

# THE QUINTESSENCE

An artistic exploration of the visual  
imaginary of outer space

APPENDIX



Pamela Breda

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## Introduction

The present appendix presents an extended visual documentation of the multiple artworks produced throughout the PhD research. Collages, photographs, experimental films and site-specific installations explore the visual imaginary of outer space and the construction of contemporary astrophysical knowledge from sky observation in multimedia forms.

At the initial research stage I conducted a vast survey of past and present representations of outer space through online and physical open source libraries and archives. Subsequently I produced extensive audio-visual documentation in several astrophysics research centers and observatories in Europe and the USA. The material thus collected has been employed in multiple artworks presented as site-specific exhibitions and video installations.

Through artistic practice I explored the domain of astrophysics as an evolving system, which evades the fixity of truth-encompassing statements. As the research tests how and to what effect artistic practice can generate new and original insight on the modalities through which astrophysics represents and narrates itself, the related artworks act as a series of experiments looking at subjects (outer space visual representations, research labs), agents (scientists, technological apparatus) and contexts (theoretical frameworks of reference) and demonstrate the tension between the visible and the invisible shaping the present development of cognitive-visual knowledge about outer space.

Films, photographs and site-specific installations act as charged surfaces in which multiple gazes - those of the artist, the scientists and the viewers - come together due to the unifying action of universal light travelling through space. Visual representations of the universe emerge as complex narratives constructed through the combined agency of technological apparatus and human intervention.

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# HEAVENLY BODIES

5 collages

white wooden frame

70 x 100 cm each

2019

A series of collages produced with images collected from online and physical libraries, archives, star atlases and scientific publications. The images represent space objects such as stars and galaxies, planets and constellations, supernovae explosions and black holes - along with telescopes and optical instruments used to observe and study the universe.

Clashing visual combinations bring together old and new practices of sky observation. Shots of scientists and engineers calibrating instruments and conducting high precision experiments are combined with images of ancient rites evoking the cosmic drama of gods and goddesses dominating the Heavens and deciding the fate of humans on Earth. This combination stresses how throughout the centuries humanity has looked at the sky in different ways, generating unique stories and explanations for the phenomena observed in outer space.

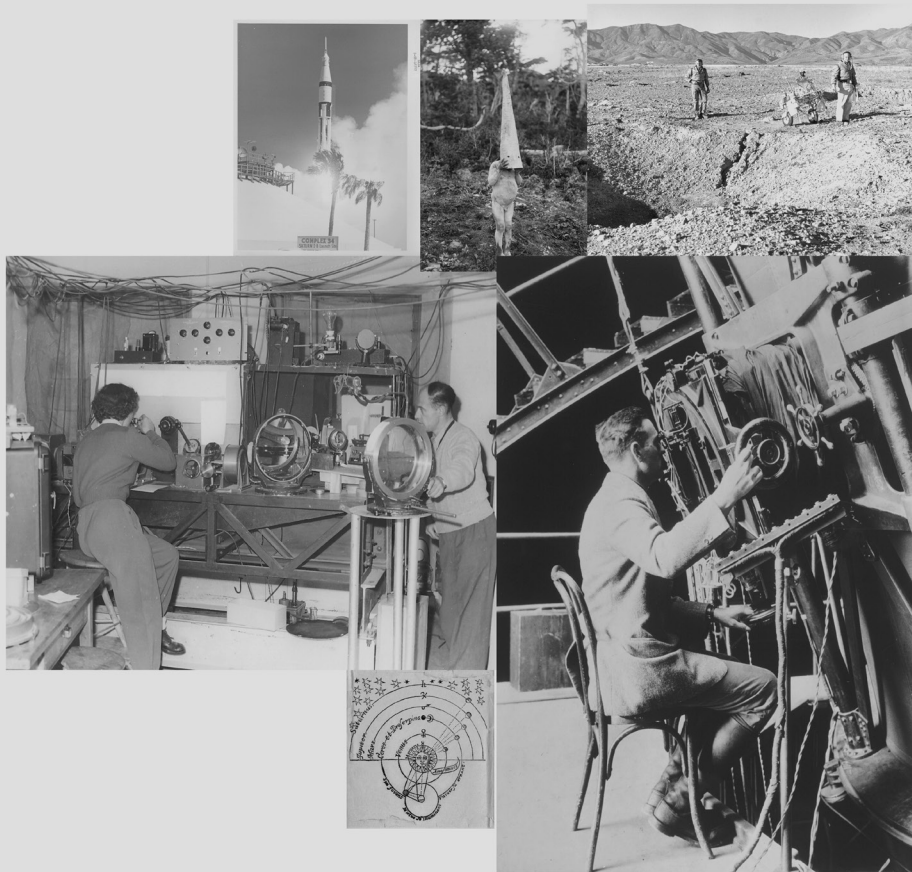
The collages have been presented mounted on white wooden frames as part of the exhibition *Away from Here* held at Studio 548 at the Cité Internationale des Arts (Paris, F).



*Heavenly Bodies*, mixed material on paper, 70x100 cm, 2019.

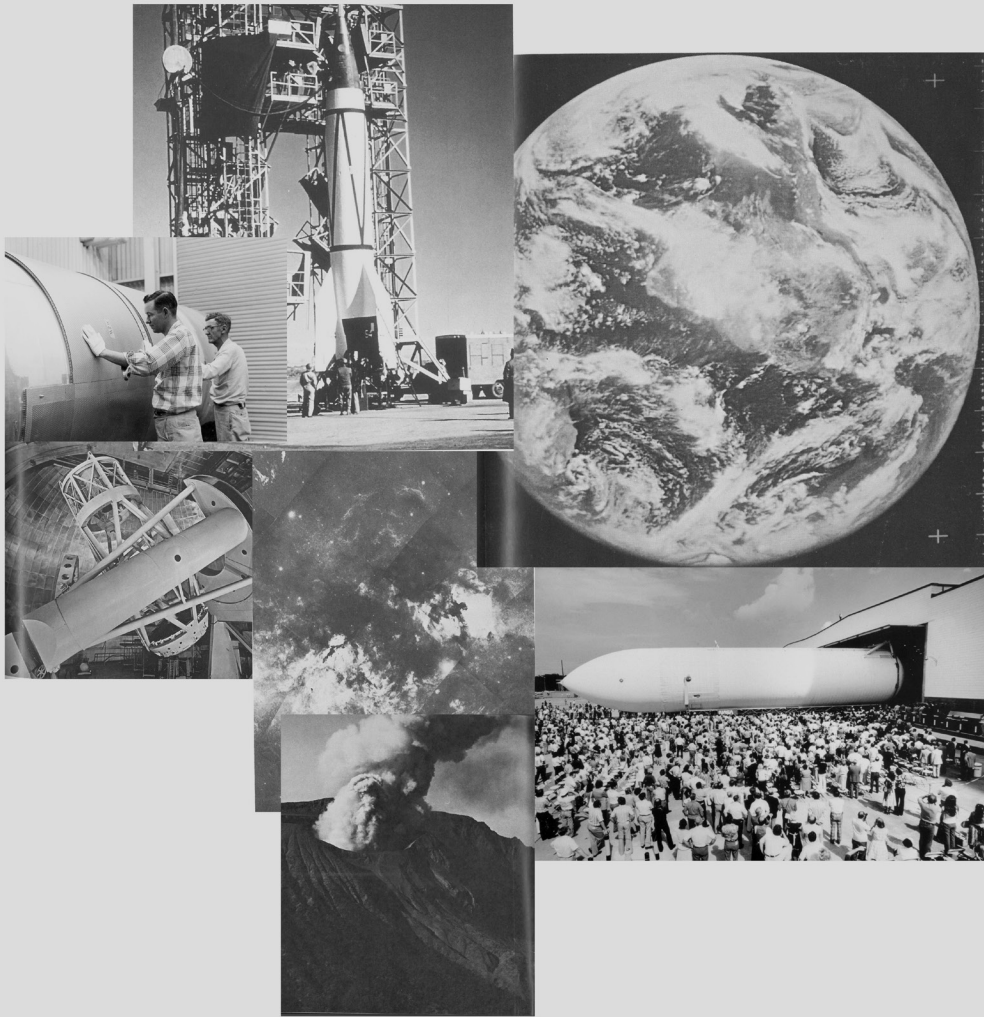


*Heavenly Bodies*, mixed material on paper, 70x100 cm, 2019.



*Heavenly Bodies*, mixed material on paper, 70x100 cm, 2019.





*Heavenly Bodies*, mixed material on paper, 70x100 cm, 2019.



*Heavenly Bodies*, mixed material on paper, 70x100 cm, 2019.

# AWAY FROM HERE

site specific installation  
collages on walls,  
variable dimensions  
2018

A site-specific installation produced with images collected from online and physical libraries and archives. Produced in a time span of different decades, from the early 20th century to the 2010s, the pictures represent technical apparatus used to study the universe - such as telescopes, lenses, computer screens, astrophysical software - in combination with scientists at work. The photographs have been placed directly on the wall of the exhibition space, combined in groups of two, three or more, generating powerful visual statements about the evolution of technological apparatus used to observe outer space.

Blank pieces of brown paper created a visual thread between the images, suggesting how each development in our scientific capability to explore the universe is connected to past and future technologies employed to observe outer space. Additionally, these inserts make reference to archival folders once used in research centers to store documents and scientific data. Such a practice has been replaced in the last decades by more efficient digital storage processes. Therefore these visual elements stress how key practices used to develop astrophysical knowledge quickly become outdated and are constantly replaced by more advanced technological tools.

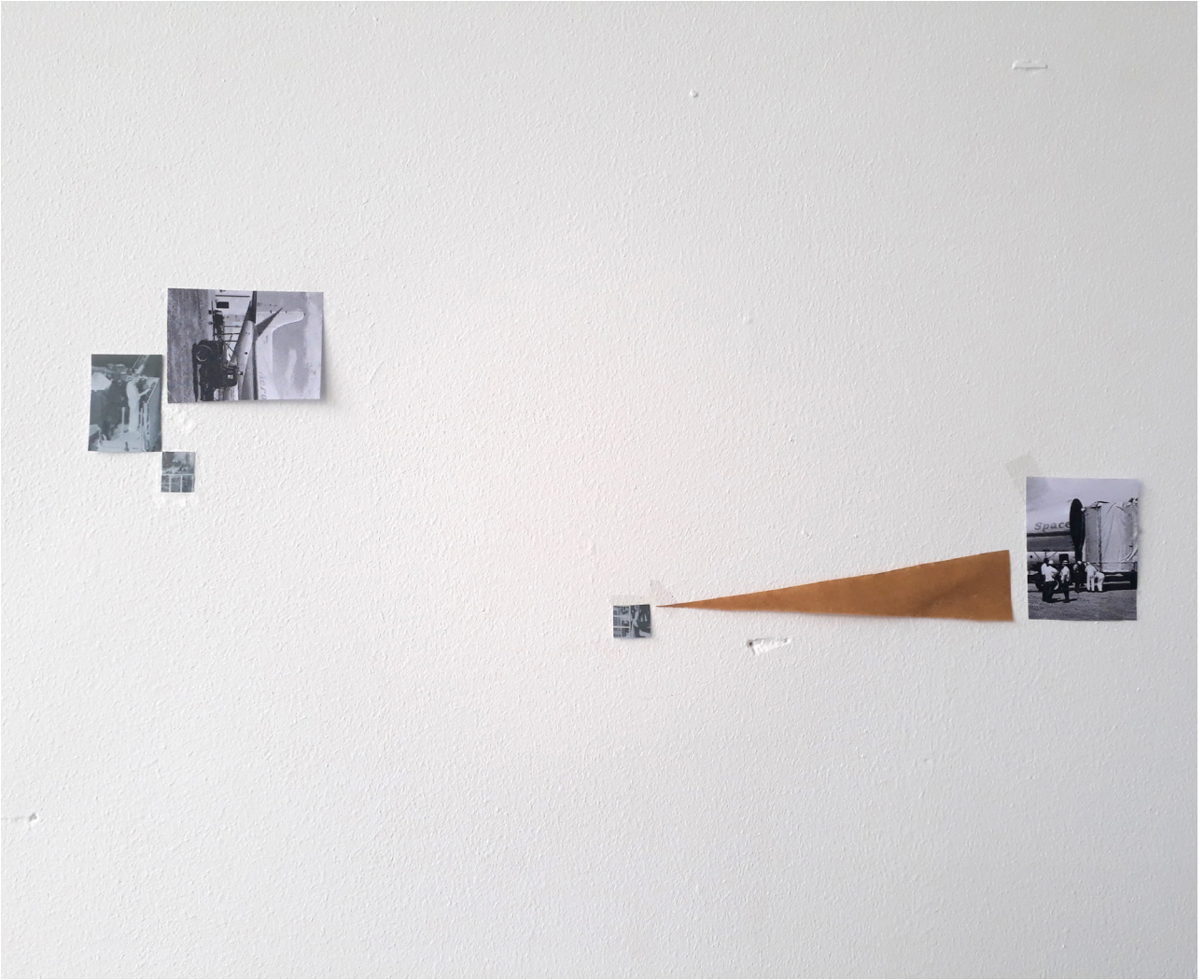
The empty space generated amongst the multiple group of images on the walls of the exhibition space is a metaphorical reference to the gaps in astrophysical knowledge, representing what we still do not know about the universe.



