
SPACE IS PUNK

Inspirations and References

for

SPACE IS PUNK

by

Paula Turmina

2026

It has been central to my practice to explore the boundaries between bodies, matter and the planetary environment. Shifting the perspective from the land to the sky is a more recent investigation into what we believe possible as humans.

While trying to understand the complexities of space exploration and its connetion to ongoing issues on Earth, I encountered the works of Lucian Walkowicz and Cris van Eijk. Their perspectives helped clarify how outer space is regulated and how to imagine more communal, responsible, and creative ways of engaging with it, especially as our skies fill with satellites, and debates around resource use intensify. To push back, I wanted to bring something stranger, more magical, into the paintings. I believe the way we perceive land shapes the way we treat it, and the same applies to space.

This publication pulls together fragments, images, texts, references, that feed into this thinking and into the work for the exhibition "Space is Punk", at Instituto de Visión.

It feels weird to make work about the dream quality of space while things are so visibly collapsing and while space itself is tied to millitary systems, surveillance, and control. During the 60s and 70s, while Brazil was undergoing ~~through~~ a dictatorship and voices across the Global South were being silenced, ideas about the peaceful and collective use of space were being proposed. Dreaming happens in the middle of the mess.

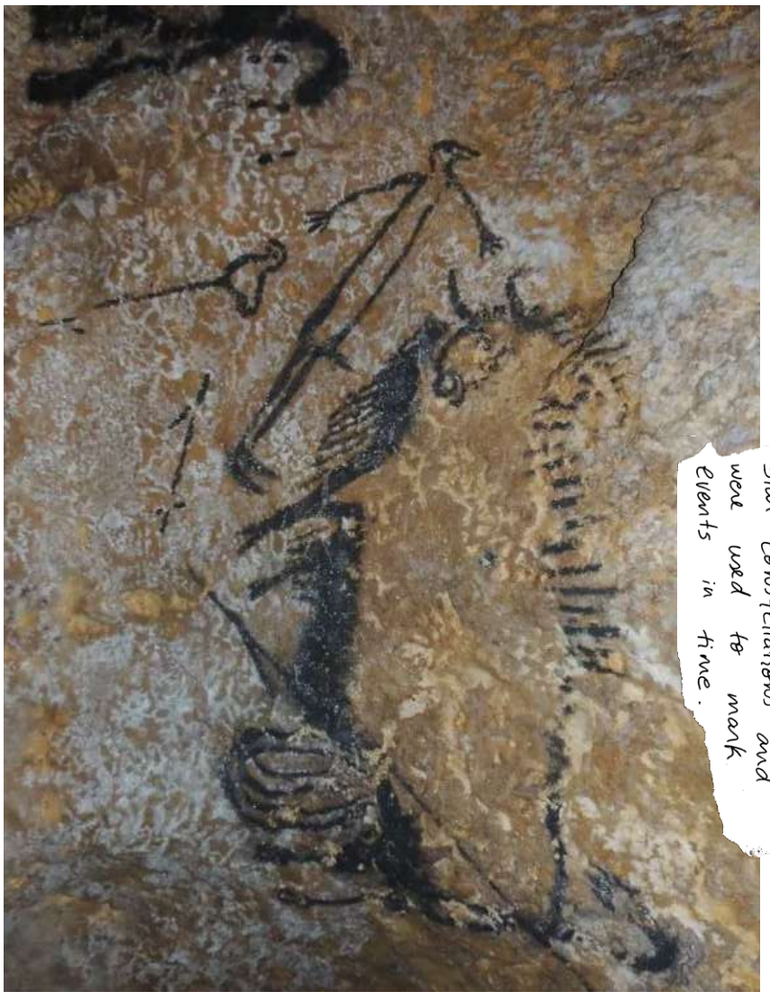
By trying to understand some of the history, and honoring those who thoughtfully proposed a beautiful multi-faceted way of looking at the stars, I am insisting on the possibility of something other than control. Within the limitations of images and pigments, and the struggle and vulnerability it demands, I reach for creation and connection.

Paula Turmina, 2026.

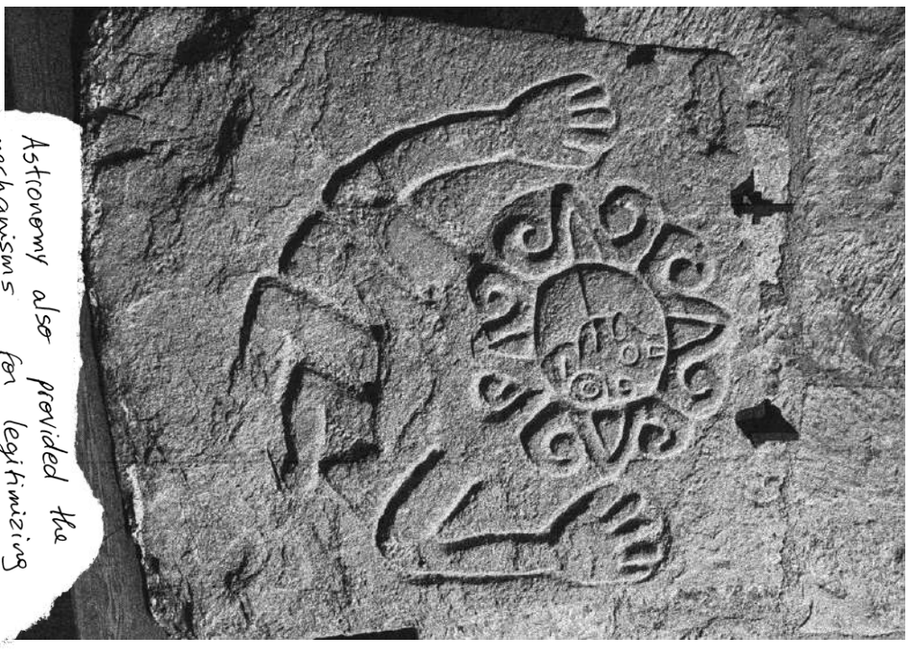
Ancient Egyptian creation myths (From the book Ancient Egypt, edited by David P. Silverman, p. 121;)
Monolith of the Stone of the Sun, also named Aztec calendar stone (National Museum of Anthropology and History, Mexico City)
On the Revolutions of the Heavenly Spheres (Illustration from the book by Nicolaus Copernicus)
2026 Sun Image (From the Atmospheric Imaging Assembly (AIA))

Different representations of the universe across time: Egyptian creation myths, Aztec sun stone, Copernicus' illustration placing the sun at the centre, and current solar images.

Analysis from the University of Edinburgh. Photo by Alistair Coombs.
(No date) New analysis of cave art suggests that prehistoric humans had sophisticated knowledge of Astronomy | Artnet News. (Accessed: 23 March 2026).



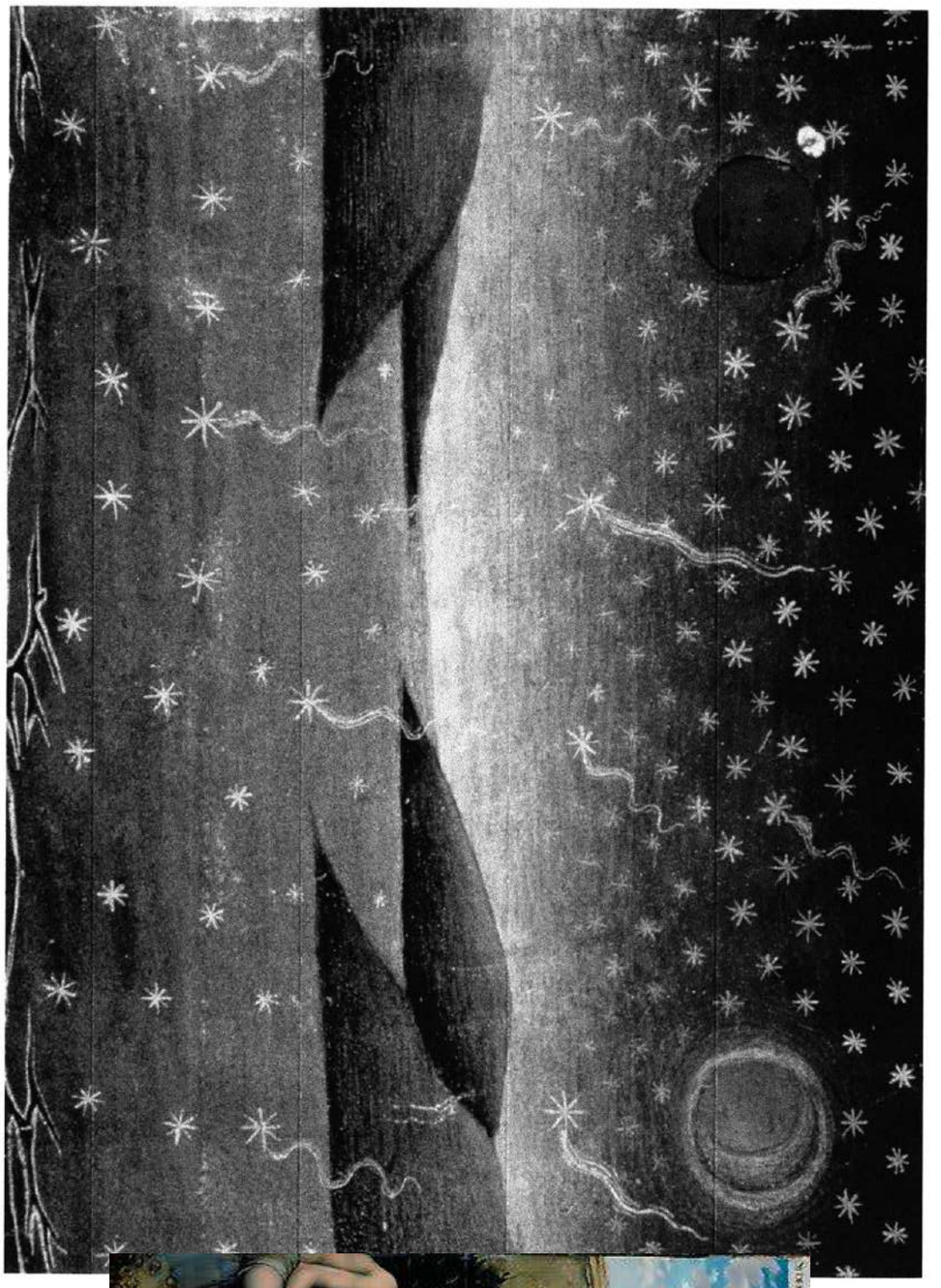
Cave paintings have revealed how ancient people had knowledge of astronomy. Animal symbols represent star constellations and were used to mark events in time.



