speciesist hierarchies and historical narrative preferences describe a pyramid with human animals at the top (itself stratified by brutal internal class, racial, and gender divides), followed below by mammals, amphibians, arthropods, plants, mycelia, and bacteria at the base. Corn seeds were among the first plant-based organic beings to enter outer space, on the same journey as the fruit flies, when astrobotany was emerging as a distinct field. Yet what is known as "plant blindness"—the persistent human prejudice that plants are inferior to other forms of life—continues to haunt our understanding of plant workers and their cosmonautic labor.[3]



Jonas Staal, Exo-Ecologies, Study (2023). Image: Paul Kuipers and Jonas Staal. Produced by the 14th Shanghai Biennale: Cosmos Cinema.

This relates not just to the widespread inability to recognize the impact of plants in daily human life, but also to the lack of scientific understanding of an estimated one-fifth of all existing plant species. (This does not include algae, which is even more problematic given that certain algae are among those rare species that thrive amidst climate catastrophe and will dominate ecosystems of the near future.) Plant blindness mirrors proletariat blindness: the fact that dominant history records the emperors and titans but not the workers forced to build their empires. Nonhuman proletarians are subjected to the same fate, performing the brunt of the labor necessary to maintain our shared biosphere. Class oppression and speciesism are deeply interrelated.



Jonas Staal, Exo-Ecologies, Study (2023). Image: Paul Kuipers and Jonas Staal. Produced by the 14th Shanghai Biennale: Cosmos Cinema.

In 2021 Jeff Bezos, having just returned from an eleven-minute trip to the outer atmosphere in a penis-shaped rocket, held a press conference. Dressed in a blue space uniform and a cowboy hat—to emphasize his new status as a space pioneer—he stated to the assembled press: "I want to thank every Amazon employee and every Amazon customer because you guys paid for all of this."[4] And work for it they did: without benefits or regular hours, banned from unionizing, forced to pee in bottles and wear diapers to meet production targets in windowless warehouses—all so their CEO could leave earth without them. But again, the monstrosity that is Amazon also relies on massive unrecognized *nonhuman* proletarian labor, including millions of years of earth labor in the form of the minerals used in tech gadgets, the forests perpetually sacrificed to manufacture everything from paper to furniture, and the never-ending supply of animals to produce and test countless consumer products. All things are made from something else: animal, plant, and mineral work. Animal, plant, and mineral bodies. Human and nonhuman earth workers are

Detail from a history of the first nonhuman cosmonauts to leave earth's atmosphere, starting with fruit flies on February 20, 1947. Jonas Staal, Exo-Ecologies, 2023. Image: Tom Estrera III and Jonas Staal.

Detail from a history of the first nonhuman cosmonauts to leave earth's atmosphere, starting with fruit flies on February 20, 1947. Jonas Staal, Exo-Ecologies, 2023. Image: Tom Estrera III and Jonas Staal.

Detail from a history of the first nonhuman cosmonauts to leave earth's atmosphere, starting with fruit flies on February 20, 1947. Jonas Staal, Exo-Ecologies, 2023. Image: Tom Estrera III and Jonas Staal.

expected to provide their work and their lives, but history—with an emphasis on *his*— mentions only the multibillionaire.

Nonhuman animals have been forced to provide labor and life throughout the history of space travel, first and foremost as living crash test dummies to determine the impacts of extreme gravity and high speed. In the US, the remains of living hogs used as crash test dummies were famously barbecued afterwards by the operating crew.[5] These abducted and exploited nonhuman animals live as ghosts in the space machine. Fruit fly, monkey, mouse, dog, rabbit, rat, guinea pig, frog: these are the founders of an exo-ecology—the extraplanetary ecological network—that has enabled us to become an interplanetary species. But this role was not chosen. This is why they deserve to be not just recognized but mourned. Such recognition means confronting the conditions that made them cosmonauts in the first place. It means dismantling the system, narratives, and mentality that created the colonial climate catastrophe on earth and that are bound to replicate this same catastrophe on other living worlds throughout the cosmos.

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."[6] But this is a false representation of the facts. Musk himself is a chief cause of the extinction event from which *he* is fleeing. One could even say that extinction is a marketing tool to pitch new electric cars,

geoengineering industries, and martian settlement projects. In other words, this extractive model *is* the extinction event, a culmination of the slow violence manifesting across five hundred years of colonial extermination and empire-building on earth, and now beyond.[7] This means that to alter the conditions of our exo-ecology we have to establish intra-planetary solidarity among human and nonhuman earth workers. *Intra-*planetarism, rather than *inter-* planetarism, aims to deepen earthbound social and ecological relations. Only the recognition and dismantling of the colonial and imperialist mindset and the infrastructures that are driving climate collapse on earth can lay the foundation for becoming interplanetary in a meaningful way—not as "colonists" and "pioneers," but as *guests* and comrades.[8] Travel not to "discover" but to *encounter*.

In my installation *Exo-Ecologies*, discussed at the beginning of this essay, circular portraits operate like time portals: nonhuman cosmonauts from the past look back at us in the present, a transhistorical ecology of the beings that shaped our becoming interplanetary. The reversed timeline—the earliest cosmonauts are stationed at the top of the tower and the most recent at the base—expresses the proposition that we must become *intra*-planetary before becoming *inter*-planetary: visitors move *towards* earth through the depictions of those who left its atmosphere. Two slogans appear on the side of the tower: "INTRA-PLANETARY SOLIDARITY" and "EXO-ECOLOGIES UNITE." The first slogan relates to the necessity for earth reparations, which will make a meaningful interplanetarism possible, so that—in the second slogan—exo-ecologies originating from earth can unite with other exo-ecologies yet unknown to us.

The shape of the launch tower refers both to rocket launch installations and to a constructivist artistic inheritance, which Radha D'Souza and I have extended with the idea of "eco-constructivism." Where the constructivists primarily considered humans as "constructors" of a new reality, eco-constructivism considers nonhumans as creative beings as well, and understands ecosystems to be the result of the collective work of human and nonhuman earth workers.[9]

Although *Exo-Ecologies* challenges the colonial and imperialist mindset underlying the current corporate space race, it does not let go of the possibility that becoming interplanetary can be a collective intra- and interplanetary project of emancipation. This hope has been central to more than a century of political and emancipatory science (fiction) writing, from the work of Nikolai Fedorov, who laid the foundation for the twentieth-century cosmist movement, to Alexander Bogdanov's novel *Red Star* (1908), from the cosmic Afrofuturist philosophy of Sun Ra to Octavia Butler's Xenogenesis Trilogy (1987–89).

Even though corporate enterprise has hijacked the emancipatory ideals of becoming interplanetary, this is no reason not to reclaim them. That the *Exo-Ecologies* installation takes the form of a launch site should be taken literally, not metaphorically. It aims to launch an alternative set of ideas for how we might become intra-planetary and inter-planetary simultaneously, to propagate exo-ecologies and deep futures for all.

Jonas Staal, Exo-Ecologies, 2023. Photo: Power Station of Art.

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Jonas Staal is a visual artist whose work deals with the relation between art, propaganda, and democracy. His most recent book is *Propaganda Art in the 21st Century* (MIT Press, 2019).

1
The term “web of life” is proposed by Jason W. Moore. See *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* , ed. J. W. Moore (PM Press, 2016).

2
“Earth workers” is a term I developed with Radha D'Souza in *Court for Intergenerational Climate Crimes* (Framer Framed, 2023).