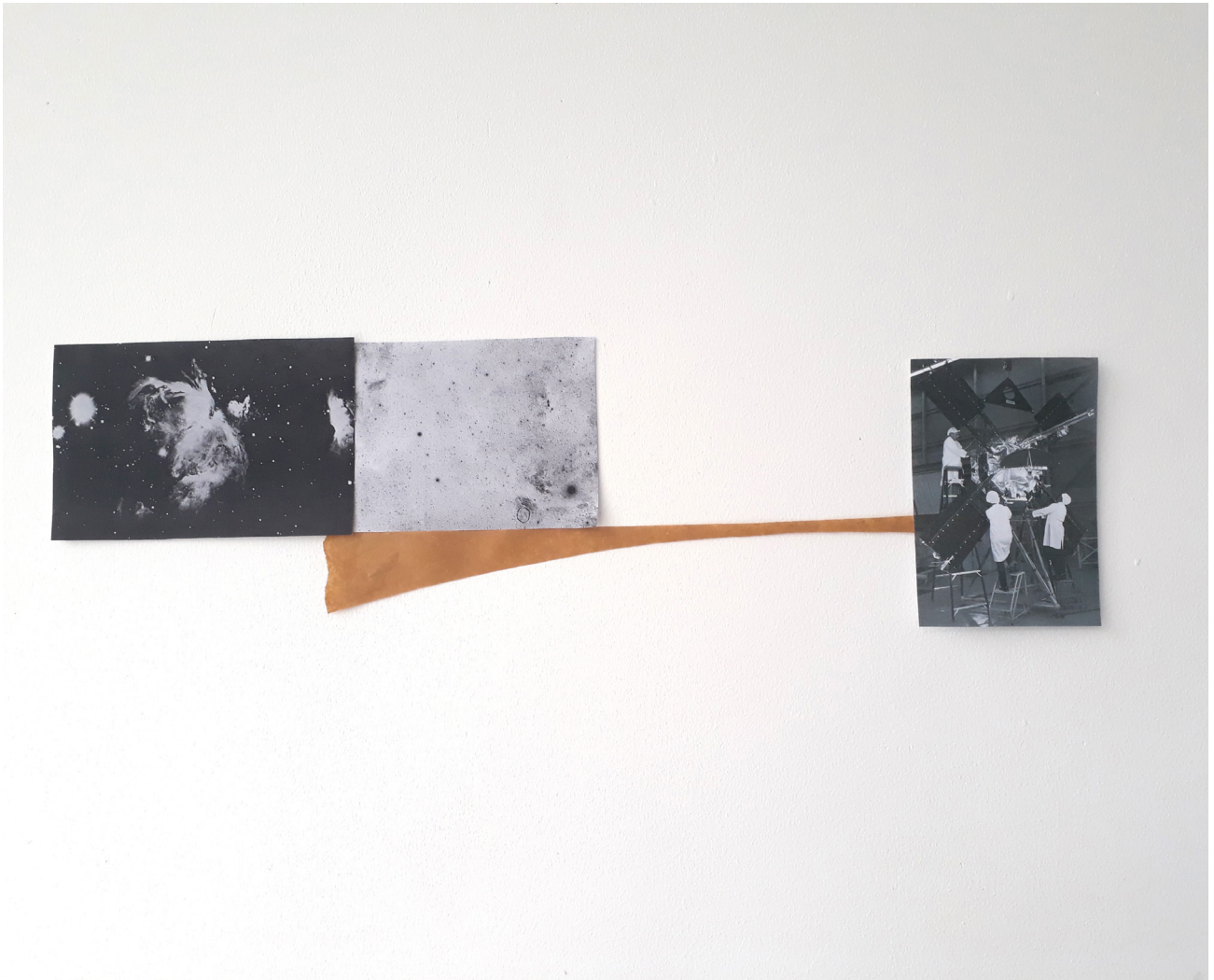
*Away from Here*, exhibition view, Studio 548, Cité Internationale des Arts, Paris (F), 2018.



*Away from Here*, 2018, installation detail.



*Away from Here*, 2018, installation detail.



*Away from Here*, 2018, installation detail.

# TO THE WONDER

10 photographic lambda prints  
white wooden frame  
50x70 cm each  
2018

The photographs are reproductions of archival images from Apollo official photographic records. Most notorious among other space exploration programs, Apollo was conducted by NASA between 1961 and 1972 with the ambitious goal of bringing mankind to the moon, a mission that culminated in the famous 1969 moon landing performed by astronauts Neil Armstrong, Buzz Aldrin and Michael Collins.

Published by NASA on the image sharing platform Flickr/The Commons, pictures of amazing moon landscapes, details of the space rocket interior and breathtaking vistas of Earth seen from space are combined with photographs presenting errors or glitches such as hues, haloes and dots.

Drawn by their elusive and mysterious character, I decided to select, print and exhibit ten of these images in a gallery space. From a conceptual point of view, rather than being successful records of the Apollo mission, they stand as metaphors of how errors can become triggers for new approaches to scientific research. Their visual quality resembles that of avantgarde artworks from the early 20th century and contemporary glitch art experiments.

Printed and mounted on wooden frames, these images generate a critical discourse on how scientific knowledge is constructed through trials and errors. Failures and mistakes in scientific experiments can lead the way to serendipitous discoveries, as the technical malfunction of the photographic apparatus lead to the development of these aesthetically charged images.

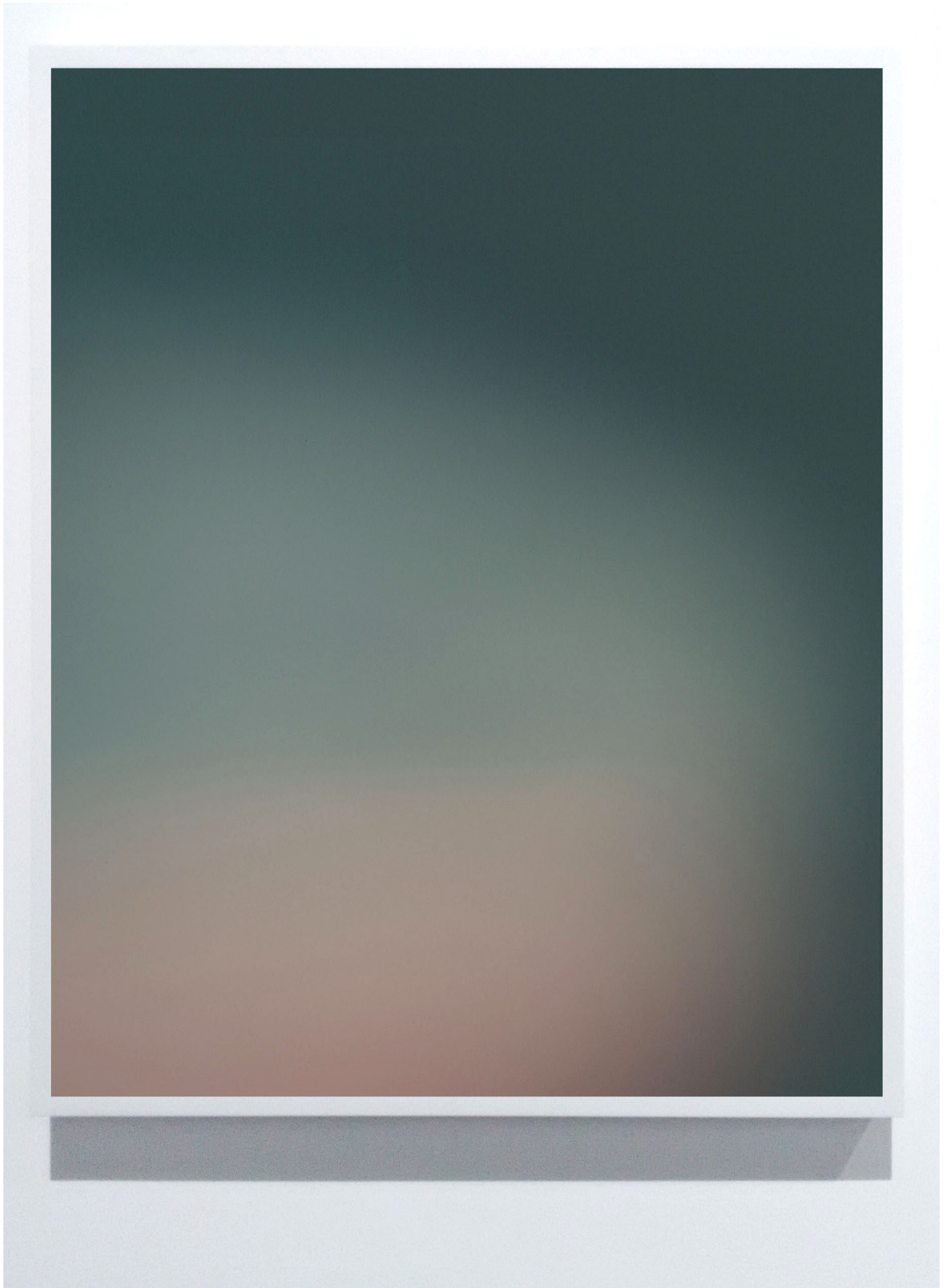




*To The Wonder*, detail from Apollo 15 Hasselblad image from film 86NN - EVA-1 & 2. Credits: NASA.



*To The Wonder*, detail from Apollo 15 Hasselblad image from film 86NN - EVA-1 & 2. Credits; NASA.



*To The Wonder*, lambda print mounted on wooden frame, 50x70 cm, 2018.



*To The Wonder*, lambda print mounted on wooden frame, 50x70 cm, 2018.