Astronomy also provided the mechanisms for legitimizing the exercise of political power in pre-Hispanic societies.

Museo de las Culturas de Oaxaca, Mexico. Objects made during the height of Zapotec and Mixtec civilizations. 200 - 900 d.C.

Death of the Sun, Moon and Stars Falling. Artist: Cristoforo de Predis. Date: c. 1476 AD.



Hercules and Atlas. Lucas Cranach the Elder, 1537.

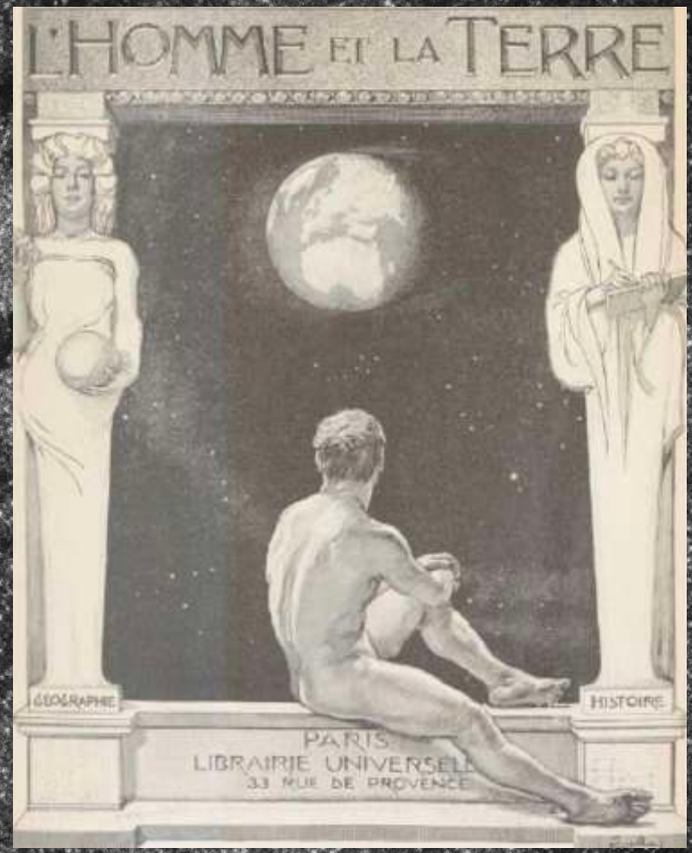
1893

I
I woke up and, still lying in bed, thought about the dream I had just had: I saw myself swimming, and since it was winter, it seemed especially pleasant to me to dream about summer swimming.
It's time to get up!
I stretch, rise… How light! It's easy to sit, easy to stand.
What's this? Is the dream still going on? I feel especially light standing, as if immersed up to my neck in water: my feet barely touch the floor.
But where is the water? I can't see it. I wave my arms: I don't feel any resistance.
Am I dreaming? I rub my eyes – still the same.
Strange!..
But I still need to get dressed!
I move chairs, open closets, take out a dress, lift various things and - I don't understand anything!
Has my strength increased? Why has everything become so airy? Why am I lifting objects that I couldn't even move before?
No! These are not my legs, not my arms, not my body! They are so heavy and do everything with such difficulty...
Where does the power in your arms and legs come from? Or perhaps some force is pulling me and all objects upward, making my work easier? But if that's the case, how strongly it pulls! A little more, and it seems to me I'll be pulled toward the ceiling.
Why am I jumping instead of walking? Something is pulling me in the opposite direction to gravity, tensing my muscles, forcing me to leap.
I can't resist the temptation – I jump…
It seemed to me that I rose rather slowly and fell just as slowly.
I jump harder and look around the room from a considerable height... Ouch! - I hit my head on the ceiling... The rooms are high... I didn't expect a collision... I won't be so careless again.
...

"On the Moon: A Science Fiction Story" by Konstantin Eduardovich Tsiolkovsky (1893)

1905

In the twentieth century came the discovery of relativity and the space-time continuum. Early in the century, Harlow Shapley demonstrated that our galaxy, the Milky Way, was spiral-shaped, and that our solar system was located at its outer edges. In 1929, Edwin Hubble discovered that the universe was expanding. Modeled by gravitation, woven by light, curved by matter, the universe became "elastic".

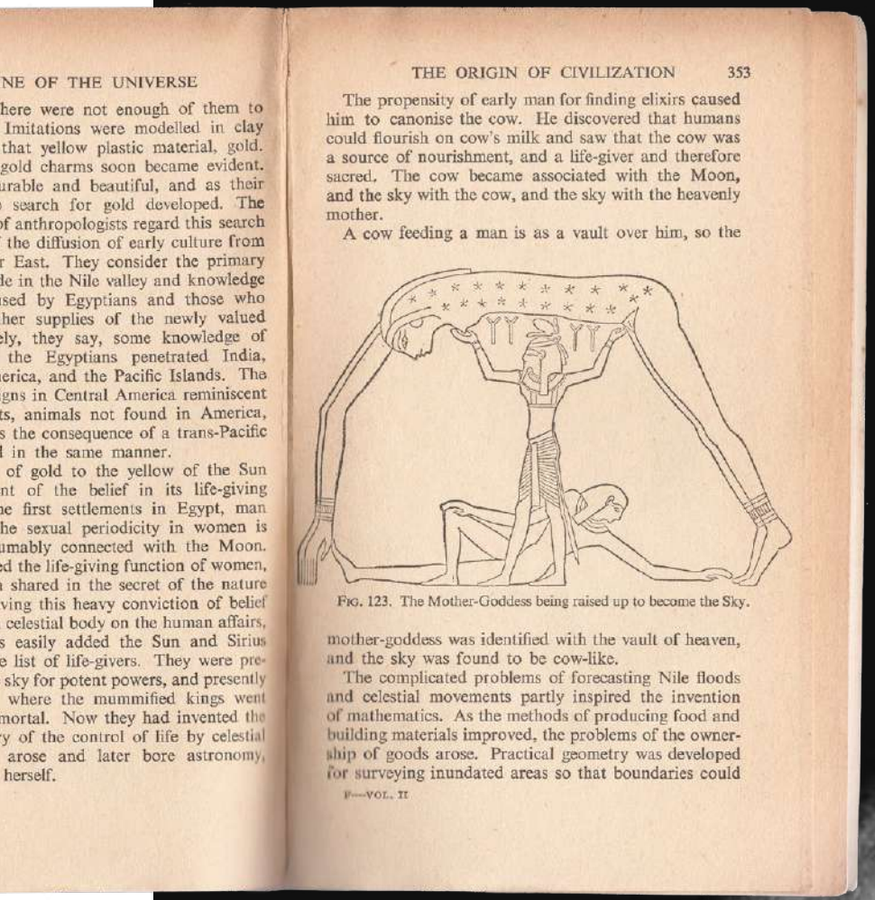


"Man and the Earth" (L'Homme et la Terre) is a six-volume geohistorical encyclopedia by Élisée Reclus, published posthumously between 1905 and 1908.

Background Image: NASA, ESA, and Hubble Heritage Team (STScI/AURA, Acknowledgment: T. Do, A.Ghez (UCLA), V. Bajaj (STScI)

1938

1946



NE OF THE UNIVERSE

here were not enough of them to
Imitations were modelled in clay
that yellow plastic material, gold.
gold charms soon became evident.
urable and beautiful, and as their
search for gold developed. The
f anthropologists regard this search
the diffusion of early culture from
r East. They consider the primary
le in the Nile valley and knowledge
sed by Egyptians and those who
her supplies of the newly valued
ly, they say, some knowledge of
the Egyptians penetrated India,
erica, and the Pacific Islands. The
gns in Central America reminiscent
ts, animals not found in America,
s the consequence of a trans-Pacific
l in the same manner.
of gold to the yellow of the Sun
nt of the belief in its life-giving
he first settlements in Egypt, man
he sexual periodicity in women is
umably connected with the Moon.
ed the life-giving function of women,
shared in the secret of the nature
ving this heavy conviction of belief
celestial body on the human affairs,
s easily added the Sun and Sirius
e list of life-givers. They were pre-
sky for potent powers, and presently
where the mummified kings went
mortal. Now they had invented the
y of the control of life by celestial
arose and later bore astronomy,
herself.

THE ORIGIN OF CIVILIZATION 353

The propensity of early man for finding elixirs caused him to canonise the cow. He discovered that humans could flourish on cow's milk and saw that the cow was a source of nourishment, and a life-giver and therefore sacred. The cow became associated with the Moon, and the sky with the cow, and the sky with the heavenly mother.

A cow feeding a man is as a vault over him, so the

FIG. 123. The Mother-Goddess being raised up to become the Sky.

mother-goddess was identified with the vault of heaven, and the sky was found to be cow-like.

The complicated problems of forecasting Nile floods and celestial movements partly inspired the invention of mathematics. As the methods of producing food and building materials improved, the problems of the ownership of goods arose. Practical geometry was developed for surveying inundated areas so that boundaries could

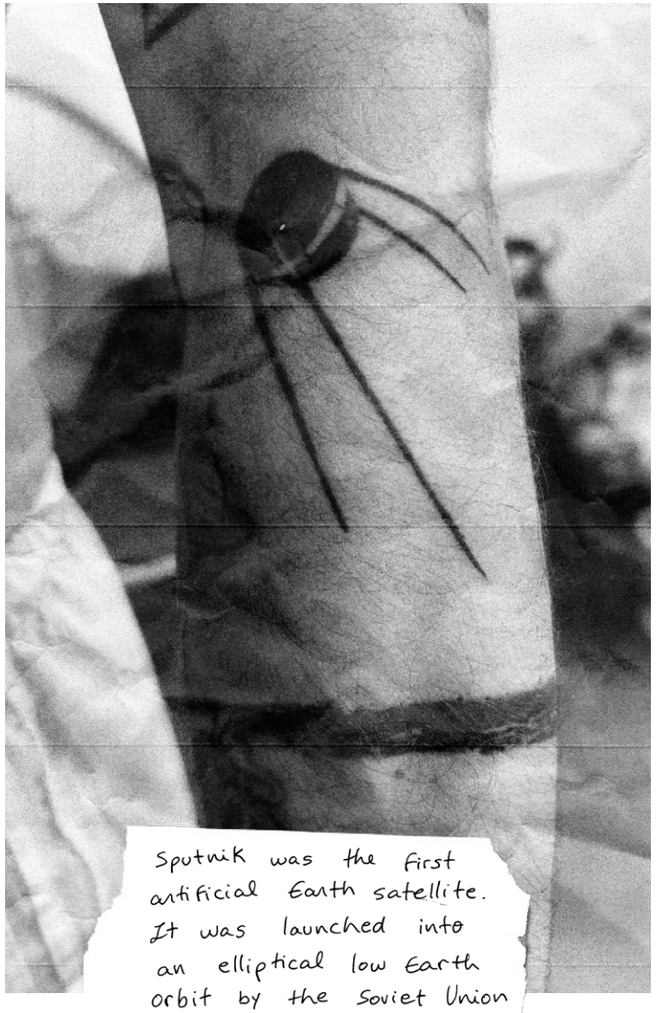
F—VOL. II

"An Outline of the Universe"
J.G. Crowther. Publication (1938)

The first picture of Earth from space, taken on October 24, 1946.