3
William Allen, “Plant Blindness,” *BioScience* , no. 53 (2003): 926. He writes that plant blindness is “the inability to see or notice the plants in one’s own environment,” resulting in “the inability to recognize the importance of plants in the biosphere and in human affairs.”

4
Neil Vigdor, “Bezos Thanks Amazon Workers and Customers for his Vast Wealth, Prompting Backlash,” *New York Times,* July 20, 2021 https://www.nytimes.com/2021/07/20/science/bezos-amazon.html .

5
Colin Burgess, *Animals in Space: From Research Rockets to the Space Shuttle* (Springer, 2007).

6
Nicky Woolf, “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 .

7
Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Harvard University Press, 2011).

8
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/ .

9
Eco-constructivism builds on the constructivist notion of the object as comrade, expanded here to the nonhuman comrade and worker. See Christina Kiaer, *Imagine No Possessions: The Socialist Objects of Russian Constructivism* (MIT Press, 2005).

Lukas Brasiskis

A Brief History of the Cosmos in Cinema

The invention of the cinematograph coincided with the industrial transformation of Western society in the late nineteenth century. Thus cinema first emerged as a form of entertainment capable of recording the technological advancements that were revolutionizing daily life. The first cameramen, trained by the Lumière brothers, focused on documenting such life through carefully composed and sometimes staged snippets, but within a year of the first public screening of *Workers Leaving the Factory* (1895), artists from diverse entertainment backgrounds—including the circus and vaudeville—were working with the new technology to different ends.[1] In his 2006 essay "The Cinema of Attraction[s]," Tom Gunning proposes that the audiences of early films were captivated by spectacular visual representations of worlds beyond ordinary sight.[2] And so, almost from the moment of the medium's invention, cinema shifted from capturing indexical images of the surrounding world to reflecting on what might be the oldest subject of art: humanity's relationship to the cosmos.

Visionaries like the French illusionist Georges Méliès and his Spanish counterpart Segundo de Chomón pioneered a new type of film in which science and fantasy blended to produce an entirely new form of visual attraction. These so-called "trick" films ignited imaginations by inviting viewers into worlds beyond the everyday, notably the realm of outer space. While Méliès's *The Astronomer's Dream* (1898) and enduringly famous *A Trip to the Moon* (1902) are the best-known examples, other filmmakers from Ashley Miller to Enrico Novelli also ventured into space decades before astronauts set foot on the moon or returned with the first photographs from orbit.

These films, in contrast to the Lumières' documentary realism, crafted short cosmic narratives that used special effects to trick the viewer's eye, much like a magician's illusion. Employing pioneering techniques such as stop motion, double exposure, and reverse footage, these filmmakers created images that defied conventional logics. In Segundo de Chomón's silent film *A Trip to Jupiter* (1909), a king becomes obsessed with the planets after spending the afternoon with the royal astronomer. In his dreams, he builds a ladder and climbs up it to Jupiter, only to be pushed back down to earth by the anthropomorphized planet. As he falls, this cosmic colonizer suddenly wakes up and finds himself back in bed. In Méliès's *An Impossible Voyage* (1904), a flying train transports a group of curious people into outer space. And no one can forget the astronomers' journey to the moon in a bullet-shaped vessel as imag(in)ed in *A Trip to the Moon*.

These space-travel films are often treated by film scholars, including Gunning and Barry Keith Grant, as precursors to the science-fiction genre. They note how the tropes and special effects in these films established the visual themes of the space age. While space-travel films help to illustrate how the problem of depicting outer space has captivated

He Zike, Random Access, 2023, Single-channel video, 14:20 minutes. Courtesy of the artist. In collaboration with CineVoyage. Commissioned by VH Award of Hyundai Motor Studio.

filmmakers from the very inception of the medium, the bond between cinema and the cosmos transcends the fictional representation of space travel as a subject and might instead be understood as something more like an ontological affiliation.

In the first half of the twentieth century, as perceptions of time and space were transformed by new developments in science and the arts, so the aesthetics of film reflected a changing relationship with the surrounding world. Complex editing and increasingly sophisticated camerawork taught the viewer's eye to move and think within shots as well as between them. Theorists such as Jean Epstein, Béla Balázs, and Siegfried Kracauer engaged deeply with the need to reimagine cinema's role in a modern society shaped by new communication and transportation systems and associated changes in the perception of the everyday. Seeking to distinguish cinema from other art forms, film critic André Bazin proposed that the film screen was not merely a frame for the image but a boundless portal to a multifaceted reality, introducing the concept of its "centrifugal force."

Bazin argued that, while arts such as theater are constrained by the physical range of actors and the duration of the live performance, cinema is unique in capturing and replicating movement in time. Inspired by Peter Bruegel the Elder's *Landscape with the Fall of Icarus* (ca. 1560), Bazin envisions cinema as a cosmic force with the power to decenter a viewer's perception of the world they inhabit. In Bruegel's relegation of the drama of Icarus to the periphery of the painting, Bazin sees a precursor to the "centrifugal screen" characteristic of the evolved language of film. The indifference of the painting to the heroic human figure stands for the democratic nature of modern cinema, in which every element onscreen holds equal ontological weight.

This perspective challenged the traditional hierarchies of character-led narrative in theater and literature, redefining how one might interpret cinema in relation to the world as cosmos. In contrast to the static confines of a framed painting, Bazin's "centrifugal screen" stresses cinema's inherent ability to transcend its own technological boundaries, with the potential to expand infinitely out into the vast cosmos beyond the visible frame. He writes that

> the outer edges of the screen are not, as the technical jargon would seem to imply, the frame of the film image. They are the edges of a piece of masking that shows only a portion of reality. The picture frame polarizes space inwards. On the contrary, what the screen shows us seems to be part of something prolonged indefinitely into the universe. A frame is centripetal, the screen centrifugal.[3]

Raqs Media Collective, The Bicyclist Who Fell into a Time Cone, 2023. Single-channel video, color, sound, 25:05 minutes. Courtesy of the artists. Originally commissioned by the Jencks Foundation, London.

For Bazin the centrifugal power of the cinema screen lies neither in film's ability to produce familiar images nor in its capacity to tell a story, but rather in how it might open up the senses of the viewer to a truly democratic understanding of the surrounding world. In the context of Bazin's film theory, cinema's centrifugal force symbolizes an outward, expansive movement, akin to a force that pushes away from the center beyond the confines of the frame, offering an expansive experience of virtual reality that has not yet been represented.

Toward the end of his life Bazin reread the Icarus myth as expressive of the desire to overcome gravity, correlating it with technological advancements in cinema. In "The Myth of Total Cinema," Bazin emphasizes the alignment of cinema's founding myth with the nineteenth-century pursuit of an "integral realism," arguing that cinema sought to recreate the world in its own image: a world freed from the irreversible passage of time and subjective artistic interpretation.[4] Bazin notes that while the realization of Icarus's dream of flight required the invention of the internal combustion engine, flight itself had been an aspiration of humanity ever since we first observed the skies. He suggests, by analogy, that

Saodat Ismailova, Two Horizons, 2017. Two channel audio video installation, 23:30 minutes. Courtesy of the artist.

technologies of image reproduction such as cinema are not only modern inventions but the fulfilment of ancient desires. Referring to Ovid's version of the myth, he suggests that Daedalus was able to create wings for himself and Icarus only by imitating birds. In this way, Bazin frames the myth of total cinema as an aspiration towards the myth of integral realism: to emulate nature through technological innovation and, in so doing, to transform reality.