# TO THE WONDER

film, 7'42"

found footage,

7'42", 16:9, silent, loop

A silent experimental film presenting archival footage of multiple American and Soviet failed unmanned rocket-launches. The archival footage used for this piece has not been widely circulated in the mainstream media and was discovered through a detailed online research, after multiple and unsuccessful attempts to contact NASA space agency enquiring about its film archive.

In each shot the camera follows the rockets crossing the sky towards the upper layer of the atmosphere until something goes abruptly wrong and the rockets explode, shattering debris in mid air. There is no clear information about the location or date of the documented explosions, however from certain aesthetic quality we can infer the footage was recorded between the 1950s and 1990s. No voice-over or off-screen commentary describes the images or tells a story, leaving the viewers to find their own interpretation for what they are looking at.

The footage's elusive nature generates a reflection on how trials and mistakes are pivotal for the development of scientific research shaped through the monumental human effort to bring mankind a little closer to the stars.

After its premiere at the Cité Internationale des Arts, the film has been screened at Videoproject Film Festival (Angers and Nantes, F) and Odaaqq Film Festival (online screening).

link: <https://vimeo.com/278449965>

password: WonderSky18



*To The Wonder*, 2018, film stills.



*To The Wonder*, 2018, installation view, render.

# THE BEYOND

archive footage,  
two-channel video, 7' 10" each  
Full HD, 16:9, stereo, loop  
varibale dimensions  
2017

A double screen installation conceived as an environmental projection. Running simultaneously, the two screens present rare 1950s and 1960s archival footage of astronauts training for space missions. The images are accompanied by audio extracts from an interview conducted with Prof. Edward Kontar (Glasgow University, UK) reflecting on the material, philosophical and ethical implications of space exploration.

Through montage, images of astronauts training are combined with shots of technical apparatus, calibrating instruments and outdoors test locations, generating a reciprocal exchange between inside and outside, inner and outer landscapes. The use of archival footage recalls 1950s and 1960s sci-fi movies and evokes compelling narratives about the human effort to explore outer space. Old film reels act as a powerful metaphor of how technology evolves and changes with time. While the archival images emerged from a documentary purpose, through de-contextualization they acquire new meanings, and generate a poetic homage to [human] exploratory missions of outer space.

The installation was showcased at the collective exhibition 'Sound creations inspired by the Universe' held at Fondazione Arthur Cravan (Milan, IT) with the support of ProHelvetia-SRKS/FSRC.

link: <https://vimeo.com/286536916>  
password: Beyond18

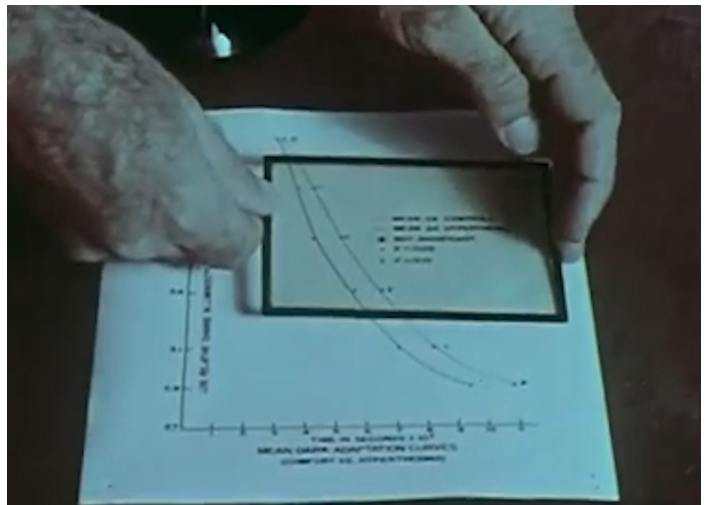
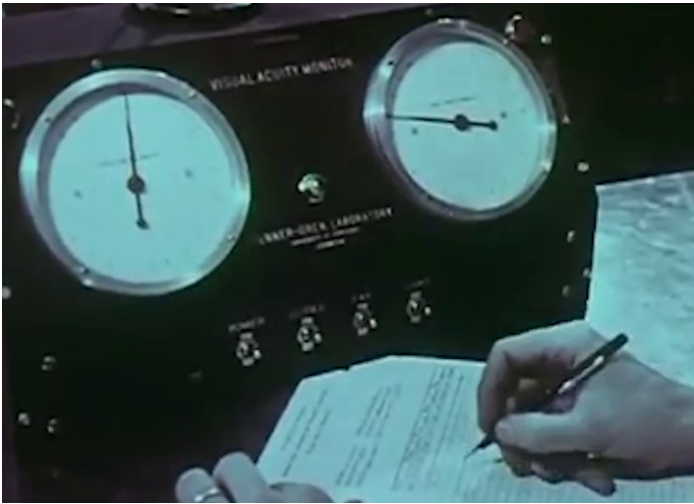




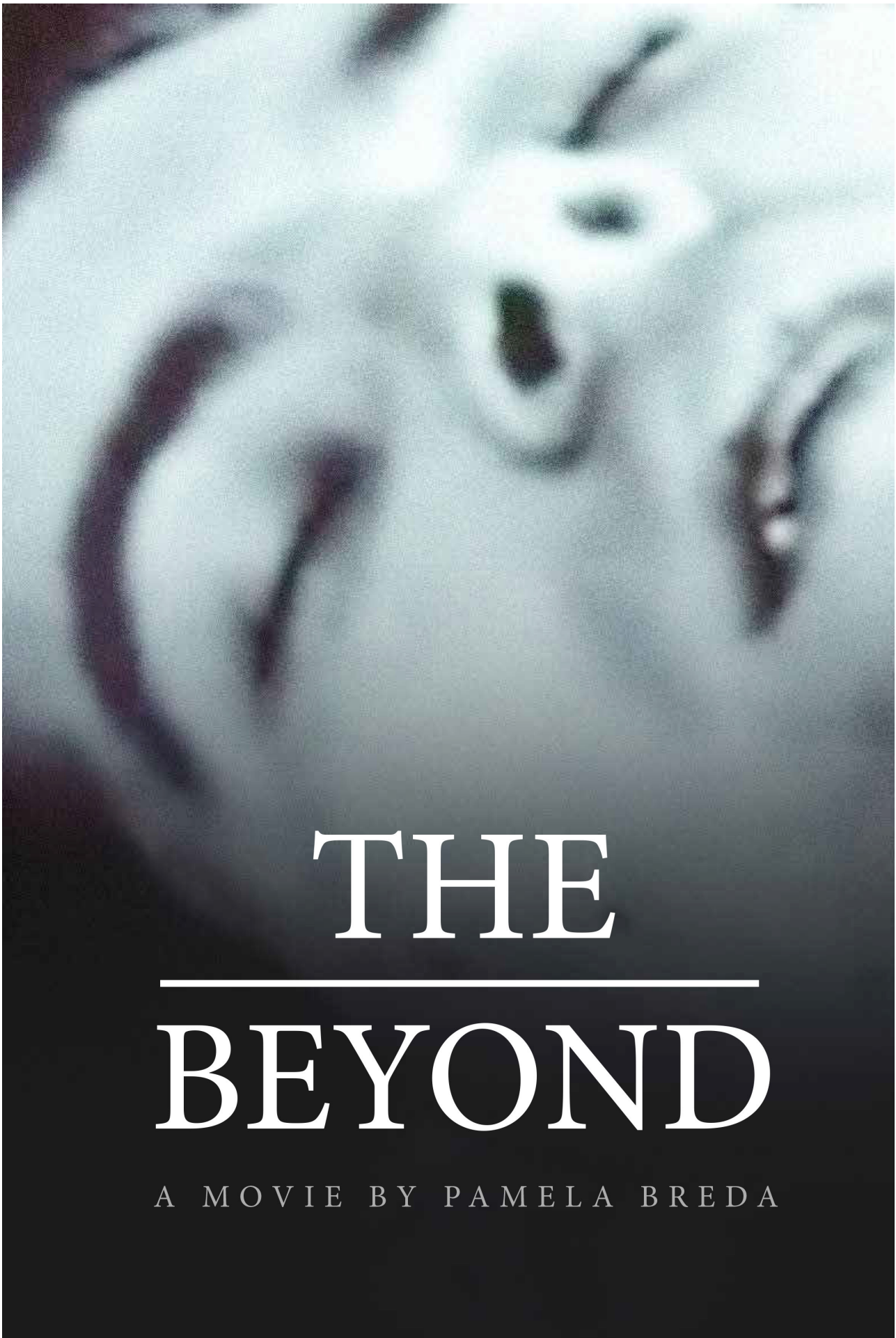
*The Beyond*, 2017, installation view, Fondazione Arthur Cravan (Milan, IT).



*The Beyond*, 2017, film stills.



*The Beyond*, 2017, film stills.



*The Beyond*, film poster.

# EVERYTHING IS ILLUMINATED

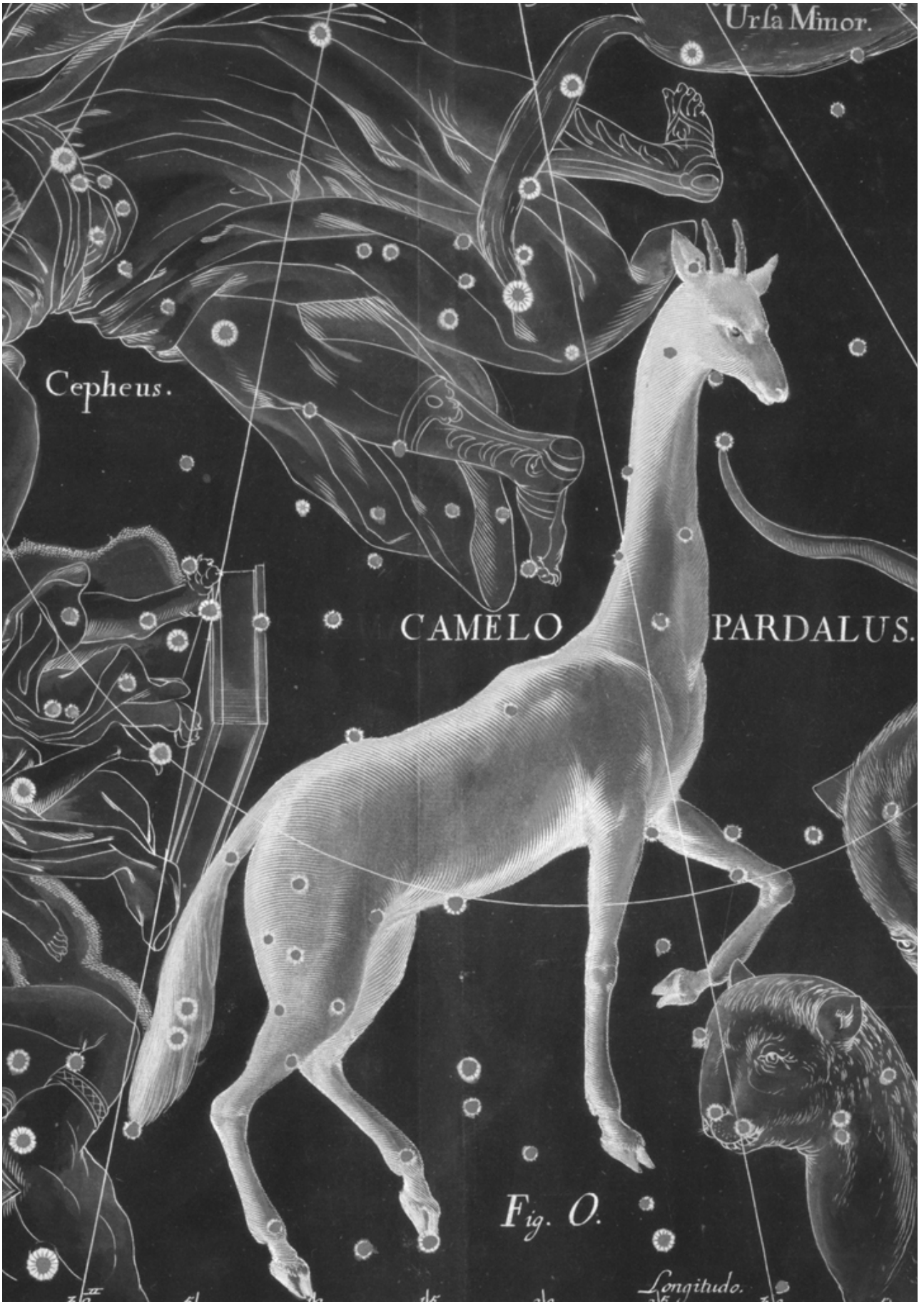
8 screens projection  
6' 20" each  
variable dimensions