Credit: White Sands Missile Range / Applied Physics Laboratory

1957



Sputnik was the first artificial Earth satellite. It was launched into an elliptical low Earth orbit by the Soviet Union on 4th of October, 1957, as part of the Soviet space program.

Image: Sputnik tattooed on the brazilian designer Iago Caniato photographed by Asafe Ghalib (Brazil, 2026).

1958

OFFICE OF THE HISTORIAN

Early Brazil participation on the Outer Space Treaty (OST), in 1958.

Home | Historical Documents | Department History | Guid...

Home › Historical Documents › Foreign Relations of the United States, 195...
Document 448

Foreign Relations of the United States, 1958–1960, United Nations and General International Matters, Volume II

448. Telegram From the Mission at the United Nations to the Department of State

New York, November 12, 1958—10 p.m.

Delga 407. Re: Outer Space.

1. Lodge met with Freitas-Valle (Brazil) and Amadeo (Argentina) this afternoon on their proposed amendments to outer space resolution. He gave them our suggestions as received by telecon. After conferring together, they agreed to accept our new preamble, including suppression of their amendment to operative para 1–d, but they felt very strongly about wording of their suggestion for para 1–b. In light of their agreement on our rephrasing of legal points, as well as fact UK had previously told US it regarded LA language as innocuous, [Page 869]Lodge accepted their amendment to para 1–b as shown in new draft of resolution (Delga 408).

2. Dixon and Scrivener (UK) asked to see us before co-sponsors meeting. They agreed to suggested changes in resolution, including version of Argentine-Brazilian amendments upon which we had agreed, except for new first preambular paragraph re **use of outer space for peaceful purposes only.** Their instructions were to oppose this para strongly, because they feared it might be used to prevent us from using outer space for military defense. London argued it would prevent launching IRBM's, for example. Dixon said inclusion of paragraph might prevent UK co-sponsorship. We replied that if we thought para raised problems he saw, U.S. could not support it either. It was only pious wish, but it was important to state this principle as matter of practical politics in UN debate in order to counter attack on our resolution from Soviets. Idea of new para was one fully in accord with U.S. policy, and we understood also with UK policy, since we all sought agreement to prohibit use of outer space for military purposes.

3. At meeting of co-sponsors there was general agreement on revised text, including LA amendments. France and Belgium were inclined share UK misgivings about new first preambular para, but most others supported inclusion this idea as political necessity to meet Soviet propaganda campaign effectively.

4. After co-sponsors meeting, Scrivener suggested rephrasing of "peaceful uses only" concept, in form included new penultimate preambular paragraph (Delga 408), and that we revert to original first preambular paragraph. We accepted idea of new preambular paragraph but decided we should also retain this idea in first preambular paragraph. We agreed with UKDel on version contained Delga 408.

5. We plan submit draft text as contained Delga 408 after co-sponsors meeting tomorrow morning.

Lodge

Archive image from Cris van Eijk research.

1961

4 — 1.º Cad., Jornal do Brasil, 6.ª-feira, 8-12-61

Uruguai ao lad

Brasil insistirá na ONU na tese de que o Cosmos deve pertencer a todos

O Brasil vai insistir, na Assembléia-Geral da ONU, na tese de que o espaço cósmico pertence a todos, devendo tôda a humanidade, independentemente do estágio de desenvolvimento econômico e científico dos Estados, se beneficiar com os resultados da sua exploração pacífica.

O projeto original a respeito que estará em debate é dos Estados Unidos, mas revisto na Comissão do Espaço Cósmico, das Nações Unidas, ganhou idéias novas, apresentadas pelo Ministro Geraldo de Carvalho Silos, representante do Brasil e Relator da Comissão.

"Brazil will insist at NU meeting the theory that the cosmos must belong to everyone" (Jornal do Brasil, 1961)

Archive image from Cris van Eijk research.

Radioed words by Soviet cosmonaut and first man in space, Yuri Gagarin, during his flight around the Earth. Gagarin provided the first human eyewitness account of the planet from space.

Image: Gagarin (1934-1968) on the bus transporting him to his Vostok 1 spacecraft. The trajectory of Vostok's orbit around the Earth is shown below.

1963

UNITED NATIONS
Office for Outer Space Affairs

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Our Work > Space Law > Treaties & Principles

In 1963, Brazil's nine words appeared again in the preamble of the Declaration of Legal Principles.

RESOLUTION ADOPTED BY THE GENERAL ASSEMBLY

1962 (XVIII). Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space

The General Assembly,

Inspired by the great prospects opening up before mankind as a result of man's entry into outer space,
Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,
Believing that the exploration and use of outer space should be carried on for the betterment of mankind and for the benefit of States irrespective of their degree of economic or scientific development,
Desiring to contribute to broad international co-operation in the scientific as well as in the legal aspects of exploration and use of outer space for peaceful purposes,
Believing that such co-operation will contribute to the development of mutual understanding and to the strengthening of friendly relations between nations and peoples,
Recalling its resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace, or act of aggression, and considering that the aforementioned resolution is applicable to outer space,
Taking into consideration its resolutions 1721 (XVI) of 20 December 1961 and 1802 (XVII) of 14 December 1962, adopted unanimously by the States Members of the United Nations,
Solemnly declares that in the exploration and use of outer space States should be guided by the following principles:

1. The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind.

2. Outer space and celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law.

3. Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

4. The activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

5. States bear international responsibility for national activities in outer space, whether carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried on in conformity with the principles set forth in the present Declaration. The activities of non-governmental entities in outer space shall require authorization and continuing supervision by the State concerned. When activities are carried on in outer space by an international organization, responsibility for compliance with the principles set forth in this Declaration shall be borne by the international organization and by the States participating in it.

6. In the exploration and use of outer space, States shall be guided by the principle of co- operation and mutual assistance and shall conduct all their activities in outer space with due regard for the corresponding interests of other States. If a State has reason to believe that an outer space activity or experiment planned by it or its nationals would cause potentially harmful interference with activities of other States in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State which has reason to believe that an outer space activity or experiment planned by another State would cause potentially harmful interference with activities in the peaceful exploration and use of outer space may request consultation concerning the activity or experiment.

7. The State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and any personnel thereon, while in outer space. Ownership of objects launched into outer space, and of their component parts, is not affected by their passage through outer space or by their return to the earth. Such objects or component parts found beyond the limits of the State of registry shall be returned to that State, which shall furnish identifying data upon request prior to return.

8. Each State which launches or procures the launching of an object into outer space, and each State from whose territory or facility an object is launched, is internationally liable for damage to a foreign State or to its natural or juridical persons by such object or its component parts on the earth, in air space, or in outer space.

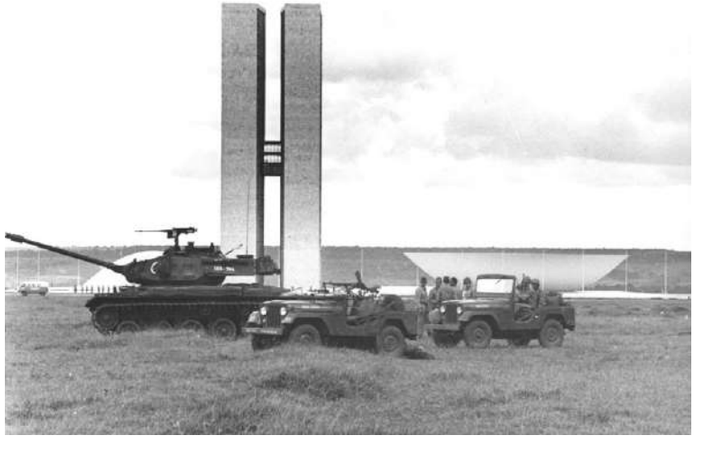
9. States shall regard astronauts as envoys of mankind in outer space, and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of a foreign State or on the high seas. Astronauts who make such a landing shall be safely and promptly returned to the State of registry of their space vehicle.

1280th plenary meeting,
13 December 1963

Archive image from Cris van Eijk research.

1964

The 1964 Brazilian coup d'état (Portuguese: Golpe de estado no Brasil em 1964) was the overthrow of Brazilian president João Goulart by a military coup from March 31 to April 1, 1964, ending the Fourth Brazilian Republic (1946–1964) and initiating the Brazilian military dictatorship (1964–1985).



M41 tank and two jeeps of the Brazilian Army in the Ministries Esplanade, near the National Congress Palace (background) in Brasília, 1964

2 Force, weight and friction

One thing to which a student must become accustomed is that many words of everyday conversation have a special meaning when used in a scientific sense. Take the words "force" and "power", for example. Most dictionaries describe these words as meaning the same thing. In physics this is not so, as will be explained in due course.

What is force?

The word "force" generally denotes a push or a pull. Now it is not possible to describe a force as we can describe some material object such as an apple. We can only say what force can do. When a body is acted upon by a resultant force it will begin to move. If the body is already moving a force may alter its speed or alter its direction of motion or else bring it to rest. We therefore define force as follows:

Force is that which changes a body's state of rest or of uniform motion in a straight line.

The relation between force and motion will be discussed more fully in a later chapter.