Agnieszka Polska, My Little Planet, 2016. Video (animation), 7:57 minutes. Courtesy Agnieszka Polska and Gallery Dawid Radziszewski, Warsaw.

Ho Rui An, Lining. 4k video and sound, 26 minutes. Courtesy of the artist.

Li Shuang, Æther (Poor Objects), 2021. Single-channel video, 18:28. Courtesy of artist. Commissioned by Rockbund Art Museum, Shanghai.

The concept of total cinema gives rise to the endeavor to recreate the world in cinema's image. Yet even as many previously unattainable technological dreams become reality, none of them are sufficient to substitute for existing reality. In Bazin's view, cinema has an asymptotic relationship to reality. The medium might approach perfect realism but can never attain what he calls "the

Rosalind Nashashibi, Denim Sky, 2022. Single-channel video (16mm transferred to HD), 67:24 minutes. Courtesy of the artist.

Entrance to Carsten Nicolai aka Alva Noto, COSMOS (Soundtrack for 14th Shanghai Biennale), 2023. 14 tracks, 117:30 minutes. Photo: Power Station of Art.

myth of total cinema"—in which the boundaries between the world and its representation dissolve into an authoritarian totality—precisely because reality itself is constantly changing.

Over the span of its 130 years, cinema has continuously reinvented itself through technological advancements in sound, color, and screen format, leading to things like 3D movies and now AI-generated images. Often declared obsolete only to be reborn through new forms, cinema has been perpetually open to the unknown and yet-to-be-invented. In this context, the history of the cosmos in cinema might be understood as an ongoing attempt to move viewers beyond mimetic realism, towards something more fundamental and transformative: the jouissance of transcending the screen's frame.

Reflecting on the limits of film's technological evolution serves as a productive way to understand cinema's relationship to the cosmos. One could see cinema's pursuit of an integral realism—its quest to recreate the world in its own image—as aligning with the broader human aspiration to make sense of our existence in the universe. However, as Bazin observes, this pursuit is inherently asymptotic. The history of the cosmos in cinema is a never-ending artistic exploration, and creative interpretation, of humanity's individual and collective relationship to an ultimately unrepresentable whole.

Solaristics—Taking inspiration from Stanisław Lem's vastly influential 1961 science-fiction novel Solaris, this room responds to the question: Is it even possible for humans to conceptualize an extra-terrestrial intelligence? And might art help us to imagine a consciousness radically different from our own? Photo: Power Station of Art.

X

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1
Regarded as the first publicly screened film in the history of cinema, *Workers Leaving the Factory* was projected by the Lumière brothers on March 22, 1895, in Paris. Capturing workers leaving the Lumière family's Montplaisir factory during a midday break, the film, as Georges Didi-Huberman writes, marked the entrance of everyday people onto the cinematic stage. The Lumière brothers decided to reshoot the scene multiple times, creating different versions of the same event. This staging illustrates the inherent tension in cinema between the director's control, the world recorded, and the audience's freedom to interpret it. The reshoots not only complicate our understanding of the film as documenting a single historical event; they also underscore the manipulative nature of filmmaking by transforming the workers into actors to be directed.

2
In *Early Cinema: Space Frame Narrative* , ed. Thomas Elsaesser (British Film Institute, 1990).

3
André Bazin, "Painting and Cinema," in *What Is Cinema?*, ed. and trans. Hugh Gray (University of California Press, 2005), 166.

4
André Bazin, "The Myth of Total Cinema," in *What Is Cinema?*

Zairong Xiang

River Swimming in a Salmon

In the new cosmic era of "post-pandemic" 2022, an AI image generator was given the prompt "salmon swimming in a river." It produced several puzzling images of similar composition, each of which shows what is unquestionably salmon in a stream of water. However, none of the results matched the familiar image of a legendary piscine hero swimming full-bodied against the current. Instead, they all depicted a fraction of a salmon, a fillet of salmon, its pink flesh ready to be seared or made into sashimi. In AI's defense, the algorithm did not interpret the prompt *incorrectly*. All the right elements are there: this is not a pig in a volcano. Yet it all appears wrong to human eyes.

We might say that what went wrong was the montage. As a cinematic device, montage is not only that which connects discrete units—multiple images, signs, or scenes—but that which generates meaning out of their conjuncture and sets these elements in motion. Exhibition-making shares many similarities with the principle of montage.[1] It is also a quintessential feature of our image-ridden era.

In the early twentieth century, Soviet film theorists and practitioners such as Sergei Eisenstein and Lev Kuleshov, as well as German art historians and cultural theorists like Aby Warburg and Walter Benjamin, settled on montage as a means for understanding the collapse of the old world and the imminent arrival of a new one.[2] So what might AI-generated montage—as exemplified by this at-once bizarre, funny, and disturbing image-montage of salmon fillets in a river—tell us about where we are and where we are headed?

Upon seeing the AI-generated salmon images, most people would burst out laughing. A salmon fillet swimming in a river *is* very funny. But why? It is not just because such a scenario is realistically improbable. Few would laugh in the same way if the generator responded to the prompt "salmon dancing in a sushi restaurant" with an image of a fillet doing the twist against a background of oversized "floating world" prints. Nor is it only humorous because human intelligence seems in this instance to surpass artificial intelligence, proving it to be mere artificial stupidity. Instead, in revealing something more ambiguous and disturbing, the image provokes the laughter of relief. Is it a dark, Freudian prophecy?

Think of Ferdinand Zecca's flying machine patrolling the sky over Paris before the invention of the spaceship, or Salvador Dalí's *Lobster Telephone* (1938). Or go back to the dawn of cinema and recall Jacques Aumont's account of early critics' distress at montage: "Anything can come after anything else … from a horse rider to a girl, a fly to an elephant, the North Pole to the Sahara Desert."[3] Considering Dalí's (in)famous quip—"When I ask for a grilled lobster in a restaurant, I am never served a cooked telephone"—what would he make of what AI has served us?[4] With its salmon fillet swimming in a river, has AI-the-artist achieved Dalí-esque levels of surrealist

Michel Seuphor, 64 Hexagrammes du Yi-King. Chinese ink on canson papers (prints). Each 67 × 51 cm. Indivision Berckelaers-Seuphor. Photo: Power Station of Art.

art-making and nonsensical posturing? Even better: Has it mastered the estrangement effect which, according to Russian formalists, is what makes art artistic?

What about AI-as-curator? Taking things apart and out of their contexts is a feature of what Anselm Franke calls the "objectifying, immobilizing, mummifying device" of the modern museum.[5] The salmon fillet in the river might thus be typical of the disenchanted, mechanistic, categorically hierarchical order of things that the imperialist institution supports. Rather than producing anything revolutionary, AI-the-curator reinforces—and might even push further—a modern/colonial logic of border-making and confinement. Rather than imprisoning living creatures within artificial boundaries, it cuts them to pieces. As Los Tigres del Norte sing of the US-Mexico border: " *Yo no crucé la frontera, la frontera me cruzó* " (I didn't cross the border, the border crossed me).[6]

The challenges of today's curatorial practices are vividly incarnated (pun intended) in this image: not only is the salmon taken out of its habitat, it is also cut up, objectified, immobilized, and mummified in its artificial pink-orange glow. As an institution of categorization and knowledge production, the modern museum is closer to scientific reasoning than artistic creativity or iconological generativity. By "scientific reasoning," I mean the process of taking things apart and investigating their nature, asking, "What is it?" Art and religion (and hopefully curation) instead put things together and ask, "What does it mean?" Montage opens the question out similarly: What meaning might the ensemble generate?