Site-specific, environmental installation. Eight different screens occupy a huge gallery space. They present simultaneously ancient and modern images of constellations, flickering rapidly one after the other accompanied by the sound of old slide projectors. The images are taken from several star atlases and encyclopedias of constellations, from Al-Sufi's *Book of the Constellations of the Fixed Stars* (ca. 964), to *Firmamentum Sobiescianum, sive Uranographia* by Johannes Hevelius (Gdańsk, 1690) and *Urania's Mirror* by Jehoshaphat Aspin (London, 1825).

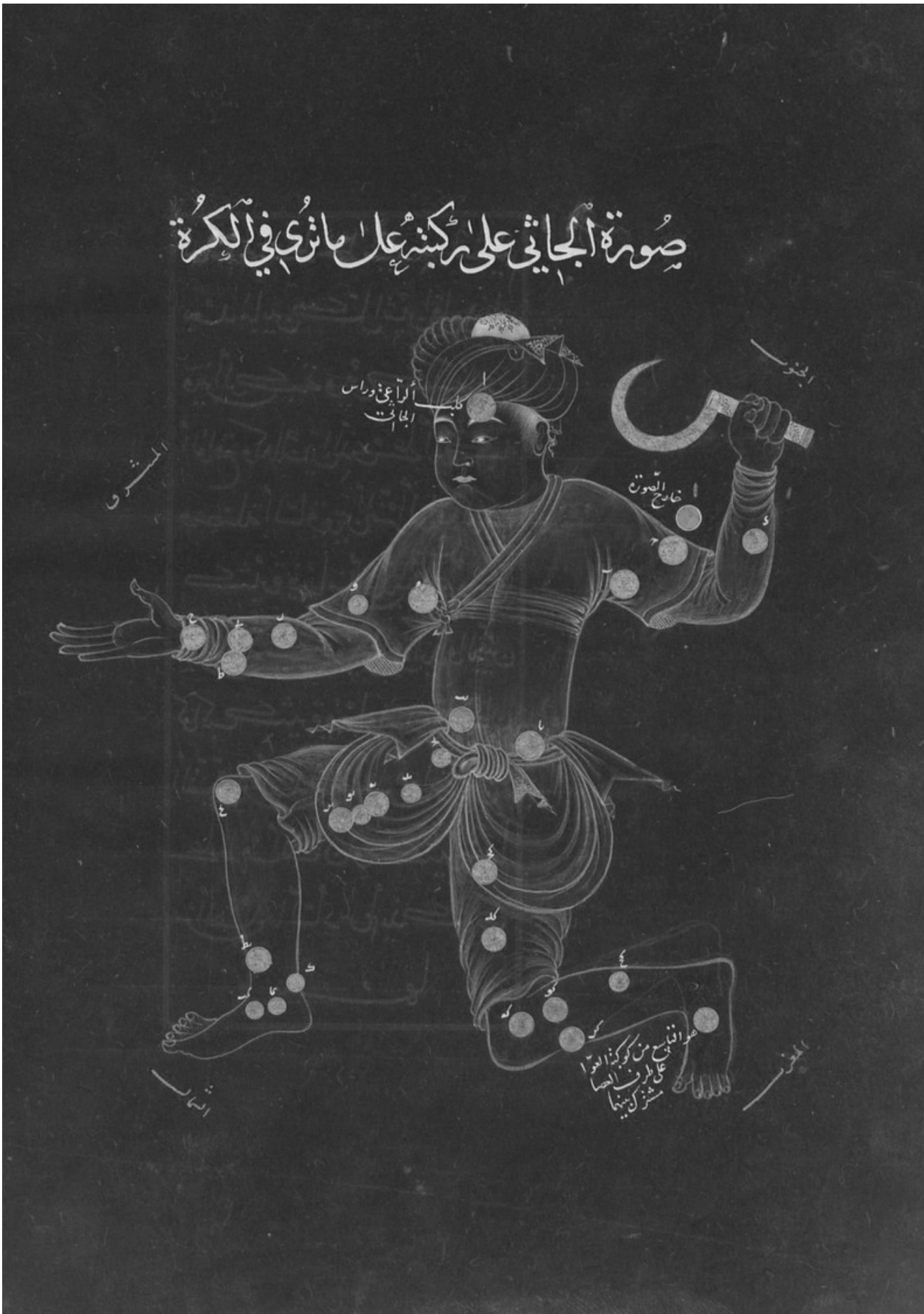
The multiscreen installation was inspired by the act of looking at outer space as an intuitive human impulse. In the past no technical apparatus could help humanity to study the near as well as the distant universe. Through mere naked eye observations, mankind conceived astronomical objects as transfigurations of gods and goddesses, animals and fantastic beasts. Heavenly phenomena were perceived as strongly connected to life on Earth: from the weather to human biology, every aspect of life was influenced by and reflected in the stars.

The installation aims to re-activate such an intuitive and unmediated approach to outer space. No voiceover or offscreen commentary accompanies the projections. The emphasis lies entirely on the visual elements activated through the screens' surface, which acts as a threshold wherein the distant universe become closer, almost touchable.

link to one of the video channel: <https://vimeo.com/302169726>  
password: Illumination18



Everything is Illuminated, 2017, projection detail.



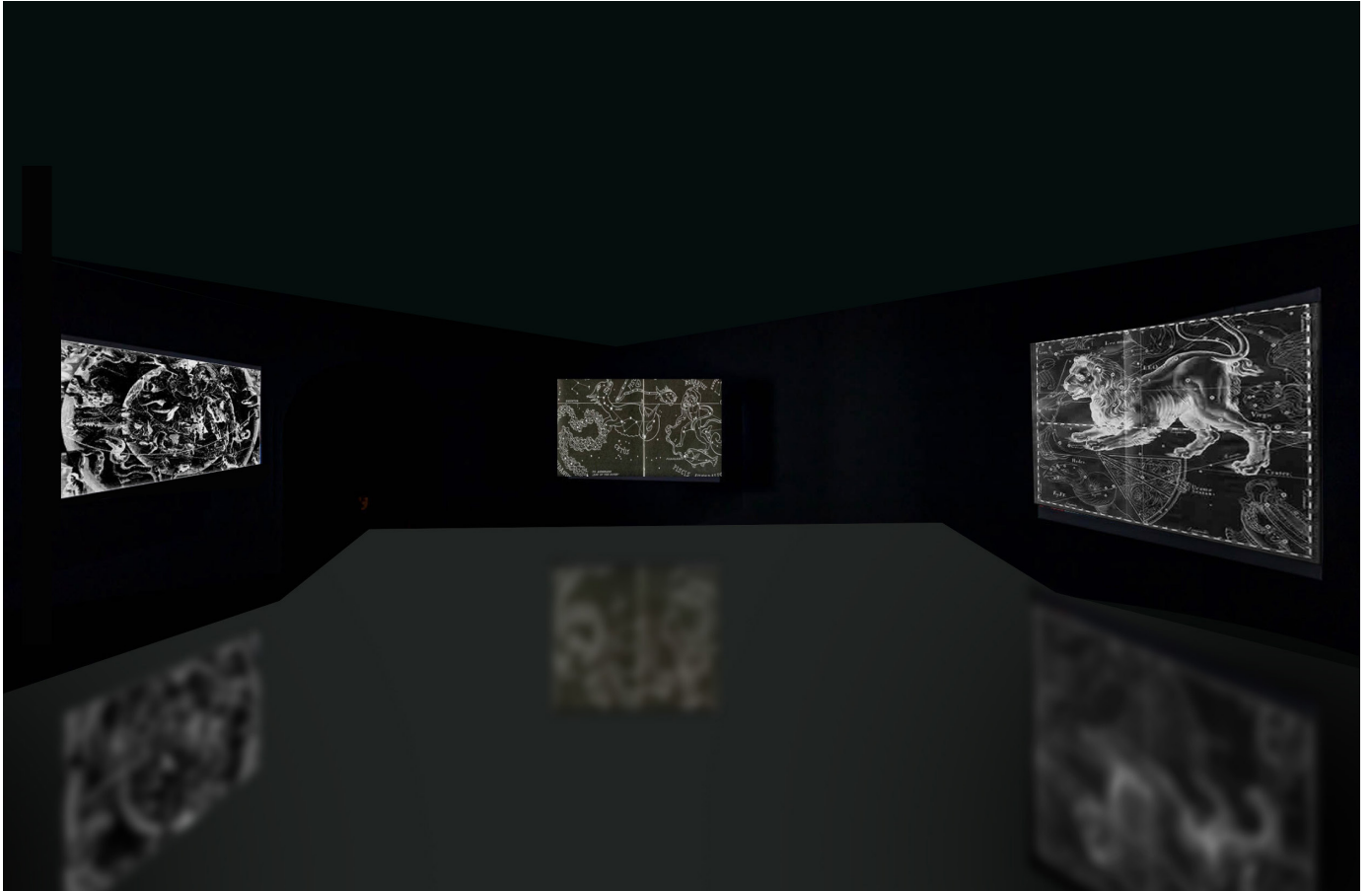
Everything is Illuminated, 2017, projection detail.

كوكبة الميوسيلين مع كوكبة السمكة الشمالية التي وصفها  
بطليموس على ما يرى في السماء



Everything is Illuminated, 2017, projection detail.





*Everything is Illuminated*, 2017, installation view, render.