Gravitational force

The force of which we are constantly aware in our daily lives is that which pulls us towards the earth. This is called *gravitational force*. Sir Isaac Newton came to the conclusion that gravitational force exists between all bodies. Thus, two stones are not only attracted towards the earth but also attract each other. Normally, we do not notice this force owing to its smallness, although it can be measured with sensitive instruments. Nevertheless, two 50 000 t ships lying side by side attract each other with a force of about 18 kgf.

Newton's law of universal gravitation states that any two particles of matter attract one another with a force which is proportional to the product of their masses and inversely proportional to the square of their distance apart. Strictly, this law applies only when the distance is large compared with the dimensions of the particles.

Newton realized that gravitational attraction applied not only to bodies on the earth but was also responsible for holding the moon in its orbit about the earth and also the earth and its fellow planets in their orbits round the sun.

Centripetal force

It is important to grasp the idea that, to keep a body moving in a circle there must be a force on it directed towards the centre. This is called the *centripetal force*. Before Newton's time it was believed that invisible spokes radiated out from the sun and pushed the planets round. Newton's insight into the problem convinced him that a push such as this was not necessary. The planets, carrying their atmospheres with them, go on moving in their orbits because the great vacuum of space offers no opposing force to their motion. Centripetal force is, however, required to produce the continuous *change of direction* which occurs in the orbit and this is provided by gravitational attraction.

We can try a simple experiment to demonstrate centripetal force by securely tying a suitable mass on the end of a string and swinging it round. The pull in the string which is providing the centripetal force can easily be felt and we notice that it varies according to mass, speed, and path radius.

In a laboratory experiment, of course, the circular motion of a mass on a pivoted arm will, if left to itself, rapidly come to rest owing to air resistance and so on. No such resistance is offered to the planets as we have already said; so they continue to move.

Weights as units of force

On page 8 we described the weight of a body as a force which the body exerts on its support. The weights of a kilogramme or gramme (kgf and gf), are used as units of force in elementary work but they are unsuitable for accurate scientific work since the weight of a body depends on where it happens to be relative to the earth.

The earth is not a perfect sphere, but bulges at the equator so that if a body is taken from a pole to the equator its distance from the centre of the earth will increase. Consequently, in accordance with Newton's law, the gravitational pull on it will get less.

However, there is another factor causing the weight to decrease, as we shall now explain.

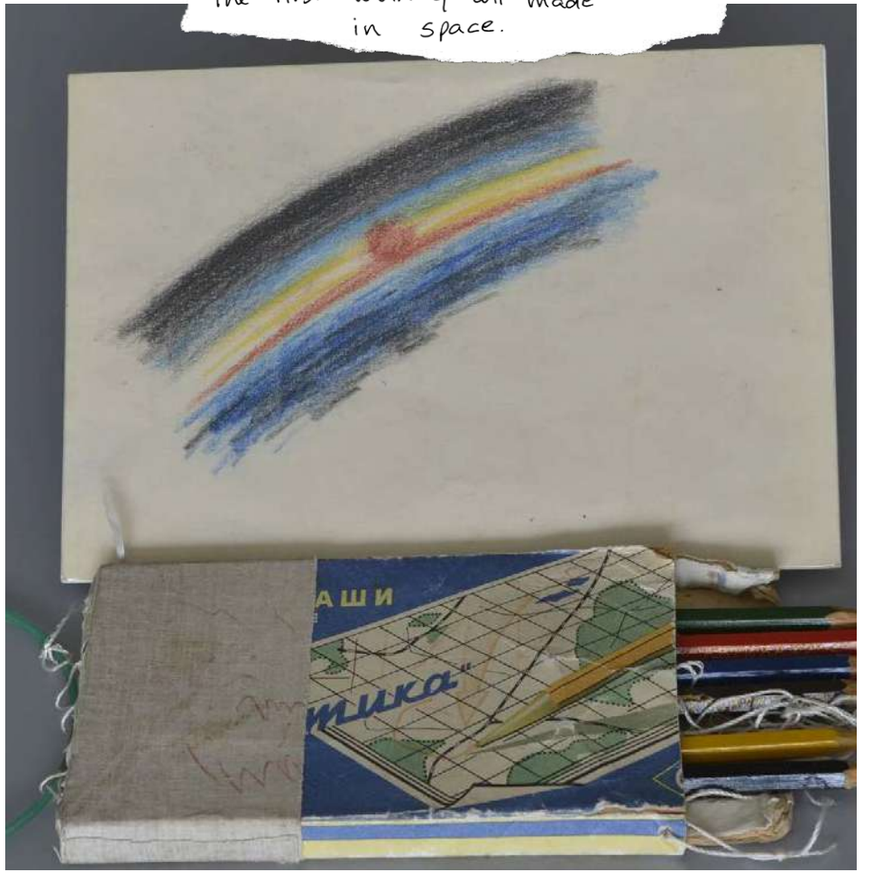
Relation between total gravitational force and weight

If we stand on a spring weighing machine, the force or weight we exert on it comes from the earth's gravitational attraction on us. But the weighing machine does not measure the *total* gravitational force.

Owing to the rotation of the earth on its axis we happen to be moving in a circle dependent on our geographical latitude. Consequently, part of the gravitational attraction has to provide centripetal force required to keep us moving in that circle. The remaining part of the gravitational force simply presses us down on the earth's surface. This part of the gravitational attraction we call our weight, and this is what the spring weighing machine measures.

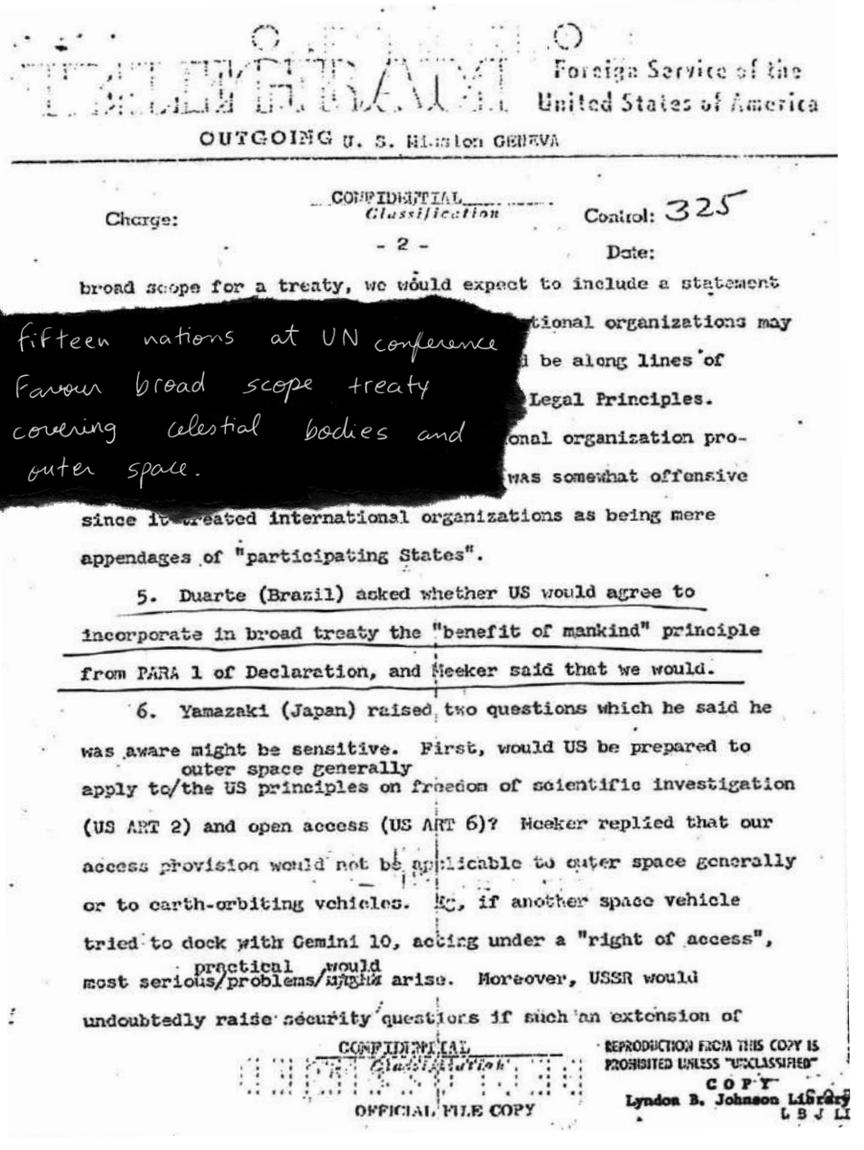
Only at the poles, where there is no motion in a circle, would it be

1965



"Sunrise" sketched by Alexei Leonov on the Voskhod 2 mission, Mar. 18, 1965, Museum of the Yuri Gagarin Cosmonaut Training Center, Moscow Oblast, Russia, exhibited, with the original pencils used by Leonov, at the Science Museum, London, 2015-16

1966



TELEGRAM

Foreign Service of the United States of America

OUTGOING U. S. Mission GENEVA

Charge: CONFIDENTIAL Classification Control: 325

- 2 - Date:

broad scope for a treaty, we would expect to include a statement

fifteen nations at UN conference Favour broad scope treaty covering celestial bodies and outer space.

tional organizations may

be along lines of

Legal Principles.

onal organization pro-

was somewhat offensive

since it treated international organizations as being mere appendages of "participating States".

5. Duarte (Brazil) asked whether US would agree to incorporate in broad treaty the "benefit of mankind" principle from PARA 1 of Declaration, and Meeker said that we would.

6. Yamazaki (Japan) raised two questions which he said he was aware might be sensitive. First, would US be prepared to outer space generally apply to the US principles on freedom of scientific investigation (US ART 2) and open access (US ART 6)? Meeker replied that our access provision would not be applicable to outer space generally or to earth-orbiting vehicles. E.G., if another space vehicle tried to dock with Gemini 10, acting under a "right of access", practical would most serious problems might arise. Moreover, USSR would undoubtedly raise security questions if such an extension of

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LBJ LI

Date: 1966. Publisher: Department Of State (United States)
Archive image from Cris van Eijk research.