Let us dwell further on AI's equation of salmon with a fillet. The algorithm that produced the fillet images had been fed a fragmented dataset in which the bourgeois vision of the world is overrepresented to the extent that it becomes the "full picture." (Algorithms are the new organizers of the capitalist cosmos.) In this context, a living salmon's automated reduction to a ready-to-eat salmon fillet might exemplify the effects of labor alienation. While most readers can perfectly picture a salmon fillet with its pink-orange color and oval shape, they seem less likely to immediately identify a salmon in its unsliced entirety.

A fillet as the primary visual signifier of "salmon" might tell

Hui Tao, The Fall (The Legend of the White Snake), 2023 (new version). Silica gel, fiberglass, metal, paint. Width: 398 cm; tail: 65 × 95 × 22 cm. Courtesy of the artist. Photo: Power Station of Art.

us more about ecologically alienated capitalist humanity than any fantastical speculation on the "AI apocalypse." The dataset that prioritizes the fillet over the fish reflects the overrepresentation of a certain "ethno-class," in Sylvia Wynter's term.[7] In fact, no one knows better what a live salmon looks like and how it behaves than the fishermen and the factory workers who actually do the farming and filleting of this globalized commodity. The visual joke, then, is on the global bourgeoisie.

Montage conjoins discrete elements (which could be understood as always already a montage) and sets them in motion. One element is missing in both the AI-generated image and in our analysis of the original prompt: the verb "swimming." Of course, the act of "swimming" cannot be shown but only inferred in a still image—for example, by a twisted fin or a splash of water. And while it may seem absurd that a slice of salmon fillet should be pictured in a stream of water, it is not inconceivable: had this image been constructed by a (human) artist, we might read it as a satire on consumer alienation. Much more troubling is the implication that the connector "swimming" was willfully dismissed in the image generator's interpretation: only a living creature could be swimming.

What happens when the dynamic connector—the single word "swimming"—is highlighted and reintroduced into the sentence? The ability to fill in gaps is the basic cognitive skill through which montage operates: the combination of "salmon" and "river" requires a verb to make sense of it ("jumping," "flying," "plunging," or the more poetic "playing" or "dancing"). The phrase could even be reversed as "river swimming in a salmon." As visual syntax, montage connects myriad forms and images ("cosmos") and sets them in motion ("cinema"). The myriad forms are not only infinite but infinitely editable. Proto-cinematic attempts to recode the cosmos—from reading the fate of an individual in the stars to consulting the heavens to know when to till the land—recognize this editability. Since the "dawn of everything," a variety of cultural practices in the spheres of religion, economy, and agriculture have recoded the cosmos in this way.[8] In this sense, montage as a cinematic technique has a much longer history than the modern technology of filmmaking. These successive "montages" have fundamentally changed the way the world looks and works.

Zhang Wenxin, Notes of the Hollow series, 2021–present. Photograph, stainless steel mirror, 3D print. Overall dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

At the same time, the AI-generated salmon images do not truly form a montage but rather a *démontage,* a dissection: they disassemble an assemblage, stop a motion, take things out of context. Maybe rapidly evolving AI has not only caught up with but surpassed human intelligence, even in its image-making capacity. In this sense, perhaps the salmon fillet in the river was AI's flippant commentary on consumer capitalism. Speculating on what AI has been and could become is beyond the scope of this essay, but considering these images as *démontage* might indicate how our contemporary society is at the same time pervasively connected and profoundly segregated and fragmented. The modern/colonial museum and progressive politics alike fall prey to decontextualization, reductionism, and essentialized (self-)identification.

In the 14th Shanghai Biennale, entitled "Cosmos Cinema," montage is understood both as a device to observe the world ("cosmos") and as an organizing principle—an onto-epistemology that sets the world in motion and re/organizes it ("cinema"). This exhibition-as-film is narrated in nine successive "palaces" (九　　). The physical arrangement of "palaces" refers to a mythic Chinese cosmological diagram laid out in the manner of a three-by-three Rubik's Cube that structures heaven and earth, time and space, and *yinyang*, creating complex dynamics among them.[9] This premodern, montage-like structure of nine palaces is still in use today in a variety of practices that map out the myriad connections between the mundane world and the workings of the cosmos.[10]

"Cosmos Cinema" ends with "brave wind and rain," a "palace" that could have included the upstream-beating salmon—if not its aquacultured simulacrum. "Brave wind and rain" (风沐雨　), an expression taken from the *Zhuangzi*, one of Taoism's foundational books, refers to the story of Yu (大禹), a semi-mythical figure who manages to tame a devastating recurrent flood. This story is entangled with the river diagram *hetu* and the Luo River Chart that gave rise to the nine palaces. Yu is said to work so diligently in his efforts against the flood that he

Kidlat Tahimik, Perfumed Nightmare, film still, 1977, 93 minutes. Courtesy of the artist.

Mao Chenyu, The Cosmists of the Ximao Household, 2004–23. 4K video, color, Qing Dynasty wooden furniture, glass, pine resin, 9:27 minutes. Courtesy of the artist. Photo: Power Station of Art.

Cui Jie, (from left to right) International Space Station; The Rainfall Pavilion and the Lakeside Pavilion; Base Station #2, 2019. Acrylic and spray paint on canvas. Courtesy of the artist and Pilar Corrias, London. Photo: Power Station of Art.

Zijie, SHENZHI LEE on the science island: Project Chinese word processing, on writing, power, capital and technolog, 2020–present. Multimedia installation. Dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

refuses go home. His refusal constitutes a break with the "homecoming rule" hailed through the generations as a Confucian virtue. Instead, Yu combs his hair with the wind and showers in the rain.[11] The expression "brave wind and rain" thus came into use to praise diligent labor, like that of the peasant cosmists in artist Mao Chenyu's video series *Ximaojia Universe* (2004–). The peasants observe the stars, decode and recode the wind and water of the nearby mountain and river, cultivate the land, grow grains, and sustain life's flourishing.

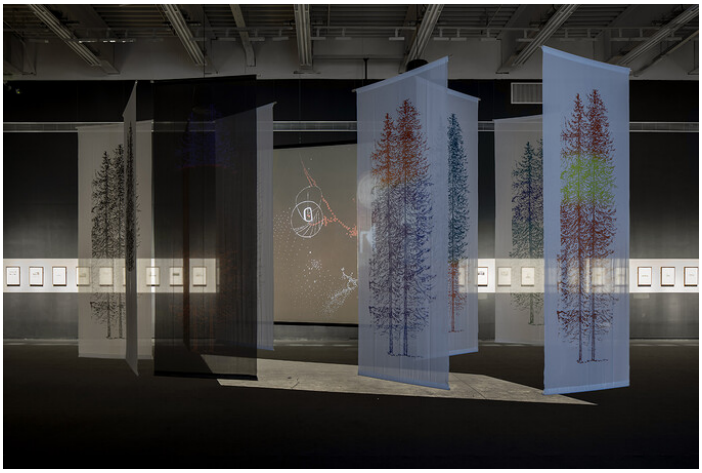
The wonder of taming a flood could have been achieved by any anonymous person, or more likely, a collective of people. But stories and myths of bravery and diligence tend to foreground a singular, heroic figure like Yu. The legacy of capitalist modernity's death cult, which is bringing organized life on earth to the brink of annihilation, is to seduce us into hoping for a heroic figure to lead an exodus: a supreme leader, a philosopher-prophet, a visionary business tycoon, a genius artist … even a charismatic curator. Walter Benjamin links this auto-instituting hero mythopoeia to the conditions of art in the age of its technological reproducibility. In a footnote in his well-known essay, he states that "the crisis of democracies can be understood as a crisis in the conditions governing the public representation of the political man … This results in a new form of selection—selection before an apparatus—from which the champion, the star, and the dictator emerge as victors."[12]

"Cosmos Cinema" is a collective endeavor and a collective

Zhou Xiaohu, Ship of Fools, 2018. Courtesy of the artist. Photo: Power Station of Art.