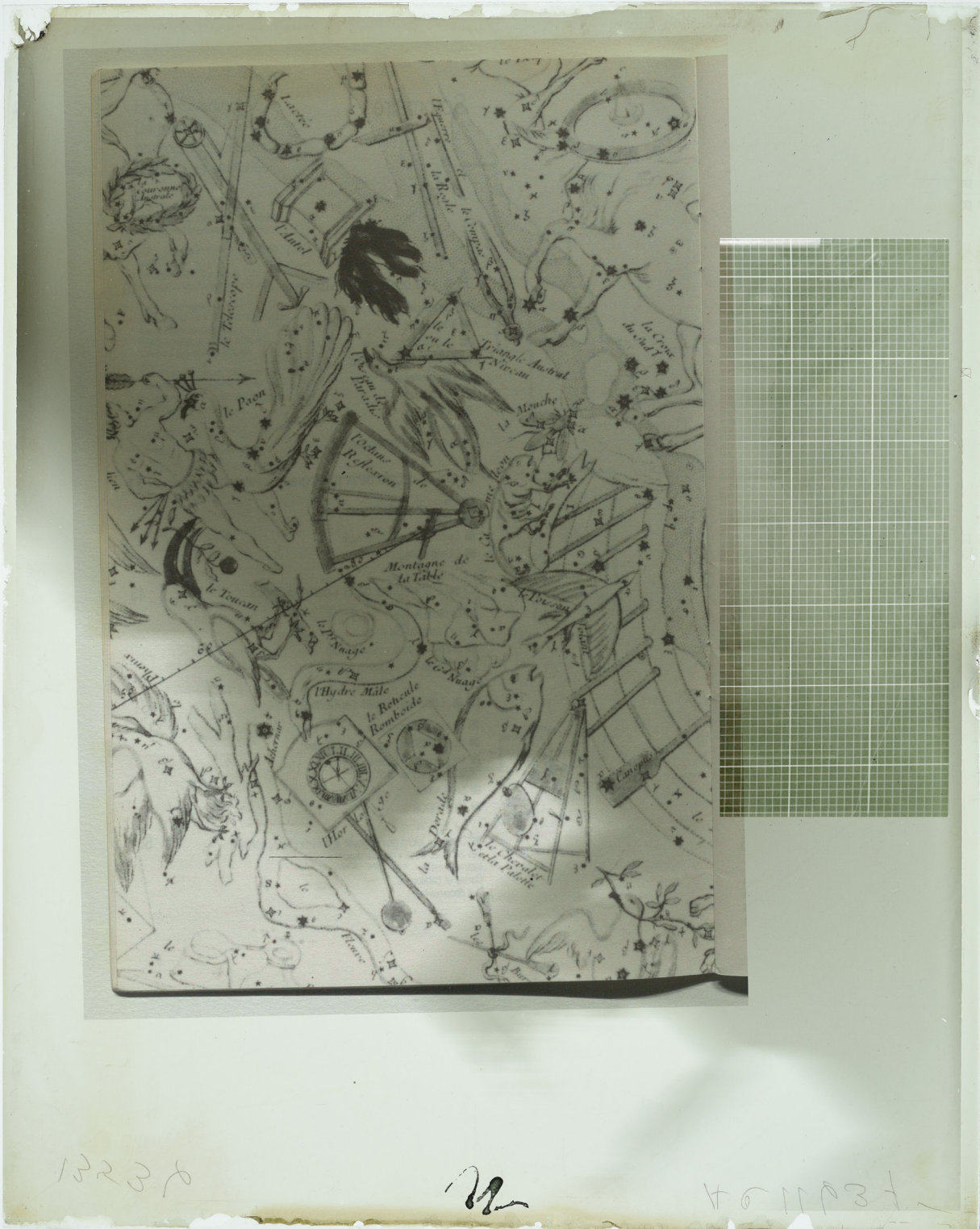
# INTO THE NIGHT

4 lightboxes  
70 x 120 cm each  
2019

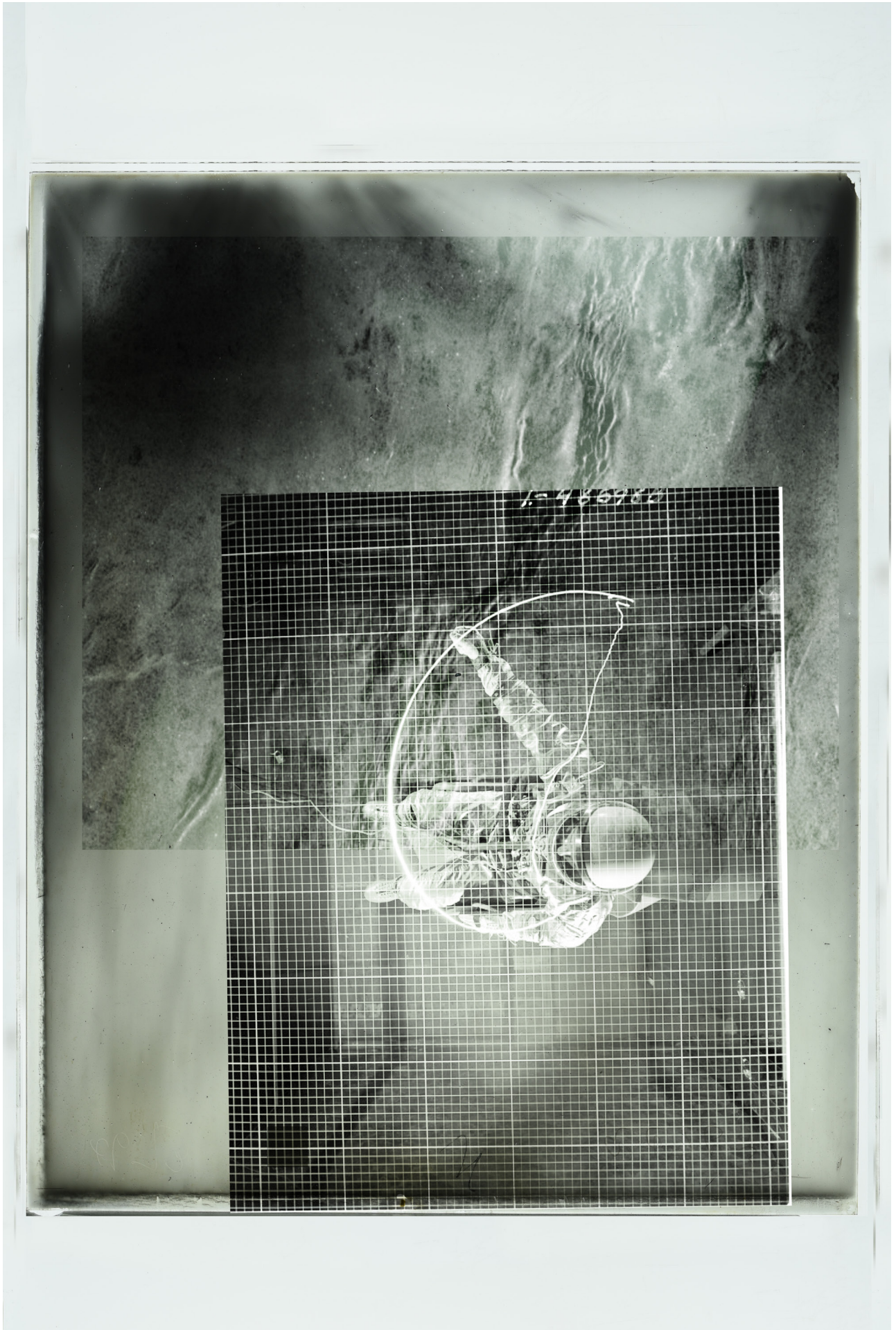
Series of four collages mounted on lightboxes. The collages have been created from scanned glassplates discovered at Harvard Astrophotographic Collection (Harvard University, USA). These images have been printed on photographic paper and subsequently re-scanned through a process of de-contextualization. The resulting prints have been superimposed with reproductions of constellations and star spectra, in order to generate unique, multilayered images.

This artistic process highlights how the knowledge we possess about the universe is multilayered, constructed on the observations and theories proposed throughout the centuries by different human cultures. Very much as an archeological excavation, these artworks bring to light multiple representations of outer space as historical strata sedimented through time. Ancient legends about cosmic events gave space to Renaissance's astronomy, which in turn led to the Enlightenment era of scientific discoveries and, more recently, to quantum mechanics and advanced theories on dark matter.

Mounted on lightboxes, these large-dimension prints act as a charged surface, enabling universal light travelling through space to be re-activated by man-made light. Photons originated from nuclear reactions are captured on photographic glassplates and brought to life by the lightboxes' tungsten bulbs, whose chemical components are also originated in the dense and hot core of stars. In a never-ending circle, starlight generates new light, which spreads images of outer space back to the universe where they came from.



Into the Night, hanemule print mounted on lightbox, 70x120 cm, 2019.



*Into the Night*, hanemule print mounted on lightbox, 70x120 cm, 2019.



*Into the Night*, hanemule print mounted on lightbox, 70x120 cm, 2019.



*Into the Night*, hanemule print mounted on lightbox, 70x120 cm, 2019.

# BENEATH THE SEA

2018, video FullHD,  
13'02", 16:9, stereo, loop

Experimental documentary film shot at Boulby Underground Laboratories located near the small town of Saltburn-by-the-Sea (North Yorkshire, UK). Lying 3500 feet under the Earth's surface, the laboratories occupy some of the underground tunnels originally excavated in the 1960s as part of a potash mine. The location was chosen because at this depth there is no interference from natural background radiation that could cause malfunctions for technical apparatus and precision instruments.

The laboratories host a series of advanced scientific researches on outer space, including experiments on Dark Matter, the study of organisms that can survive in a salt-rich environment - supposedly to be found on planets outside the solar system - and Mars' rovers tests.

The viewers slowly discover how the mine's dark galleries have been transformed into highly advanced scientific research spaces. The audio track highlights the sounds of machines and tools mingling with the voices of scientists working in the laboratories. This peculiar scientific research centre emerges as an enclosed area, a capsule located beyond conventional time and space.

The film was screened at the 2019 Hazel Eye Film Festival (USA) and presented as a cinematographic installation during an open studio event at Boghossian Foundation (Bruxelles, BE) in the summer 2020.

<https://vimeo.com/312094588>  
password: BeneathSeamovie



*Beneath the sea*, 2018, film stills.





*Beneath the sea*, 2018, film stills.

# THE FUTURE

2020, video FullHD,  
16'40", 16:9, stereo, loop

Shot in the summer 2018 at Medun Observatoire (Paris, F), the short film is structured as a fictional meditation on a possible future when artificial intelligence softwares will have full control of sky observation, data collection and analysis. As a consequence, man-led laboratories will be abandoned. Questioning the possible future development of space exploration, the film analyses they ultimate philosophical and ethical implications of human exploration of the cosmos.

While the slow-panning camera wanders around silent rooms hosting telescopes, mechanical tools and optical instruments, an anonymous voice describes how the millennial tradition of sky observation has evolved through the centuries and why it was always important for mankind to wonder about the mysteries of the universe.

The visual focus on observational tools and mechanical instruments suggests how contemporary astrophysicists act as ancient alchemists, capturing the light coming from distant stars and transforming it into a different matter, in order to give it new form and meaning. The camera movements are extremely slow, evoking the long, durational processes involved in sky observation and the huge temporal scales at which universal phenomena unfold.

link: <https://vimeo.com/434691920>  
password: future20



*The Future*, 2020, film stills.



*The Future*, 2020, film stills.



*The Future*, installation view, Boghossian Foundation (BE), 2020.