1967

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

outer space shall be free for exploration and use by all States;

outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;

the Moon and other celestial bodies shall be used exclusively for peaceful purposes;

astronauts shall be regarded as the envoys of mankind;

States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner;

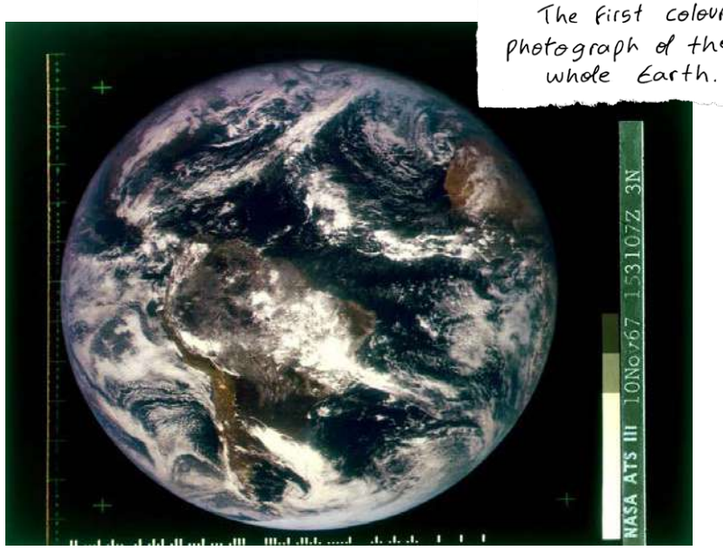
States shall be liable for damage caused by their space objects;

States shall avoid harmful contamination of space and celestial bodies.

States shall be responsible for national space activities whether carried out by governmental or non-governmental entities;

the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind;

1967



The first colour photograph of the whole Earth.

"For many people, space is the essence of the future. Space serves as a screen against which we project both our hopes and fears of what may come. This liminal quality is what makes space so powerful: it is both a realm of the imagination, and also, a physical place we can (at least in theory) go.

...

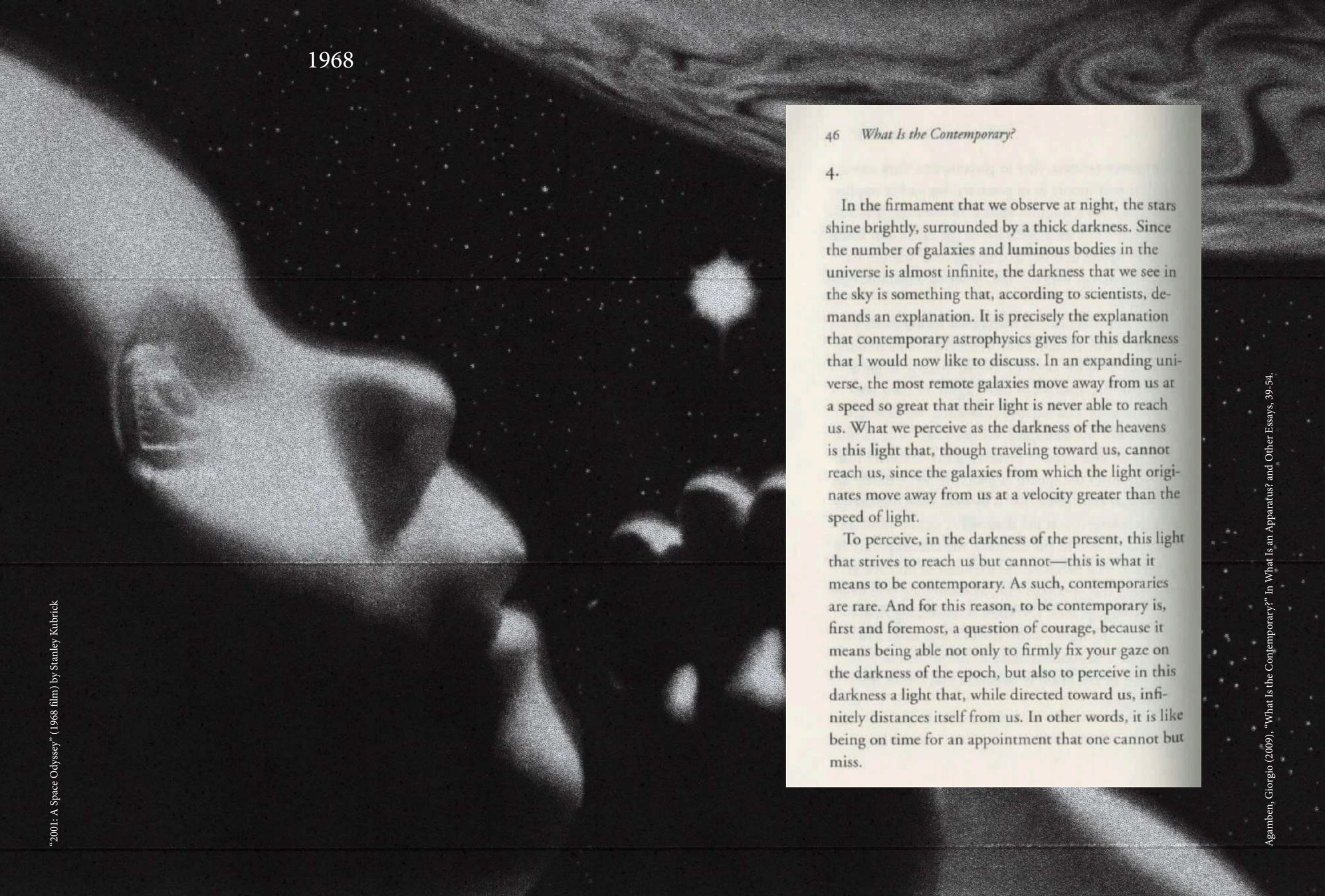
Even with the harsh, inescapable realities of being human all around us, we still live in the most hospitable place we know of in our universe: planet Earth. The scarcity that plagues our lives is not created by the planet, which made the existence of life, in its myriad forms, possible to begin with-- scarcity is created by people. But scarcity, much like climate change, is not created equally by all people: it is predominantly created by the extremely wealthy, whose fortunes are built on the labors of those with less, and come at the expense of polluting our planet and its skies alike."

Lucian Walkowicz (2021)

Image on the left: ATS-3 (1967). Image on the right: collage with Paula Turmina's painting "Protection" (2023). Quote from: Walkowicz, L. (2021) The Freedom Theater of Billionaires in Space, Patreon. Available at: https://www.patreon.com/posts/53721105 (Accessed: 31 March 2026)

1968

"Earthrise" photo from Apollo 8, on the 29th of December, 1968. The first Earth Day followed on April 22, 1970, and it marked the beginning of the Ecology movement.



1968

"2001: A Space Odyssey" (1968 film) by Stanley Kubrick

4.

In the firmament that we observe at night, the stars shine brightly, surrounded by a thick darkness. Since the number of galaxies and luminous bodies in the universe is almost infinite, the darkness that we see in the sky is something that, according to scientists, demands an explanation. It is precisely the explanation that contemporary astrophysics gives for this darkness that I would now like to discuss. In an expanding universe, the most remote galaxies move away from us at a speed so great that their light is never able to reach us. What we perceive as the darkness of the heavens is this light that, though traveling toward us, cannot reach us, since the galaxies from which the light originates move away from us at a velocity greater than the speed of light.

To perceive, in the darkness of the present, this light that strives to reach us but cannot—this is what it means to be contemporary. As such, contemporaries are rare. And for this reason, to be contemporary is, first and foremost, a question of courage, because it means being able not only to firmly fix your gaze on the darkness of the epoch, but also to perceive in this darkness a light that, while directed toward us, infinitely distances itself from us. In other words, it is like being on time for an appointment that one cannot but miss.

Agamben, Giorgio (2009), "What Is the Contemporary?" In What Is an Apparatus? and Other Essays, 39-54.

1969

Medea (1969 film) by Paolo Pasolini

Throughout the 60s, 70s and 80s we can see the effect of space exploration in culture and artists at that time. From sci-fi books, music, visual artists reference to space and Earth as a whole, as well as escapists desires.

David Bowie as Major Tom in the "Space Oddity" video (1969)

“He saw a flying saucer up close and made a complete drawing” - D. Noticias Newspaper (1969). Archive from SIAN (Brazilian GOV).

D. NOTICIAS

ARX.71/p.1/1

VIU DISCO-VOADOR DE PERTO E FÊZ UM DESENHO COMPLETO

Diversas pessoas não só do Brasil, mas também de várias partes do mundo, continuam dando seu testemunho de que viram algum dia, em alguma parte, os chamados discos-voadores — ou OVNI, como os chamam geralmente as autoridades no assunto.

É o caso do radialista Wilson Getúlio Cancian, natural de São Borja, Rio Grande do Sul, 27 anos, solteiro, que, entrevistado pelo DIARIO DE NOTICIAS, afirmou ter visto, em 1954, «um enorme objeto luminoso», que desenhou agora, com todos os detalhes.

SAIA DO TRABALHO

Contou Wilson Getúlio Cancian que, a 12 de dezembro de 1954, como locutor da Rádio Rural de Concórdia (ZYX-3), Santa Catarina, cêrca das .... 23h30min, êle pediu a quilociclagem de sua emissora para a ZYP-2, São Paulo. Mas a resposta da rádio paulista — geralmente recebida em 15 ou 20 minutos — não chegou, embora o pedido fôsse repetido durante uma hora. Notou que havia estranha e acentuada interferência na sua freqüência, com descargas de 5 em 5 minutos, mais ou menos.

Era 0h35min quando saiu do trabalho. Andou uns 800 metros e encontrou então uma conhecida, a sra. Marlene, tendo ambos seguido juntos na mesma direção. Foram conversando até próximo à sua casa — avenida Quinze de Novembro — quando, olhando para cima, viram um enorme objeto luminoso, imóvel, a uns 4 metros de altura.

— Fiquei estarrecido — frisou. Marlene, apavorada, saiu correndo. Quando ela conseguiu falar, gritou, chamando por dona Zulmira, sua vizinha. Esta acordou com os gritos, chegando à janela, de onde ainda conseguiu ver o clarão.

O DISCO VOLTOU

Disse Wilson que chamou por um conhecido, Nélson Malato, para narrar o fato. Nesse interim, o disco voltou e, dessa vez, desceu até meio metro do chão, a uma distância de 20 metros de onde êles estavam.

Viram então, por aberturas na parte superior, dois tripulantes, sendo que um dêles passou por trás do outro, abaixando-se depois. Em seguida, olhou pela janela do objeto, «talvez alertado pelos latidos dos cães da vizinhança». De repente, o disco voador subiu vertiginosamente pela direita, na direção do município de Marcelino Ramos, na divisa de Santa Catarina com o Rio Grande do Sul.