Marina Camargo, Distance within Space, 2023. Installation with light, projection, and cutout brass. Dimensions variable. Courtesy of the artist. Photo: Power Station of Art.

speculation on where we have been, who we are, and what we might become. It intentionally decentralizes the production of meaning through a loose deployment of cinematic and proto-cinematic means of montage. The nine "palaces"—thematic clusters—into which the exhibition is arranged might be understood as a "director's cut," offering one of many possible edits of these thematic units. Structuring the exhibition's meaning-making mechanism through this at-once cosmic and (proto-)cinematic device foregrounds associative freedom and invites visitors to reshuffle, re-edit, and ultimately re-curate the exhibition. This arrangement aims to ensure that no authority can dictate a singular narrative about or impose a fixed meaning onto this cosmos-cinematic exploration. What does it mean when the AI salmon fillet encounters in the river a dragon-horse carrying a divinatory cosmological diagram? After all, the origin of the nine-palaces cosmography—often used as a divination



Elda Cerrato and Luciano Zubillaga, Okidanokh, 1964–2022. Single-channel video, 8:09 minutes. Elda Cerrato Archive (ECET).Elda Cerrato and Luciano Zubillaga, Ocultamientos IV, 2023. Print on fabric, 10 pieces. Each 300 × 110 cm. Elda Cerrato Archive (ECET). Photo: Power Station of Art.

tool—is a river: in the mythic image of the Yellow River *hetu* (河　) carried by the dragon-horse (龙马). However, there's no salmon there to speak of.

X

Zairong Xiang's research, teaching, and curatorial practices engage with cosmology and cosmopolitanism in their culturally diverse, historically specific, and conceptually promiscuous manifestations in English, Spanish, French, Chinese, and Nahuatl. He teaches literature and art at Duke Kunshan University, and was cocurator of the 2021 Guangzhou Image Triennial and "*Ceremony (Burial of an Undead World)*" at Haus der Kulturen der Welt, Berlin, among many other projects. He is the author of *Queer Ancient Ways: A Decolonial Exploration* (punctum books) and is currently completing his second book, *Transdualism*.

1
See, for example, Oksana Bulgakowa, "Eisenstein as Curator," *Senses of Cinema*, no. 93 (July 2020) https://www.sensesofcinema.com/2020/feature-articles/eisenstein-as-curator/ .

2
Montage here could also refer to the montage-like form of Warburg's *Bilderatlas Mnemosyne* (1927–29).

3
Jacques Aumont, *Montage*, trans. Timothy Barnard (Caboose, 2020), 10.

4
A small but important note regarding *Lobster Telephone*: for a generation that has grown up without landlines, the design might look tacky, but the object is not as strange or outrageous as its creator intended it to be.

5
Anselm Franke, in *Animismus: Moderne Hinter Den Spiegeln = Modernity through the Looking Glass* , ed. A. Franke (Verlag der Buchhandlung Walther König, 2012), 174.

6
From the song "Somos Más Americanos" on the group's album *Uniendo Fronteras* (Fonavisa, 2001).

7
Sylvia Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument," *CR: The New Centennial Review* 3, no. 3 (2003).

8
David Graeber and David Wengrow, *The Dawn of Everything: A New History of Humanity* (Farrar, Straus and Giroux, 2021).

9
See Peng-Yoke Ho, "Chinese Number Mysticism," in *Mathematics and the Divine: A Historical Study* , ed. Teun Koetsier and Luc Bergmans (Elsevier, 2005).

10
For a similar analysis in a different cultural context, see Laura U. Marks, "Talisman-Images: From the Cosmos to Your Body," in *Deleuze, Guattari and the Art of Multiplicity* , ed. Radek Prezedpełski and S. E. Wilmer (Edinburgh University Press, 2020).

11
"Yu took up the shovel and basket with his own two hands, joining and interconnecting the waterways of the world until the down was scraped off his hams and the hair off his shins, drenched in extreme rains, hair raked through by violent winds." "The Whole World," chap. 33 in *Zhuangzi* . English translation from *Zhuangzi: The Complete Writings* , trans. Brook Ziporyn (Hackett Publishing, 2020), 268.

12
Walter Benjamin, *The Work of Art in the Age of Its Technological Reproducibility, and Other Writings on Media* , ed. Michael W. Jennings, Brigid Doherty, and Thomas Y. Levin (Harvard University Press, 2008), 49–50n24. The quoted translation is slightly modified following Elena Vogman's suggestion: "' *Politischen Menschen* ,' a phrase that approximately corresponds to 'political human' ... seems to suggest more expansive effects than the official translation's 'politician.'" E. Vogman, *Dance of Values: Sergei Eisenstein's Capital Project* (Diaphanes, 2019), 13n1.

Arseny Zhilyaev

A Soviet Engineer of Eternal Life

We see a dim corridor, then the facade of a house with a small extension. The windows are lit and, perhaps, something is happening inside. The camera shakes. We look through one of the windows. In the foreground is the corner of a kitchen table, a bowl of fruit, a glass, two books wrapped in plastic film (perhaps catalogs), the backs of chairs peeking out from the table's edge. In the background are a large house plant and a wooden wall with a number of narrow, dark openings. Below the ceiling are two austere luminous hemispherical lamps, as in Soviet scientific institutions or libraries. Sitting at the table facing the viewer is the lonely figure of Ilya Iosifovich Kabakov. He wears a blue and white checkered shirt, his hand is stretched out a little on the table, his head is lowered. His face is not visible. The camera shakes. Perhaps the artist has fallen asleep or is depressed by something or is thinking hard. Then we hear, slightly startling, his voice off-screen: "It's completely obvious to me that I have this cosmic … craving for cosmism, cosmos." That's how the film *Poor Folk: Kabakovs*, devoted to the life and creativity of Ilya and Emilia Kabakov, begins.

Off-screen, Kabakov continues to reminisce. He tells us how in his youth he walked alone along the Black Sea coast from Yalta to Feodosia, having "crazy cosmic experiences." One night, when he looked at the starry sky, it transformed in such a way that the artist felt surrounded by it: "Stars suddenly floated, the earth shrank terribly, and I felt myself uncertain on the surface of this small ball. I saw that space was coming up from behind me, together with my planet, and my brain began to explode from horror." The same experience of cosmic horror is essential to the medium of total installation, with which the Kabakov name is so closely associated.