# THE INFINITE

2019, video FullHD,  
16'40", 16:9, stereo, loop

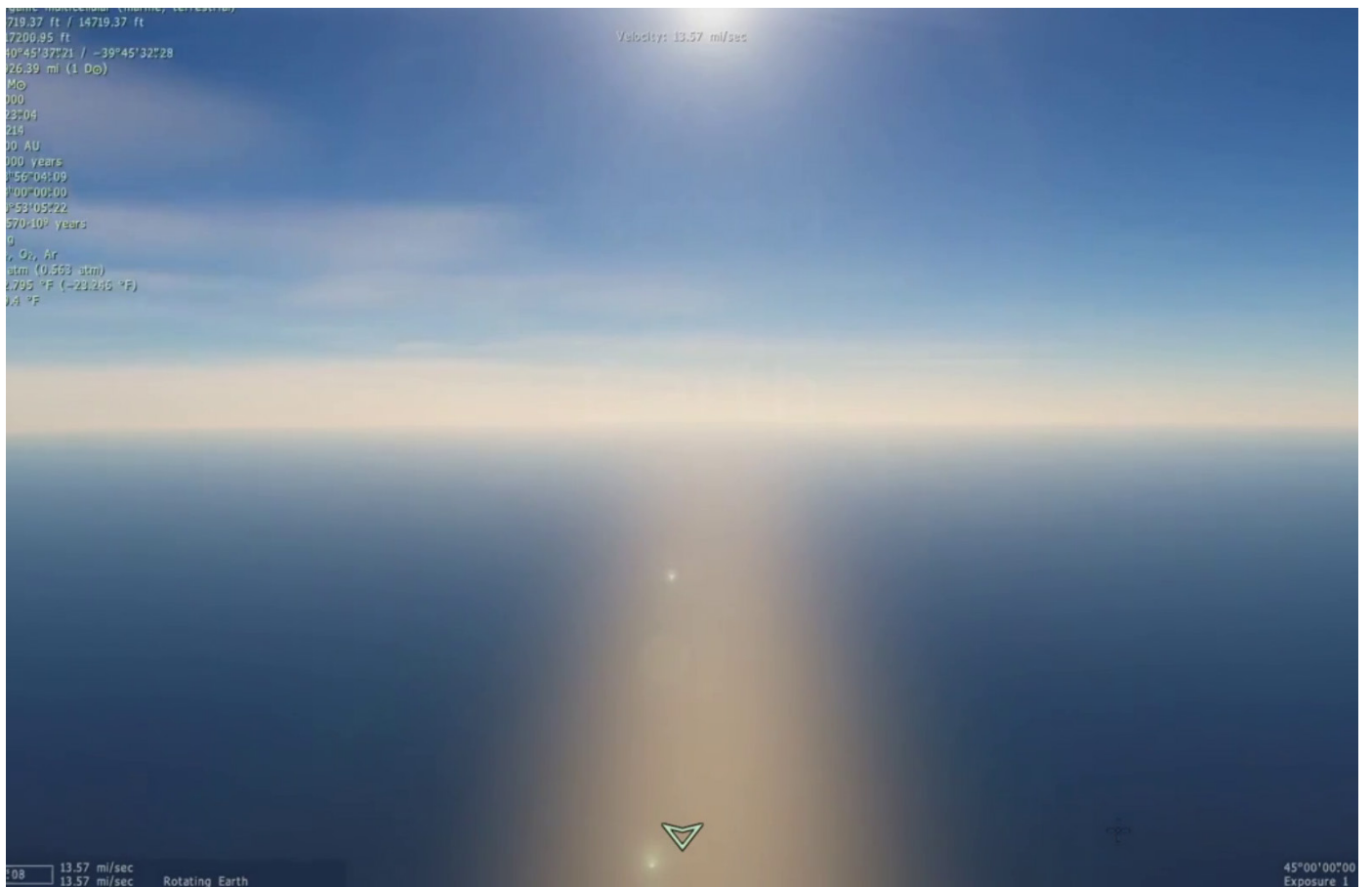
Experimental short film presented as a site-specific environmental video installation at the collective exhibition "Envisioning Other Worlds", held at Row Labs (Bow Arts, London, February 2019), curated by Lumen Collective.

The piece is constructed as a slow 3d animated zoom out of the visible universe generated by a spatial localization software, retrieved from youtube.com and subsequently re-edited. The images are accompanied by the voice of Prof. Richard Ellis (University College London, UK) considering deep philosophical questions underlying contemporary astrophysics research.

While the camera explores the huge distances of interstellar space, Prof. Ellis analyses how we, as humans, interact with the concept of an expanding universe in which everything, from a small particle to a gigantic planet, is progressively detaching from everything else.

The slow zoom out provides a detailed representation of what it would look like to leave the Earth in order to reach the borders of the visible universe, visualizing the gigantic scales involved in astrophysical research. This aesthetic choice raises some questions about the actual possibility of understanding physical processes and events taking place at huge distance from human's observation point.

link: <https://vimeo.com/278529984>  
password: Infinite18



*The Infinite*, 2019, film stills.



*The Infinite*, 2019, installation view, "Envisioning Other Worlds", Bow Arts, Raw Labs, London (UK).



# PHOTOGRAPHIC DOCUMENTATION

selection from digital photographic series

variable dimensions

2018-2020

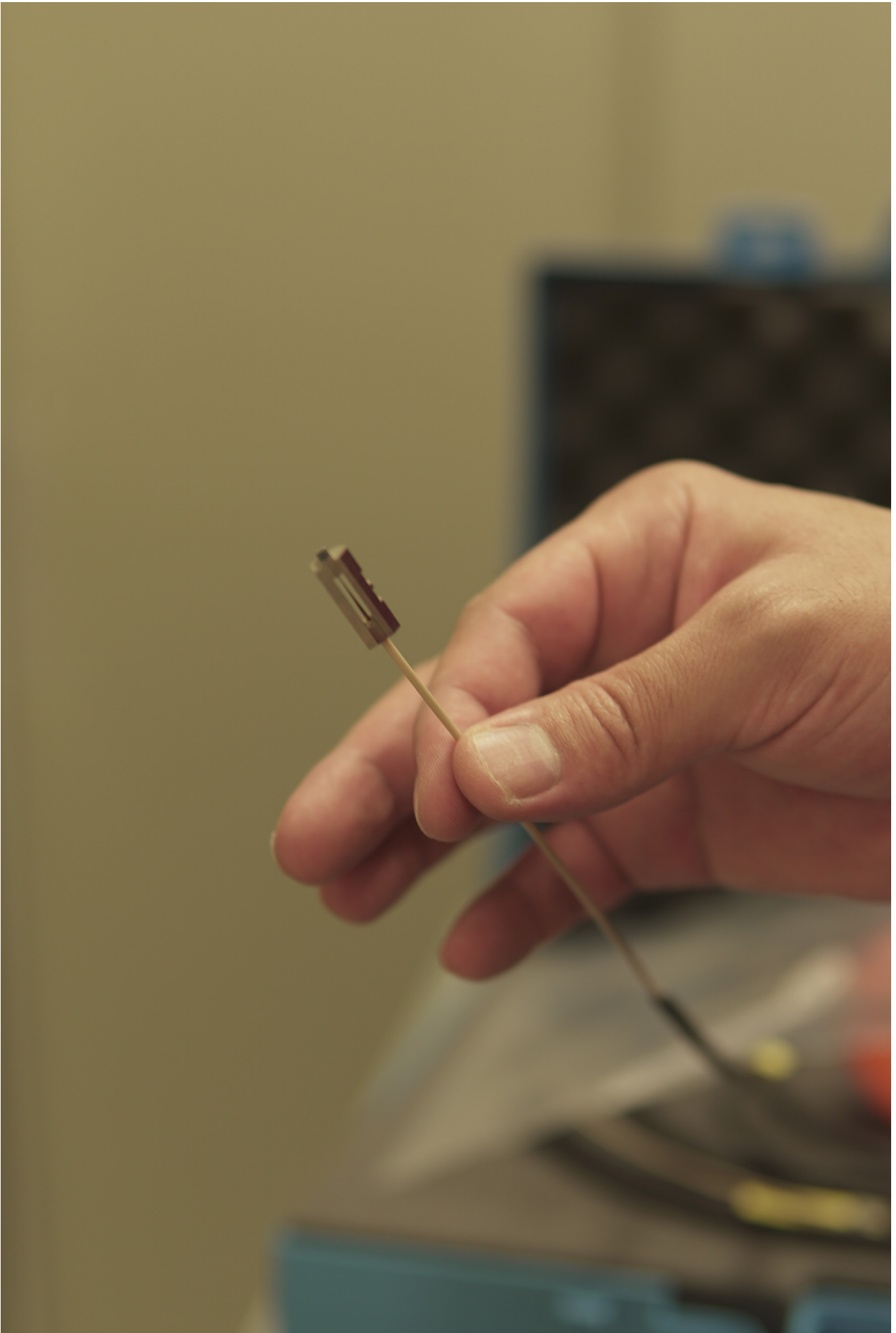
Photographic documentation produced at Paris Observatory. The documented areas include indoors and outdoors locations, multiple telescope domes, mechanical and technical labs, white labs and optical workshops located in Meudon and in Paris. The resulting photographs provide useful insights on the spatial features of remote laboratories usually not accessible to the general public and in most cases never documented on camera.

The photographic medium is used as a means to document sensory encounters with scientists and locations. The camera captures details of optical tools and technical instruments, views of labs and corridors, glimpses of engineers testing metal resistance, calibrating computer screens and studying experiments' outcomes. The different materials used to build telescopes and analysing data coming from outer space emerge as concrete matter that gives form to ethereal images of stars and galaxies, supernovae explosions and distant quasars.

The scientific labs are approached as a theatrical stage wherein human agents work along with machines in order to gain new knowledge about outer space within a wider cultural, theoretical and economical frame of reference.



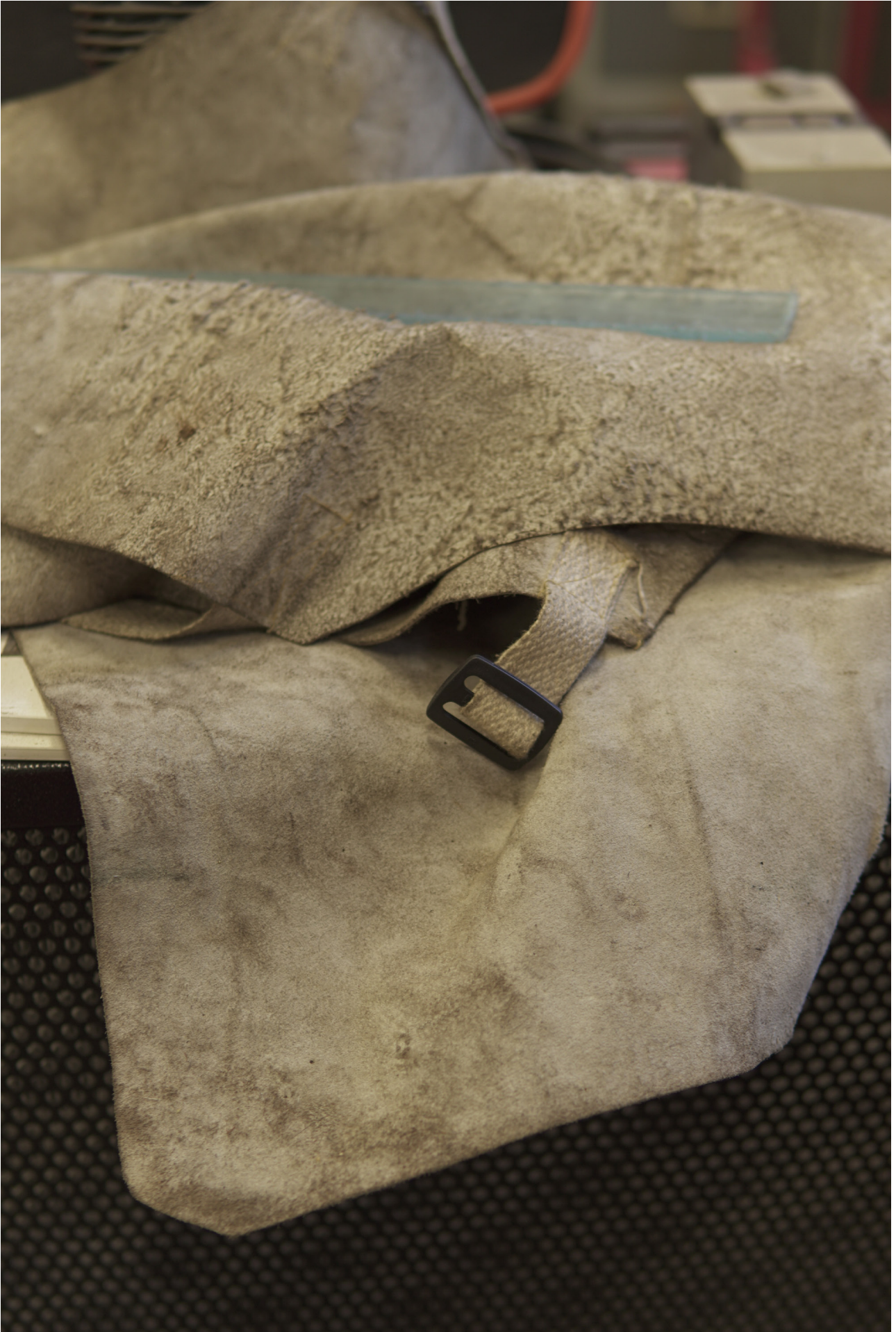
Sun tower. A dedicated lab used until 1990s to study solar activity. Meudon Observatory, 2018.