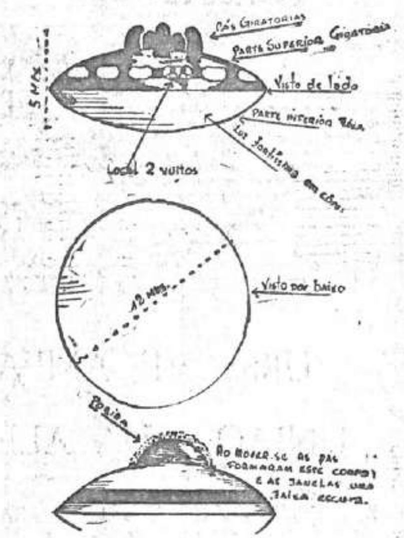
— Em conseqüência — continuou Wilson — a sra. Marlene, que estava grávida de 5 meses, abortou, quatro dias depois, e perdeu metade dos cabelos, negros e fortes como os de uma índia.

CONSEQUENCIAS

Por sua vez, o sr. Wilson Getúlio Cancian, a partir dessa data, passou a sofrer distúrbios digestivos, teve ofuscação da vista e perdeu a sua «conhecida vivacidade» — que, em sua cidade, lhe conferiu o apelido de «Faísca».

Concluindo, disse o radialista que «o disco-voador era silencioso e desenvolvia tremenda velocidade. A parte inferior era fixa e a superior girava velozmente. Tinha cêrca de 12 metros de diâmetro e 5 de altura».

O OBJETO



Wilson Cancian viu o chamado objeto voador não identificado a alguns passos de distância e pôde fazer, na redação do DN, uma representação minuciosa, calculando inclusive as dimensões do disco: 5 metros de altura, 12 de diâmetro.

19

Disco Voador Emociona

O aparecimento de um disco-voador ou, usando a expressão usual, um "objeto voador não identificado" na cidade fluminense de Três Rios, suficientemente documentado pelo repórter-fotográfico Jorge Castelani e divulgado em nossa edição de sábado, está provocando uma verdadeira celeuma nos círculos científicos brasileiros e, já agora, além de nossas fronteiras. Representantes de agências telegráficas estrangeiras vieram à nossa redação avistar-se com o jovem profissional da imprensa e tomar conhecimento dos detalhes sôbre o momentoso assunto.

DISCOS EXISTEM

Entre os que nos visitaram, neutralizando com sua palavra abalizada a opinião suspeita dos incrédulos, registramos a presença do conhecido compositor Carlos Sideral, autor premiado no último carnaval com a música-enrêdo da Escola de Samba Imperatriz Leopoldinense, e já muitos anos conhecido como autoridade em "objetos não identificados", donde lhe advém o curioso apelido.

Carlinhos Sideral disse-nos, entre outras coisas que não tem a menor dúvida da existência de outras civilizações mais adiantadas do que a nossa e que, justamente nos isso, nos enviam suas naves de obs[...] pretendendo possivelmente um cont[...] cífico, que ainda não procuramos com[...] der. "A elucidação dêste fenômeno, [...] anos vêm sendo estudados por uma [...] nação denominada "Projeto Blue Bo[...] ria uma completa reformulação na [...] terrestre. Traria, por exemplo, tra[...] ções radicais nos conhecimentos en[...] e revolucionaria as fontes de com[...] atuais, tornando muitas delas desne[...] e obsoletas, razão por que tudo cam[...] muita cautela, para evitar uma al[...] pânico entre grandes emprêsas o[...] internacionais, pela paralização de [...] vidades.

Nações poderosas, como os Est[...] dos e União Soviética possuem [...] especializadas no estudo da ques[...] mendando cada conclusão como [...] cret", a que o grande público está al[...] próprio interêsse da coletividade.

DIVULGAÇAO NECESSARIA

Estamos no limiar de grandes fins de espantosos acontecimentos — continua Carlinhos Sideral — e, com a ida do homem à Lua, modificar-se-ão as perspectivas do Homem em relação ao Universo, atingindo a Era da Quarta Dimensão, já delineada pelo nosso prodigioso professor Cesar Lates.

[...] xa Postal n.º 17, ZC-01 (Largo do Machado), Rio de Janeiro.

Conclui Carlinhos Sideral: "Ajudar a desvendar o mistério dos discos-voadores ou dar colaboração aos que estudam a matéria, constitui um ato de inteira solidariedade humana, um passo gigantesco pela compreensão e entendimento entre tôdas as criaturas, num universo sem fronteiras.

Sumiu o lavrador que viu e viajou no disco voador

GOIANIA (M) — Após contar a seus familiares uma história fantástica — teria sido hipnotizado através de um raio de luz e depois viajado num «Disco Voador» — desapareceu de Itauçu, a aproximadamente 100 km de Goiânia, o lavrador Adelino Roque, de 25 anos, casado e pai de 4 filhos. Adelino estava viajando a cavalo para sua residência, a 12 km de Itauçu, por volta das 19,30 horas, quando teria sido embarcado no Objeto Voador não Identificado e deixado, depois, em Itumbiara. Daí voltou à sua cidade num ônibus, com os olhos vidrados, o corpo arroxeado e o rosto transtornado; passou a largar o serviço e a querer andar só, tomando, então, rumo ignorado.

COMO FOI

Dos familiares do lavrador, a reportagem «Associada» [...]

[...] Adelino sentiu-se hipnotizado, com uma corrente fria de luz a tocar-lhe as costas. Em seguida, recebeu novo jato de luz a altura do tó[...]rax, com grande quantidade de calor. Nêsse momento baixou sôbre a sua cabeça [...] estranho, deixan[...] [...]ente imobilizado. [...] — continuou o [...] Marcório — con[...] naquele momento [...] apenas alguma coisa [...] mar e arrebatá-lo [...] do animal se[...] rapidamente. Ele não [...] da viagem. Recor[...] que acordou em [...] às 5 horas da [...]

[...] INTERESSADA

[...] que apurou a reportagem «Associada», através da [...] Zona Aérea, a FAB enviou expediente às autoridades de Itaçu, solicitando a localização do lavrador Adelino Roque, que deverá ser ouvido a respeito da estranha história que contou

60s and 70s were also a wild time for Brazilian newspapers on the appearance of UFOs in the sky, as told by different people across the country.

“Flying saucer thrills” - `G. Noticias Newspaper (1969) Archive from SIAN (Brazilian GOV)
“The farmer who saw and traveled in the flying saucer disappeared.” - O Jornal Newspaper (1969)
Confidential Images of Flying Saucers (1977) - with overlap detail of Paula Turmina's painting “Space is punk” (2026)

ANEXO 2 DO REC 024

CONFIDENCIAL

1 COMANDO [...] 2ª SEÇÃO

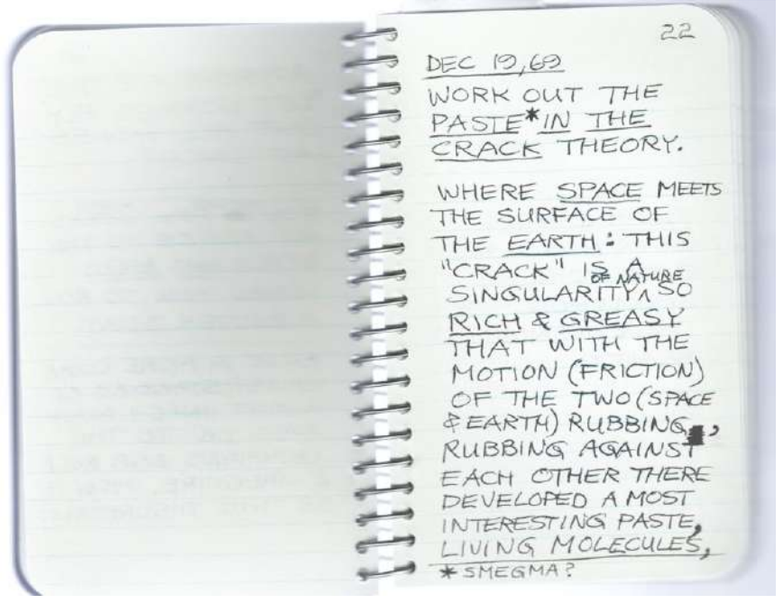
2 - 0 - 77/24

LOCAL - COLARES PA

DATA/HORA - 05 Nov 77, às 18:26.

Equipamento-

1969


22

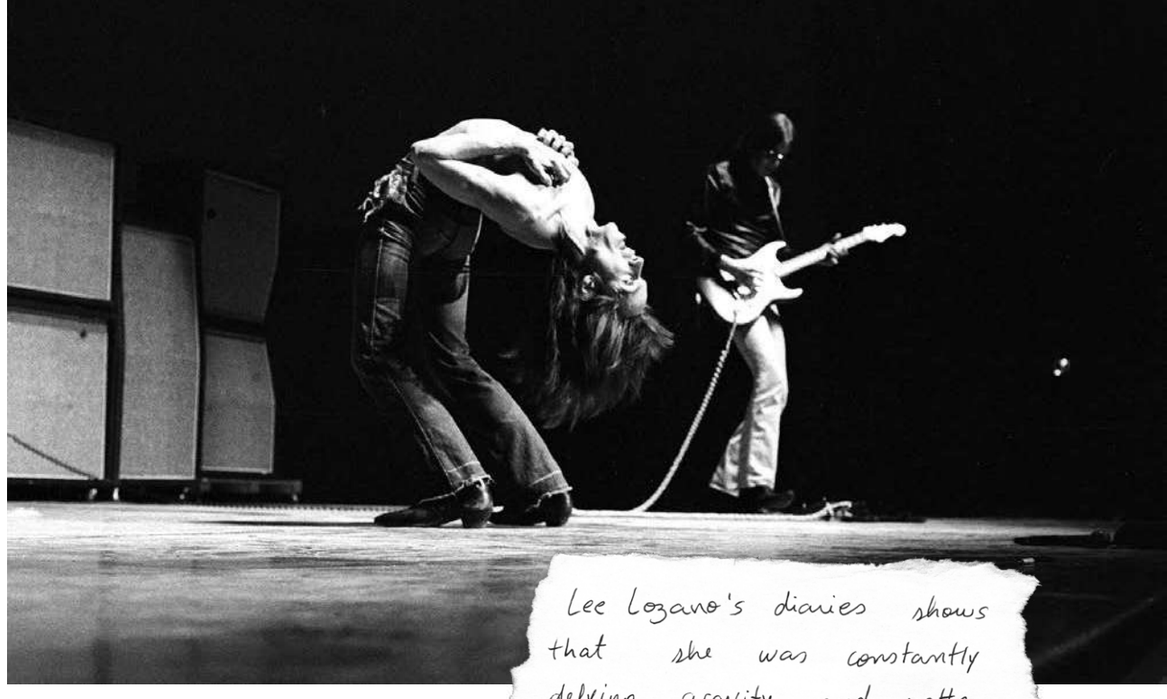
DEC 19, 69

WORK OUT THE PASTE* IN THE CRACK THEORY.