Methodologically speaking, it might be said that all of the duo's installations are in some way or another connected with a special structured experience of space, echoing the transformations of the starry sky. But there is one installation in which the sky also becomes the center of gravity. We are talking about perhaps their most famous installation, *The Man Who Flew into Space from His Apartment*, first shown in the Kabakovs' Moscow studio in 1985. The viewer is presented with a room in a communal apartment that has been sealed off by investigators. The room's resident has, with the help of a homemade device, escaped Soviet reality and is hiding in the sky.

This small living space—approximately two square meters—can be glimpsed through supposedly hastily assembled raw boards. The walls are plastered with Soviet propaganda posters. In the corner are drawings and sketches of trajectories, and beneath them a small model of the city and a diagram of a flight path. Across from where the viewer enters is a picture of Red Square. In the center of the room is a folding bed, two chairs with a board thrown across them, and a large rubber catapult attached by ropes to the walls. There's a big hole in the ceiling and

Ilya and Emilia Kabakov, The Center of Cosmic Energy, 2007. Installation, sketches on paper (prints). Installation: 293 × 62 × 96 cm; each print: 80 × 74 cm. Courtesy of Ilya and Emilia Kabakov. Photo: Power Station of Art.

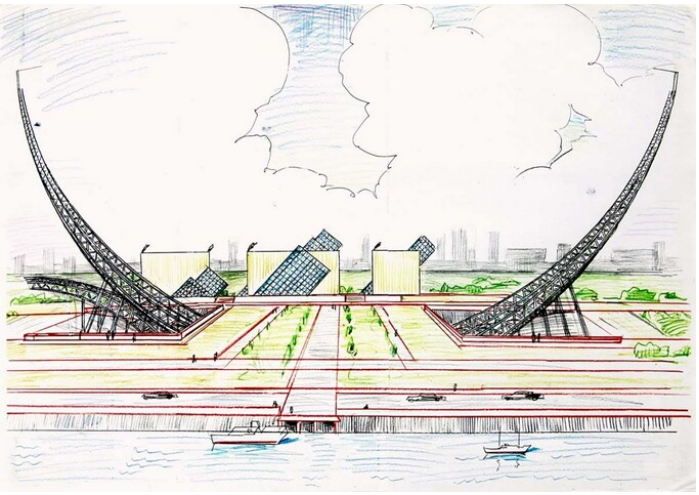
trash, debris, and litter on the floor. Next to the room is a vestibule painted in typical Soviet dirty-brown colors. On the wall is a small shelf, on which the neighbors' texts are located, alongside a description of what happened.

According to the artist, the installation describes an escape to paradise, albeit one planned by a Soviet man raised on dialectical materialism and faith in the limitless possibilities of the mind. This means that the person who flew into space from his communal apartment did not believe either in the promises of religion or in Western propaganda. He also apparently did not have much faith in Soviet propaganda either, though clearly it had its uses as a springboard. This is very similar to how Nikolai Fedorov and Konstantin Tsiolkovsky, the founding fathers of Russian cosmism to whom Kabakov refers in his accompanying text, approached their goals. Fedorov argued that death is a technical problem, and the conquest of the cosmos an inevitable consequence of the need to resettle resurrected generations—only a matter of time. Tsiolkovsky went further, asserting that the death of a person is simply the release of atoms that are then free to form into more developed systems. Not only that, but it was possible to overcome earth's gravity. All you needed was a jet engine.

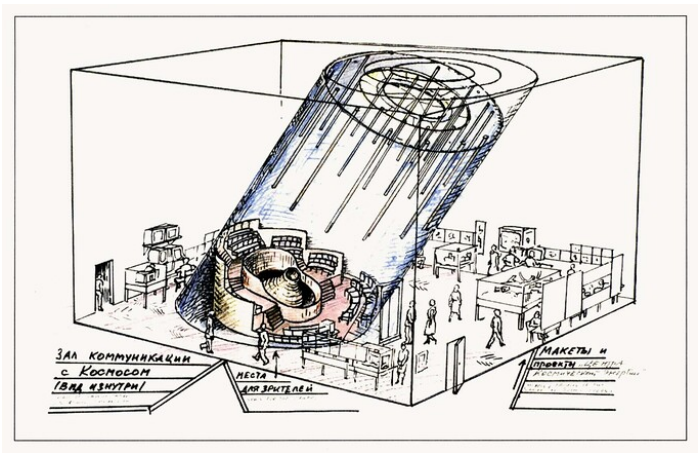
Almost nothing of any use came from the village club of space enthusiasts set up by the eccentric teacher Tsiolkovsky. Their iron dirigibles did not take off, and their rockets returned to earth as fragments. If someone were to collect these remains and display them in a museum, the result would be an installation resembling *The Man Who Flew ...*, with its debris from the "launch mechanism." Nevertheless, despite these failures, Tsiolkovsky did not stop trying to find a rational solution to the problem of overcoming earth's gravity. He inspired the first generation of Soviet space engineers who, a couple of decades later, put first a satellite and then a human into orbit.

The hero of Kabakov's most famous installation also retains, despite the absurdity of his idea, the seriousness and ingenuity characteristic of eccentric, self-made Soviet inventors. In the artist's own words:

Ilya Kabakov, The Man Who Flew into Space from His Apartment (1985).



Ilya and Emilia Kabakov, The Center of Cosmic Energy (detail), 2007. Installation, sketches on paper (prints). Installation: 293 × 62 × 96 cm; each print: 80 × 74 cm. Courtesy of Ilya and Emilia Kabakov.



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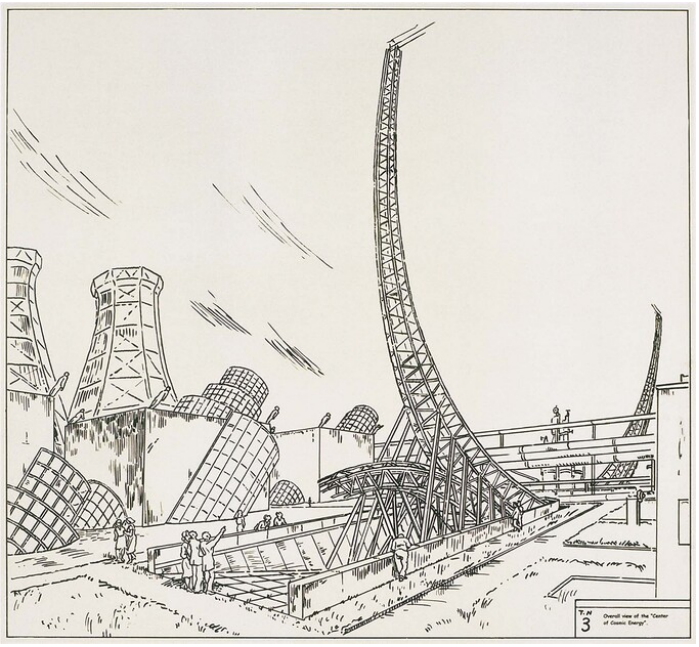