Engineer presenting an optical fiber in the photonic lab. Meudon Observatory, 2018..



Machine used to cut metal, mechanical labs. Meudon Observatory, 2018.



Cloths and measuring instruments, mechanical labs. Meudon Observatory, 2018.



Engineer presenting technical instruments, photonic lab. Meudon Observatory, 2018.



Magnifying lens, mechanical labs. Meudon Observatory, 2018.



Engineer at work, mechanical labs. Meudon Observatory, 2018.





Metal component for refracting telescopes, mechanical labs. Meudon Observatory, 2018.



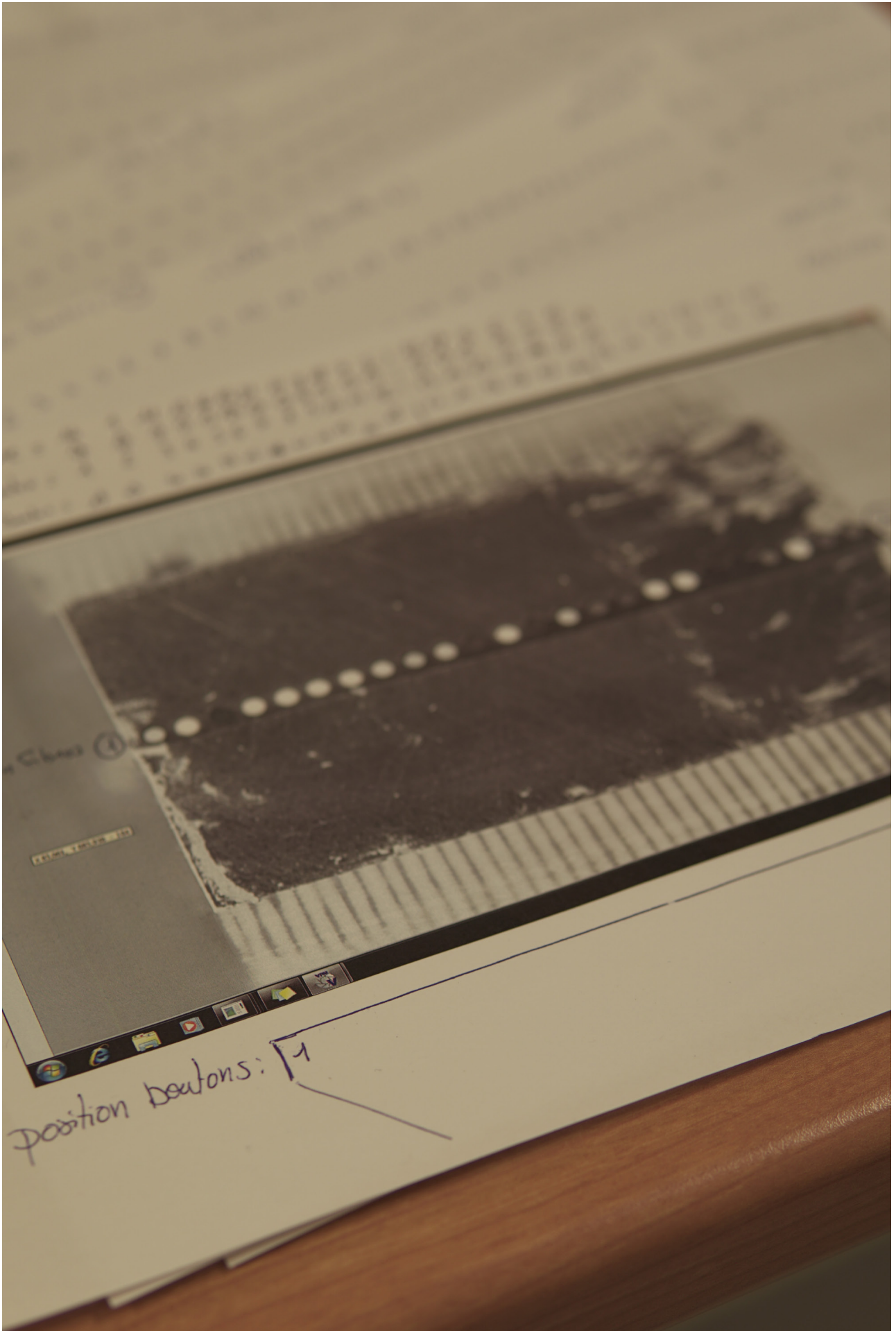
Cutting machine, mechanical labs. Meudon Observatory, 2018.



Laser cutting machine, mechanical labs. Meudon Observatory, 2018.



Chains, mechanical labs. Meudon Observatory, 2018.



Magnified detail of metal gear, mechanical labs. Meudon Observatory, 2018.



Engineer at work, mechanical labs. Meudon Observatory, 2018.



Pictures of astronomers, Paris Observatory, 2018.



Curtains over a closed door, Paris Observatory, 2018.





Map of the dark side of the moon, Paris Observatory, 2018.



Studio library, Paris Observatory, 2020.



Engineer at work, Paris Observatory, 2020.



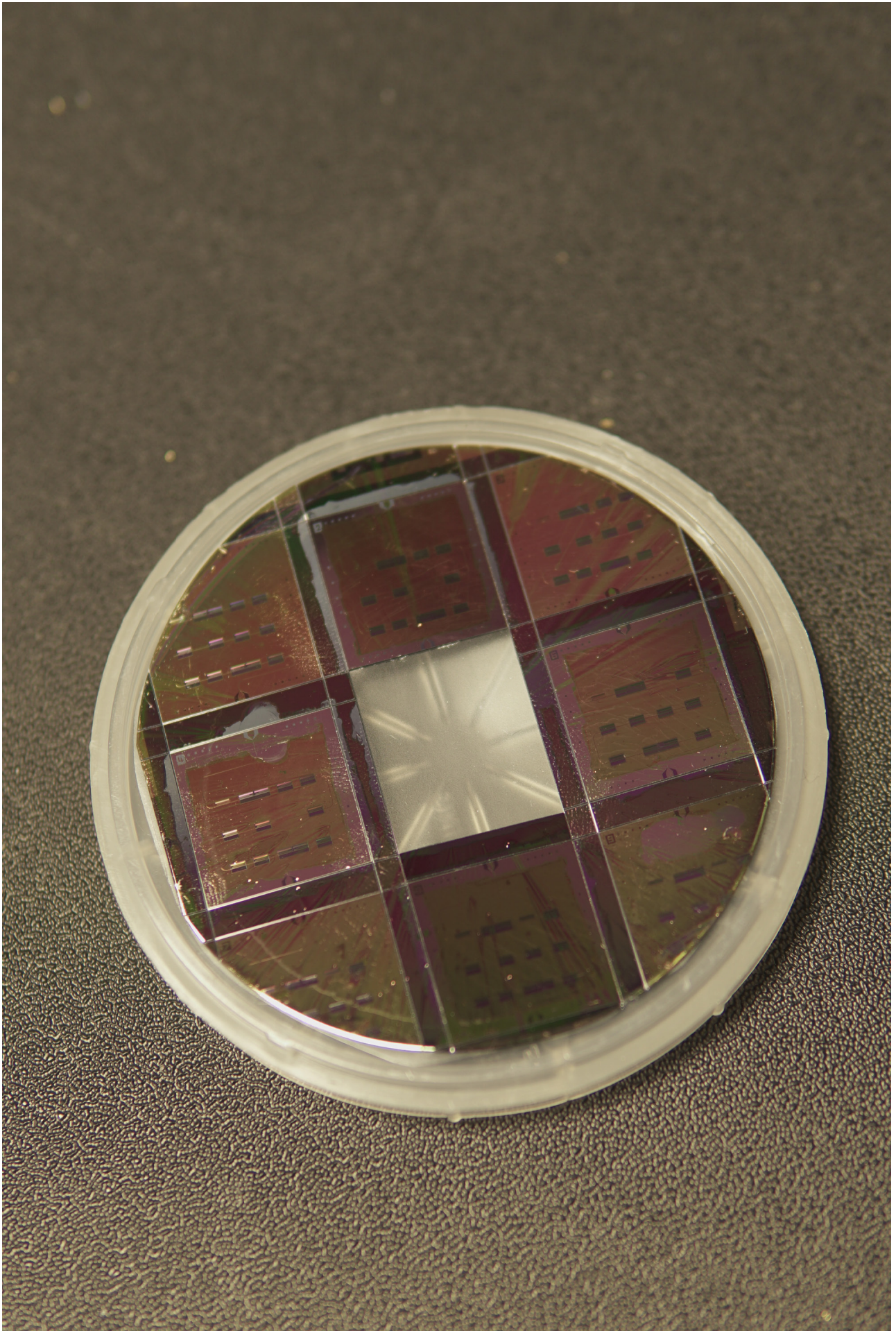
Workshop space detail, Paris Observatory, 2020.



White room, Paris Observatory, 2020.



White room, optical camera, Paris Observatory, 2020.



White room, sensor testing, Paris Observatory., 2020.



White room, sensor testing, Paris Observatory, 2020.





White room, computer calibrating data, Paris Observatory, 2020.



White room, testing optical lens, Paris Observatory, 2020.