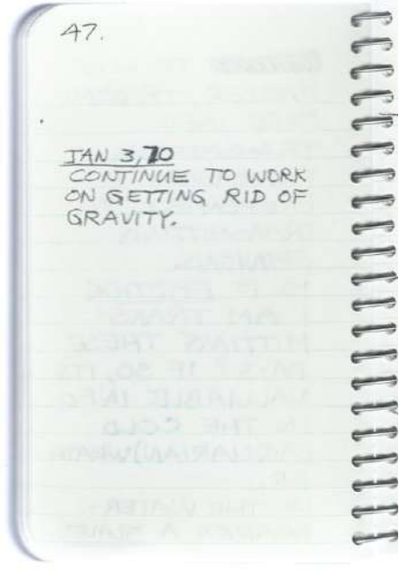
WHERE SPACE MEETS THE SURFACE OF THE EARTH: THIS "CRACK" IS A SINGULARITY OF NATURE SO RICH & GREASY THAT WITH THE MOTION (FRICTION) OF THE TWO (SPACE & EARTH) RUBBING, RUBBING AGAINST EACH OTHER THERE DEVELOPED A MOST INTERESTING PASTE, LIVING MOLECULES,

*SMEGMA?

Lee Lozano's notebook number 5 (1969)



Lee Lozano's diaries shows that she was constantly defying gravity and matter from a personal experience. So was Iggy Pop.


47.

JAN 3, 70

CONTINUE TO WORK ON GETTING RID OF GRAVITY.

Iggy Pop & The Stooges performing (1970)

1972

"Things don't have purposes, as if the universe were a machine, where every part has a useful function. What's the function of a galaxy? I don't know if our life has a purpose and I don't see that it matters. What does matter is that we're a part. Like a thread in a cloth or a grass-blade in a field. It is and we are. What we do is like wind blowing on the grass."

The Lathe of Heaven (1971) by Ursula K. Le Guin

"Science fiction, whether in storytelling or treaty-making, shows us the beauty of the possible. But to uproot law, or science fiction, from their shared genre of empire is not a given – it requires conscious work, many worldviews, and the courage to imagine."

International Law and Popular Culture Symposium: International Law as Science Fiction, or, if My Law's Not Real, Neither is Yours by Cris Van Eijk (2021)

Solaris (1972 film) by Andrei Tarkovsky

1973

"O homem; as viagens"
Carlos Drummond de Andrade

O homem, bicho da Terra tão pequeno
chateia-se na Terra
lugar de muita miséria e pouca diversão,
faz um foguete, uma cápsula, um módulo
toca para a Lua
desce cauteloso na Lua
pisa na Lua
planta bandeirola na Lua
experimenta a Lua
coloniza a Lua
civiliza a Lua
humaniza a Lua.

Lua humanizada: tão igual à Terra.
O homem chateia-se na Lua.
Vamos para Marte — ordena a suas máquinas.
Elas obedecem, o homem desce em Marte
pisa em Marte
experimenta
coloniza
civiliza
humaniza Marte com engenho e arte.

Marte humanizado, que lugar quadrado.
Vamos a outra parte?
Claro — diz o engenho
sofisticado e dócil.
Vamos a Vênus.
O homem põe o pé em Vênus,
vê o visto — é isto?
idem
idem
idem.

O homem funde a cuca se não for a Júpiter
proclamar justiça junto com injustiça
repetir a fossa
repetir o inquieto
repetitório.

Outros planetas restam para outras colônias.
O espaço todo vira Terra-a-terra.
O homem chega ao Sol ou dá uma volta
só para tever?
Não-vê que ele inventa
roupa insiderável de viver no Sol.
Põe o pé e:
mas que chato é o Sol, falso touro
espanhol domado.

Restam outros sistemas fora
do solar a col-
onizar.
Ao acabarem todos
só resta ao homem
(estará equipado?)
a dificílima dangerosíssima viagem
de si a si mesmo:
pôr o pé no chão
do seu coração
experimentar
colonizar
civilizar
humanizar
o homem
descobrindo em suas próprias inexploradas entranhas
a perene, insuspeitada alegria
de con-viver.

"The man; the Journeys" (translation)
Carlos Drummond de Andrade

Man, creature of the Earth so small,
gets bored on Earth,
a place of much misery and little fun,
makes a rocket, a capsule, a module,
heads for the Moon,
cautiously lands on the Moon,
steps on the Moon,
plants a flag on the Moon,
experiences the Moon,
colonizes the Moon,
civilizes the Moon,
humanizes the Moon.

Humanized Moon: so similar to Earth.

Man gets bored on the Moon. "Let's go
to Mars," he orders his machines.

They obey, man lands on Mars,
steps on Mars,
experiences,
colonizes,
civilizes,
humanizes Mars with ingenuity and art.

Humanized Mars, what a square place.
"Shall we go somewhere else?"
"Of course," says the machine, "sophisticated and docile.
"Let's go to Venus."
Man sets foot on Venus,
sees the visa—is this it? Same
Same
Same.

Man's mind melts if he doesn't go to
Jupiter
to proclaim justice alongside injustice
to repeat the pit
to repeat the restless
repetitive.

Other planets remain for other colonies.
All of space becomes Earth-to-Earth.
Does man reach the Sun or take a turn
just to see?
Doesn't he see that he invents
unbearable clothes to live on the Sun.
He sets foot there and:
but how boring the Sun is, false bull
tamed Spaniard.

Other systems remain outside
the solar system to colonize.

When all is finished
all that remains for man
(will he be equipped?)
is the extremely difficult and dangerous
journey
from himself to himself:
to set foot on the ground
of his own heart
to experience
to colonize
to civilize
to humanize
man
discovering in his own unexplored
depths
the perennial, unsuspected joy
of co-existing.

Image: "It is the moon that connects us through the distance" (2026) painting by Paula Turmina

1974

OFFICE OF THE HISTORIAN

On the regulation of satellite's data.

Washington, March 1974

Brazil's proposals, much more restrictive than those submitted by other countries, would regulate the acquisition as well as the dissemination of remote sensing data. Most countries that have previously expressed concern over the legal issues have recognized to some degree the technical and verification problems of turning off satellite sensors at national borders. They are also well [Page 3]aware that the United States and the USSR have existing worldwide remote sensing programs. The most radical parts of the Brazilian proposal provide that a state shall refrain from the remote sensing of the natural resources of another state without the consent of the latter and, further, that a state is entitled to take measures to protect its territory and the maritime areas under its jurisdiction from remote sensing activities it has not approved. Another clause, this one with strong Law-of-the-Sea implications, gives all states the right to participate in remote sensing programs over land or maritime areas outside national jurisdiction.

→ "sensing" program is a structural initiative, system or software designed to collect, monitor and analyze data about the physical environment using sensors; in this case, from satellites.

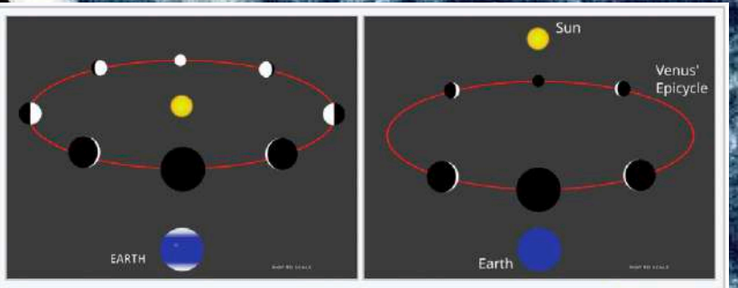
Archive image from Cris van Eijk research.

Down with the dictatorship. People in power, says a sign in the 100,000's March against the regime in Brazil. Photo. Evandro Teixeira/Reproduction by Tânia Rêgo/Agência Brasil

20,000 bce 1610 1974 2026

"Venus of Willendorf", Venus figurine dating to 28,000–25,000 bce found in Willendorf, Austria; in the Natural History Museum, Vienna.

Venus across time



In 1610 Galileo Galilei observed with his telescope that Venus showed phases, despite remaining near the Sun in Earth's sky (first image). This proved that it orbits the Sun and not Earth, as predicted by Copernicus's heliocentric model and disproved the then conventional of Ptolemy geocentric model (second image).

"Venus Life Finder" is a planned Venus space probe designed to detect signs of life in the Venusian atmosphere. Slated to be the first private mission to another planet, the spacecraft is being developed by Rocket Lab in collaboration with a team from the Massachusetts Institute of Technology. The probe is now planned to launch no earlier than summer 2026.

NASA's Mariner 10's First Close-Up Photo of Venus. Feb. 5, 1974.