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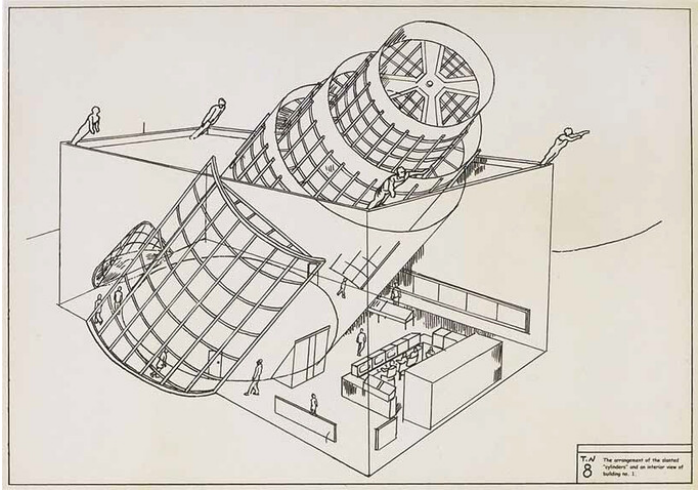

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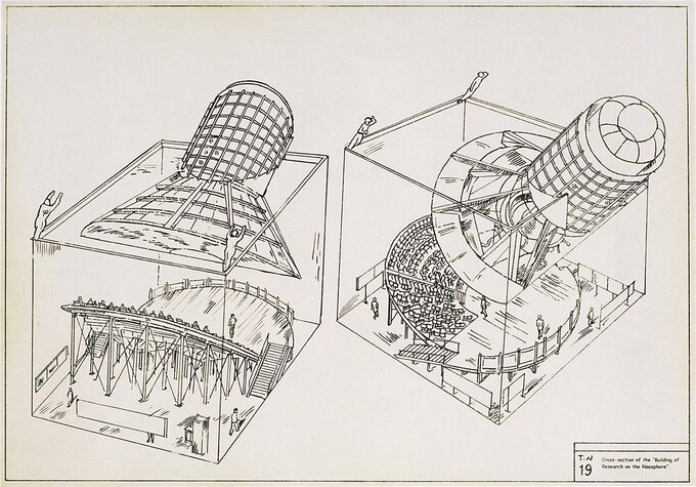
> invention of the rocket by Tsiolkovsky, which was so useful to [Sergei] Korolev. And what is *Letatlin* if not the individual attempt to escape alone?[1]

The hero set himself the task of finding a technical solution to escape from a communal apartment, and not to anywhere, but immediately to heaven. That is, it is impossible to live in such conditions, but you can come up with a mechanism through which salvation will be possible … The dream of floating free in the air, of liberation from the burdens of earthly existence, has given rise to as many inventors as anything else. All those jumps from belltowers with canvas wings, [Nikolai] Kibalchich's helicopters. And the great

According to his neighbor (in a text presented inside the installation), the man envisioned his flight as follows:

> He imagined the entire Universe to be permeated by huge sheets of energy which "lead upward somewhere." These gigantic upward streams he called "petals." The plane of movement of the galaxies, stars, and planets does not correspond to the direction of the energy of these petals, but intersects



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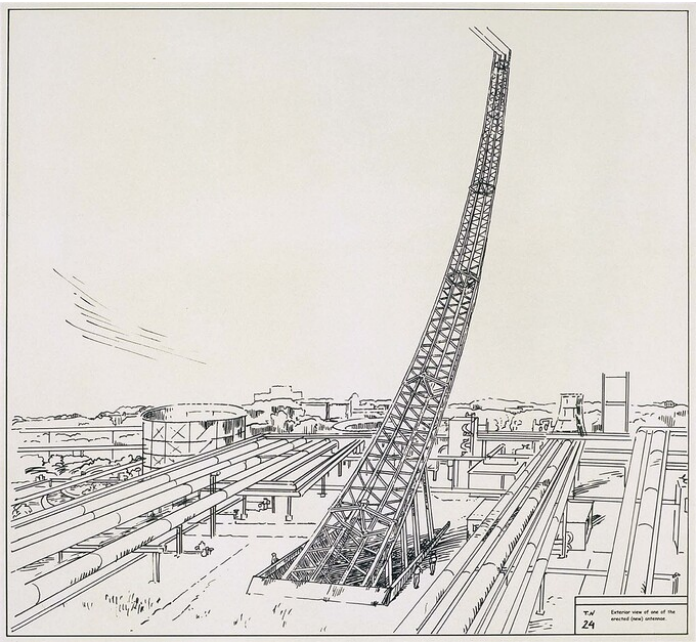

Ilya and Emilia Kabakov, The Center of Cosmic Energy (detail), 2007. Installation, sketches on paper (prints). Installation: 293 × 62 × 96 cm; each print: 80 × 74 cm. Courtesy of Ilya and Emilia Kabakov.

them, periodically passing through them. Thus, the Earth together with the sun periodically crosses through one of these enormous "petals." If you knew this precise moment, then you could jump from the orbit of the Earth onto this "petal"—i.e., you could enter, join, this powerful stream of energy and be whirled upward with it.

He told me that he knew, that he had calculated this moment. It only lasts a short time, about twelve minutes. He kept that day a secret. But to enter that stream you had to give your body an initial movement, momentum, so that a departing force would pick you up. For that initial thrust he counted on the energy of the field of the moon and two heavenly bodies—Sirius and Pluto—which at that very moment would add the necessary pull as a result of special cosmic cones.

For this transfer to the "petal," he thought up his PROJECT. He realized it on April 14, 1982 in the middle of the night ...

To realize his plan for departure, he decided to build a catapult in his room, which would give him the initial velocity at the moment of takeoff. By his calculations, it would propel him to a height of 40 meters above the Earth, where he would enter the sphere of action of the energy of a "petal."

He fastened 4 extension wires made of thick rubber in the two corners and at both sides of the room. Stretching them, he attached the catapult to a hook screwed into the floor. The lock mechanisms on the hook were supposed to release the saddle of the catapult suddenly. But at the moment of takeoff, he also had to pass through the ceiling of the room, the attic and the roof of the building. For this he installed powder charges along the entire perimeter of the ceiling and roof, so that at the moment of takeoff the ceiling and part of the roof above the room would be ripped away by an explosion and thus release him into open space.[2]

We cannot gauge the results of this enterprise with any confidence. The artist is inclined to believe that they are quite positive. Boris Groys, Kabakov's frequent interlocutor and interpreter, is of the same opinion. According to Groys, if in the end the body has disappeared, then, by analogy with the successful resurrection of Christ, we can confirm the success of the mission to launch an inhabitant of this communal apartment into space. This hypothesis is supported by the experience of cosmists and the life path of Ilya Kabakov himself: three years after the creation of *The Man Who Flew* ..., in 1988, the artist successfully catapulted from his studio in a Moscow attic into the outer space of Western art. For this, he needed no less serious preparation than his hero, although Kabakov, as he remembers it, left without a suitcase.

Discussing the emigration of her husband, Emilia Kabakov emphasizes his willingness to adapt to new circumstances—to work in a foreign context, to refuse the flattery of friends, to be realistic about his (initially not unpromising) prospects in the Western art world. All of this is, in her opinion, rare among those people who left the Soviet Union having been feted as geniuses, an opinion formed by the consensus of colleagues within the

circle of unofficial artists. Faced with the need to prove themselves in a new context, few were willing to relinquish their old status.

According to Emilia, for an artist formed outside the context in which English is the lingua franca it is difficult to "learn to use your national language and culture, expressing them in international language." Most of those who left the USSR could not understand this, each finding their own reason why it was not possible to succeed abroad. However, the Kabakovs are another story. They calculated the challenges that needed to be overcome. They considered the exact date on which to leave, when the flow of cosmic energy would permeate space. They employed the dominant language of conceptualism to guarantee the accuracy of their projections. They covered the walls of a communal apartment with inspiring posters and built a catapult in it. They left no one in any doubt: all that was needed was the right impetus.