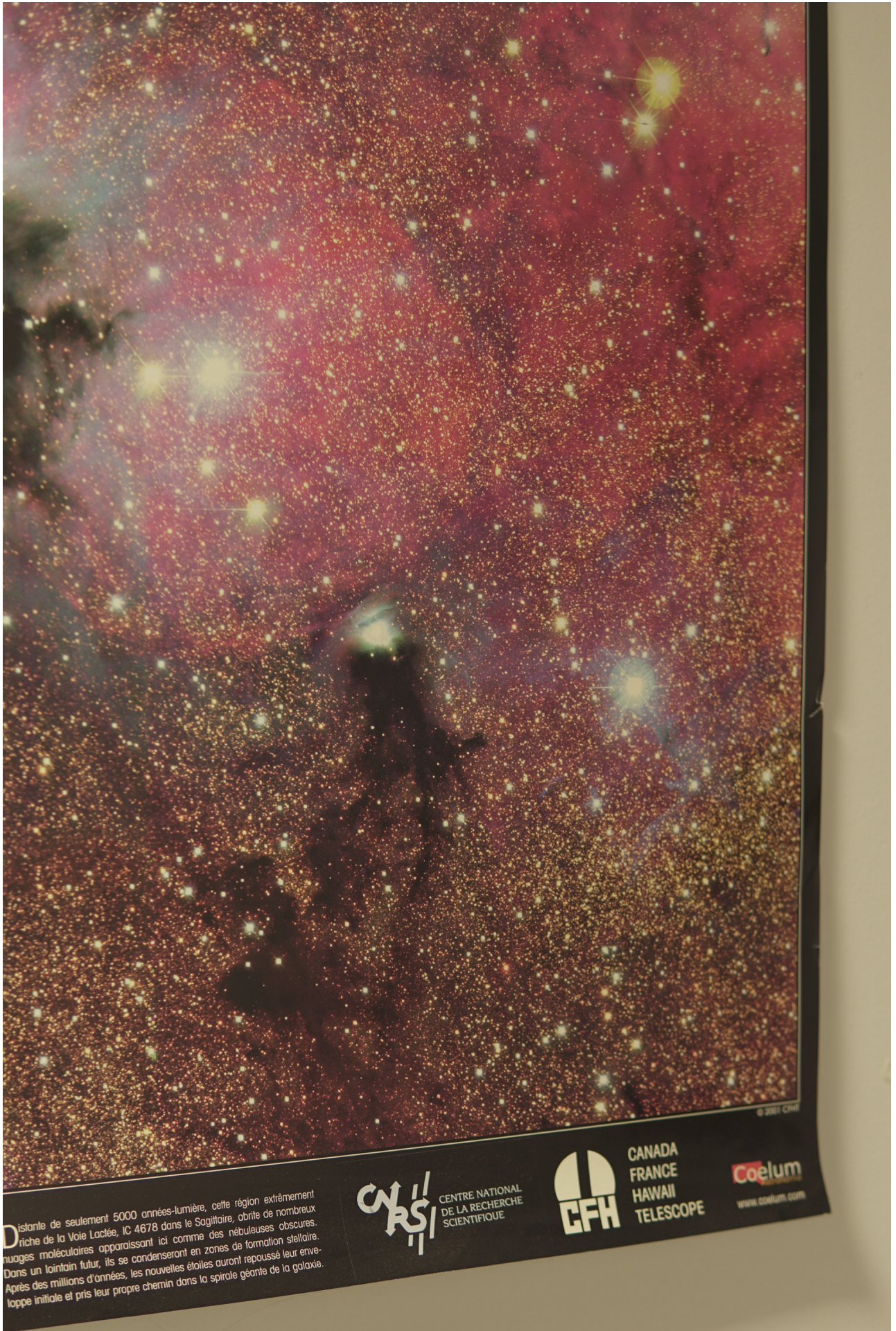
Old clock, Paris Observatory, 2020.



Telescope's interior, Meudon Observatory, 2020.



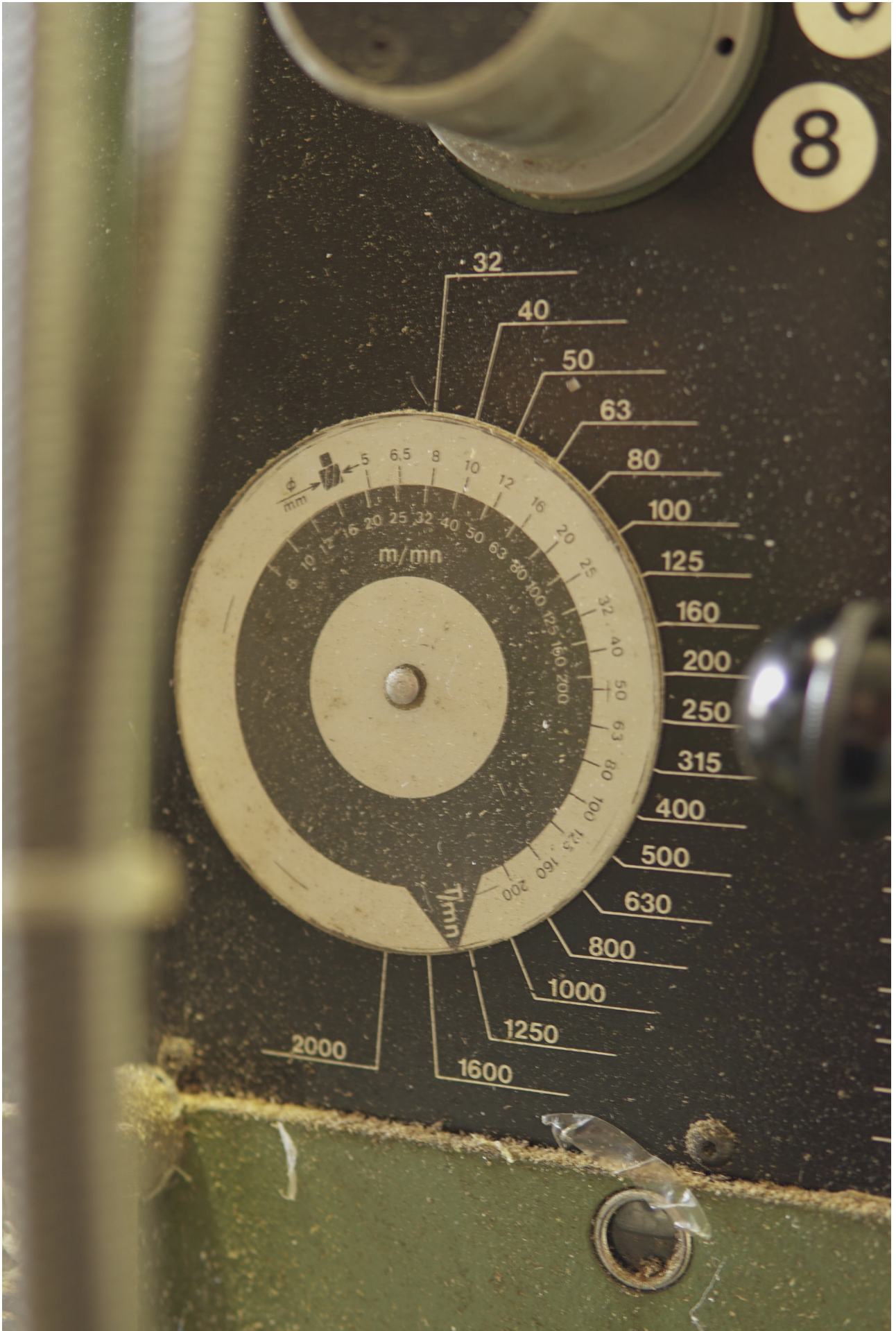
Eiffel's astronomical dome, Meudon Observatory, 2020.



Galaxies in the visible universe, Meudon Observatory, 2020.



Poster on the wall of a scientist's studio, Meudon Observatory, 2020.



Detail of a calibrating telescope, Meudon Observatory, 2020.

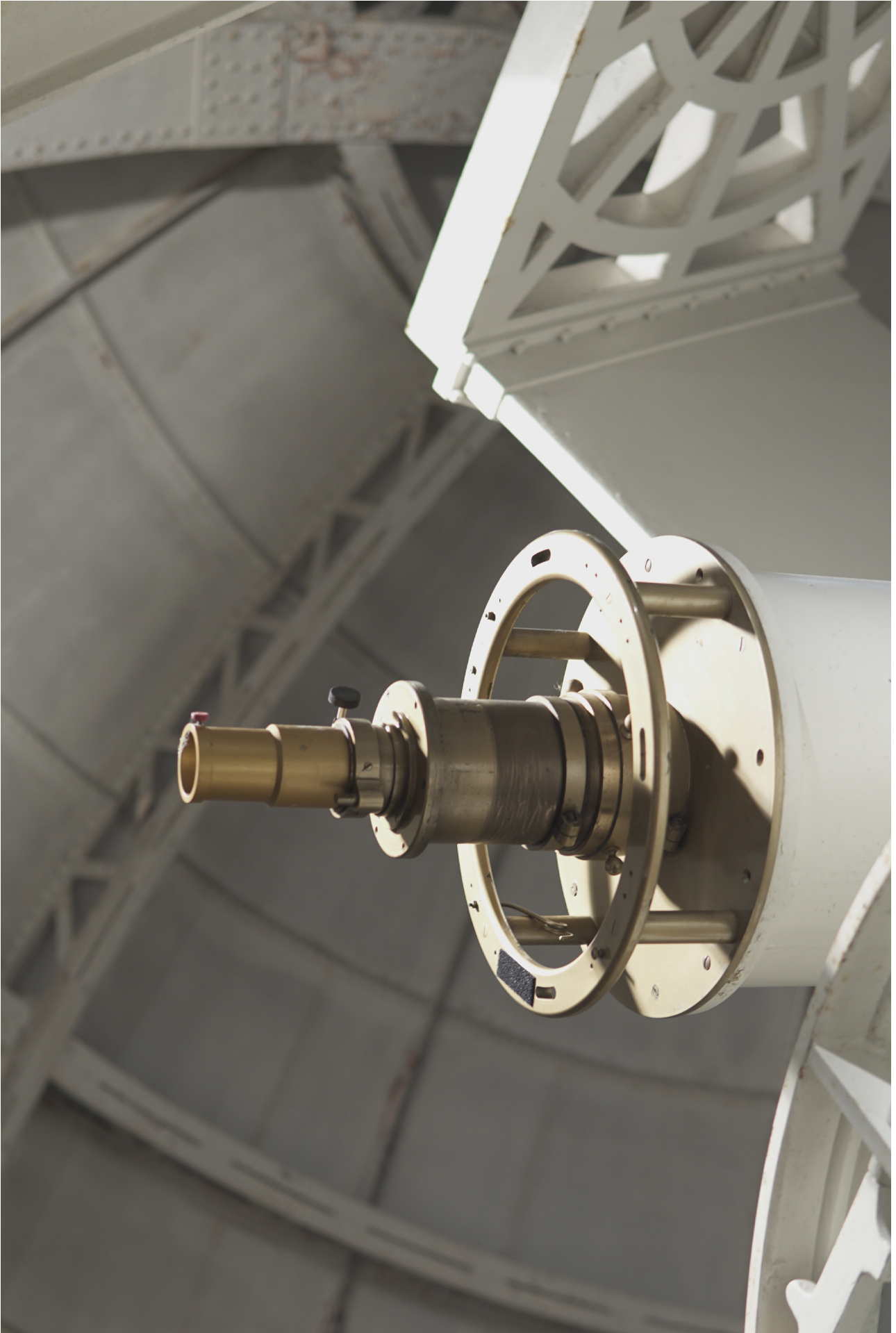




Eiffel's dome interior, Meudon Observatory, 2020.



Eiffel's dome interior, Meudon Observatory, 2020.



Eiffel's dome telescope detail, Meudon Observatory, 2020.



Eiffel's dome telescope detail, Meudon Observatory, 2020.



Eiffel's dome telescope detail, Meudon Observatory, 2020.



Eiffel's dome detail, Meudon Observatory, 2020.



Eiffel's dome telescope detail, Meudon Observatory. 2020.



Eiffel's dome detail, Meudon Observatory, 2020.





Observational dome, Meudon Observatory, 2020.

London / Venice, March 2021.