Other evidence of this "inventive" approach to reality can be found in the artist's revelations. One of the memories of Ilya Kabakov's mother featured in the installation *Labyrinth (My Mother's Album)* (1990) tells the story of their evacuation to Samarkand during World War II. The artist's mother insisted that her child, despite the relocation and difficult living conditions, continue to go to school. We know that children can be intolerant of strangers, and this intolerance is even worse when national difference is involved. Kabakov was not accepted, indeed was beaten so badly that he refused to continue going to school. But his mother persevered, saying that Kabakov should handle the situation on his own. And a solution was found with much the same efficacy as in the case of the Western public after Kabakov's later emigration. Having taken his first steps in visual literacy, the artist began to draw horses and then to give drawings to his offenders. His status instantly changed. The stranger came into his own.

Kabakov describes the organization of his life in the USSR very pragmatically, almost as if he were an engineer or an avant-garde artist sent out to the countryside. There were two main problems: first, where to find a "hole to hide and be alone," and second, how to earn a living without arousing suspicion of loitering. Fortunately, the death of Stalin provided an opportunity to solve the first problem. The authorities did not pay close attention to unofficial artistic life as long as it did not enter the public realm. The means for solving the second problem were more varied. Many artists of that time, opposed to the official system of artistic unions (which ensured the distribution of commissions for artists and, therefore, earnings), consciously took a position on the margins of Soviet society. Thanks to them, the janitor is a familiar character in the biographies of nonconformist cultural figures in the USSR. But Kabakov and his circle chose another path. Kabakov also refused to take painting commissions (mainly of an ideological nature), but the path of the marginal martyr did not appeal to him. So, in the official system of Soviet art he became a children's book illustrator. This occupation brought decent money and contributed to the formation of the artist's special relationship with text as part of the work of art.

Soviet reality was permeated by fear, but everyone had their own reaction to it. And if a person is shaped by how he responds to reality, then it might be said that Kabakov, despite his hostility to Sovietness, took from it the most valuable thing: a materialist approach to business and an idealistic vision of what was possible. His position was very different from that of artists like Mikhail Schwartzman, who went from everyday horror to the mystical dimensions of "art for art's sake," or dissident heroes like Oscar Rabin, who put ethics above creativity. Kabakov, having chosen the role of a "double agent" (official work as an illustrator alongside underground conceptual experiments with Soviet reality), was "trembling with fear" until he left the USSR. But this condition made him extremely sensitive to the challenges of reality and extremely pragmatic in developing answers to them.

The same pragmatic engineer's approach is apparent in the paintings made by Kabakov in the first decade of this century. The decision of one of the inventors of total installation to move his focus to painting might, at first glance, seem surprising. After all, Kabakov once said that, unlike many of his colleagues, he was never simply interested in "good painting." For a person immersed in everyday Soviet communalism, lofty abstract canvases, with their aspirations to transcendence, were impossible. Perhaps the medium of painting itself, with its sacred centuries-old history, seemed completely unsuitable to express the hustle of everyday life in the USSR.

Painting was always presented as part of Kabakov's installations, but was subordinate to them. Discussing its status in contemporary art with Boris Groys in 1991, Kabakov said that he did not agree with Western colleagues who completely rejected painting:

> Another thought: if the parents have grown old and are about to disappear from the world, they should not be thrown out onto the street or put into a home for the elderly. Good children leave a room for mom somewhere in the corner, near the toilet, everyone sits at the table, life is full, together with mother, although everyone understands that she is very old. But it's still indecent to send my mother away and to cut her out of my life altogether. That is to say, if we are talking about paintings, that I can find and organize my own place in the new: not too big, but not too small.[3]

Four years later, in 1995, in a cycle of lectures on the

Ilya and Emilia Kabakov, The Center of Cosmic Energy (detail), 2007. Installation, sketches on paper (prints). Installation: 293 × 62 × 96 cm; each print: 80 × 74 cm. Courtesy of Ilya and Emilia Kabakov.

subject of total installation, Kabakov corrects what was said earlier, significantly improving the position of painting. However, it remains secondary in his oeuvre to installation:

> A little about painting, the closest relative of installation or rather, its mother. (Unlike theater, architecture, literature, exhibition art, which can also claim close kinship, but in the roles of uncles, aunt, cousins, etc.) The installation is extremely friendly to the mother. This follows the ideal of a good daughter or son who does not abandon their parents for their own home but, as is proper in a good patriarchal family, allocates to mother a large bright room, the best place in the house.[4]

From the second half of the 2000s, painting begins to play a key role in the Kabakovs' work. It seems that mom outlived her children, and now she owns not only the room by the toilet, and not only the biggest and brightest room, but the entire apartment. The answer to the question of how this happened can be found at the end of *Poor Folk: Kabakov*, as the artist openly discusses the new problem of his life and attempts to solve it. Kabakov says that the main trend of his thoughts is the desire to stay on earth after the end of his own life, the "unconscious craving for immortality." For him, this comes from the preservation of his works in museums and histories of art: "For some reason, it is very important for me to stay … well, after life, as it were. To make something that has survived … a very important museum existence, it is like an image of immortality on this earth."

But installation is among the most difficult-to-conserve mediums of contemporary art, especially if it is a total installation in the style of the Kabakovs. After all, all the details are important to them: the indescribable creak of worn floorboards, the particular smell of old furniture, etc. But as a rule, even major museums, after purchasing an installation, keep only parts of it in storage. Usually these are the parts that conform to the conventional art-world understanding of art, such as images or texts created by the artist's hand. Everything else is thrown away and

recreated for each new exhibition. “Installations won’t save you. They will be destroyed,” said Kabakov. Paintings, according to the artist, are preserved best. Nonetheless, “this is a sad compensation for the fact that, if the installations don’t work out, I will at least be remembered as a ‘picture maker.’”[5]

This project to attain immortality might look to the common person as absurd as attempting to fly into space from a communal apartment. But the grandeur of this project does not mean that the cosmist should negate a rational approach to implementing it. And even if this approach now requires paint on canvas, it’s not about “good art.” It’s about a catapult affixed to the walls of the room of one who storms heaven.

X

Arseny Zhilyaev (b. 1984, Voronezh, USSR) is an artist based in Venice. His projects speculate on possible future histories of art, using the museum as a medium. Zhilyaev plays roles in the Institute for the Mastering of Time and the Institute of the Cosmos, while following the reflections of the Museum of Museums in the lagoon.

1
Ilya Kabakov, *Texts / Library of Moscow Conceptualism* (German Titov, 2010), 188.

2
From the exhibition catalog to “Ilya & Emilia Kabakov: Not Everyone Will be Taken Into the Future,” Tate Modern, London, October 18, 2017–January 28, 2018 https://www.tate.org.uk/documents/1300/kabakov_lpg_combined_pdf_final.pdf .

3
Ilya Kabakov interviewed by Boris Groys, in *Boris Groys: Dialogues* (German Titov, 2010), 98.

4
Ilya Kabakov, “On Total Installation,” in *Russian Postmodernism: New Perspectives on Post-Soviet Culture* (Berghahn Books, 1999), 24.

5
Here Kabakov ironically uses the slang word “ *kartinshik*” (literally a person who makes “ *kartini* ”—“paintings” or “pictures”), which in the context of the Soviet underground carries the negative connotation of a commercial artist.