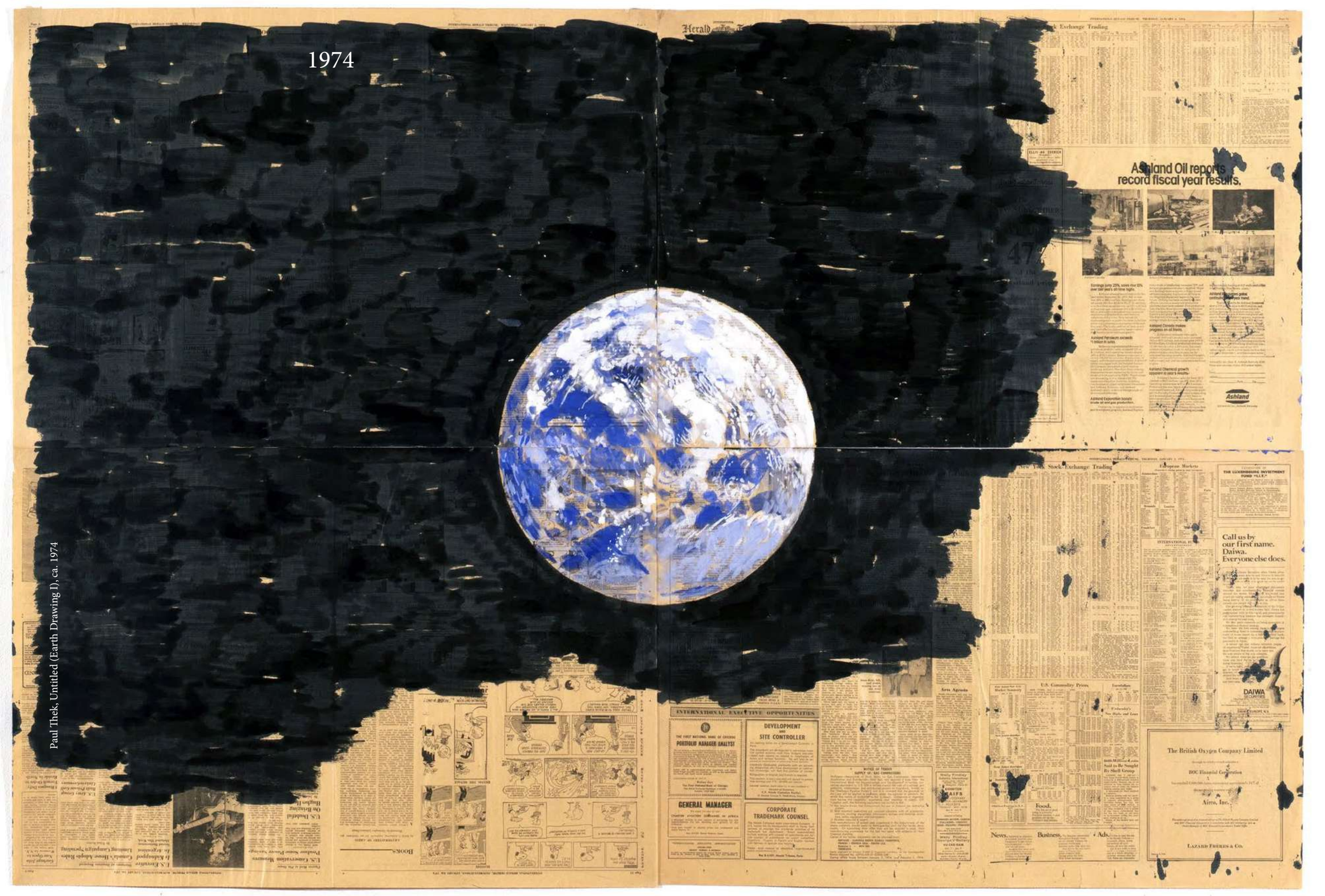
1974

ongoing legacy of colonialism and slavery, concepts like alien invasion, time travel, and escape to outer space gain new resonance. For people who are descended from the nonwhite survivors of an era in which technologically "advanced" Europeans dominated much of the planet, narratives about utopia and dystopia, futures and pasts, frontiers and the beginnings and ends of worlds can invoke more historical and scientific facts than fiction. Through Womack's lens, figures like musician and filmmaker Sun Ra, who spent most of his performance career in character as an alien visitor from Saturn, shine again like prophets of a different space age. In his 1974 science fiction / philosophy / jazz concert film *Space Is the Place*, Sun Ra, in response to a Black teenager's question "Are you for real?" describes all Black people as a myth, including him:

> I'm not real, I'm just like you. You don't exist in this society. If you did your people wouldn't be seeking equal rights. You're not real, if you were you'd have some status among the nations of the world. So we are both myths. I do not come to you as a reality, I come to you as the myth because that is what black people are: myths. I came from a dream that the black man dreamed long ago. I'm actually a presence sent to you by your ancestors.[6]

Sun Ra starts with the idea of Blackness as a construct, as a technology, and then seizes the means of that artifact's own production, remaking himself into a messenger from outer space who is here to tell the youth that, as the film's opening song has it, "it's after the end of the world, don't you know that yet?"

"Space Is the Place" film released in 1974. Directed by John Coney, written by Sun Ra and Joshua Smith, and features Sun Ra and his Arkestra. A soundtrack was released on Evidence Records.
Space Forces: A Critical History of Life in Outer Space (2021). Book by Fred Scharmen. (Image: screenshot from e-book)


1974
Ashland Oil reports record fiscal year results.
Ashland
Call us by our first name. Daiwa. Everyone else does.
DAIWA
INTERNATIONAL EXECUTIVE OPPORTUNITIES
PORTFOLIO MANAGER/ANALYST
DEVELOPMENT AND SITE CONTROLLER
GENERAL MANAGER
CORPORATE TRADEMARK COUNSEL
The British Oxygen Company Limited
BOC Financial Corporation
Airco, Inc.
LAZARD FRÈRES & Co.
Paul Thek, Untitled (Earth Drawing I), ca. 1974

Foreign Relations of the United States, 1969–1976, Volume E–3, Documents on Global Issues, 1973–1976

106. Action Memorandum From the Deputy Assistant Secretary for International Organization Affairs (Buffum), the Legal Adviser (Leigh), and the Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, (Ray) to the Deputy Secretary of State (Ingersoll)

Washington, April 3, 1975

Outer Space - Challenge in the UN to U.S. Remote Sensing Program

Problem:
Brazil and Argentina are taking the lead in mobilizing support in the United Nations for prohibiting certain kinds of civilian space activities, and the publication of data obtained, without the consent of the countries observed. Such restrictions would far exceed those to which we agreed in negotiation of the 1967 Outer Space Treaty, and in our view would represent unacceptable steps backward from the principle of freedom of exploration and use of outer space. The United States supports an unrestricted right to observe anywhere on Earth from outer space, and the open dissemination of data from our civilian remote sensing programs.
The particular activities being challenged are those such as NASA's Landsat program for remote sensing of the Earth's environment and natural resources. Although the proposed restrictions might purport to affect military as well as civilian satellites, in that the former also obtain data about natural resources, this possibility does not pose a serious problem because virtually all of the space powers [Page 2]would disregard such assertions. Nevertheless, with regard to civilian satellite programs, we could be confronted with a choice between agreeing to these restrictions or rejecting the desires and views of a large majority of the states in the UN.
We believe that timely bilateral consultations with a number of developing countries, however, might prevent coalescence of a substantial majority in favor of a restrictive approach, and, if undertaken promptly, might allow us to avoid the political cost of opposing such a majority view of the international community.

Background:
The United States through NASA has orbited two experimental satellites called Landsat I and II (formerly called ERTS, for Earth Resources Technology Satellite) during the past two years which were uniquely designed to gather data for studies in geology, land use planning, river systems, identification of natural resources and a wide variety of other potential uses. A broad spectrum of international cooperation has characterized these experiments, and over 90 percent of the Earth's land surface has been sensed at least once under relatively cloud free conditions. All data from Landsat have been made available to any interested party for a minimal fee.
(...)
[Page 3]
In response to this type of widespread concern, Brazil and Argentina have introduced into the UN Committee on the Peaceful Uses of Outer Space a draft treaty which, inter alia, would prohibit sensing of another country's natural resources from space without its express consent, and would then prohibit the dissemination of any data derived also without such express prior consent. If a vote were taken today, it is reasonable to assume that about two thirds of the members of the UN would support such a proposal for a variety of reasons.
Because a prohibition on sensing other countries from outer space is anathema to the Soviets as well as to the United States for military reasons, the Soviets responded to the Brazilian initiative by proposing a set of draft principles which would prohibit dissemination of data about the Earth's resources of another country, but would leave unimpaired the freedom of exploration and use of outer space which is reflected in the 1967 Outer Space Treaty.
In February of this year the United States tabled a set of draft principles which support maximum feasible international cooperation in such programs and the open exchange among interested states, scientific communities, individuals, and others of all such data obtained (Tab C). We have unequivocally stated our refusal to accept a prohibition on our right to sense anywhere on the Earth from outer space, and have strongly discouraged international adoption of a restrictive data dissemination policy, stating that we intend to keep our NASA program results open to American citizens in any case. In addition we have pointed out that the restrictions proposed by the Brazilians are both technically and economically unfeasible, and hence are likely to result in only the space powers receiving a regular and full supply of data. Our position was generally supported by the Western Europeans.
The negotiations are now at a critical threshold. The Brazilians and Argentines have gained the cosponsorship of all the other Latin American countries [Page 4]represented on the Outer Space Committee (Mexico, Venezuela and Chile), and are beginning to seek cosponsors from other areas as well. The Soviets are actively if secretly negotiating with the Brazilians, offering Soviet and East European support for the Brazilian text in return for deletion of the prohibition on sensing of other countries without their consent, a compromise which we suspect both sides will be willing to make within the near future.
The phenomenon of unity among the developing countries has not yet materialized on this issue, in part because the question is relatively new, and in part because a number of the developing countries at least recognize our arguments that they have as strong an interest in encouraging sensing and open dissemination of data as in restricting it. However, the Brazilians and others are preparing a very active campaign to gain cosponsors from all geographical areas, and are posing the issue as one more confrontation between the industrialized and the developing world. They will probably concentrate their efforts at the meeting of the Outer Space Scientific and Technical Subcommittee in late April and at the full Committee session in June.
Our experience in the UN during the past several years indicates the difficulty of breaking up such a movement once it is well under way, regardless of the particular merits of one's case. However, because of the complexities of the issues and the frequent changes in personnel, many governments have not yet made policy decisions regarding these questions. Because our case for unrestricted sensing and open data dissemination to everyone is strong, and because the advantages of our policy to developing countries are demonstrable, we believe that a series of detailed presentations of our position to central, policy level officials in key developing countries, rather than simply to technical experts, could effectively prevent the Group of 77 snowball from forming and could lead to eventual adoption by the Outer Space Committee of a position along the lines which we proposed in February.

[Page 5]
To maximize our chances for success, we believe that a small delegation of three to five appropriate experts from the Department and NASA should arrange to visit as many as possible of the African and Asian countries listed at Tab B, before the UN Outer Space Committee convenes in [illegible]er to present our position in detail at the highest appropriate levels. Before such vi[illegible]n members of the Outer Space Committee in[illegible] undertaking other bilaterals. In this contex[illegible] of negotiations with us for the right to con[illegible] contacts be made before any possible Sovi[illegible]y in June.
(...)

Recommendations:

That you approve the proposal for a small [illegible]easible before the June session of the Outer Space

4/16/75
Approve [Ingersoll approved]
Disapprove _____

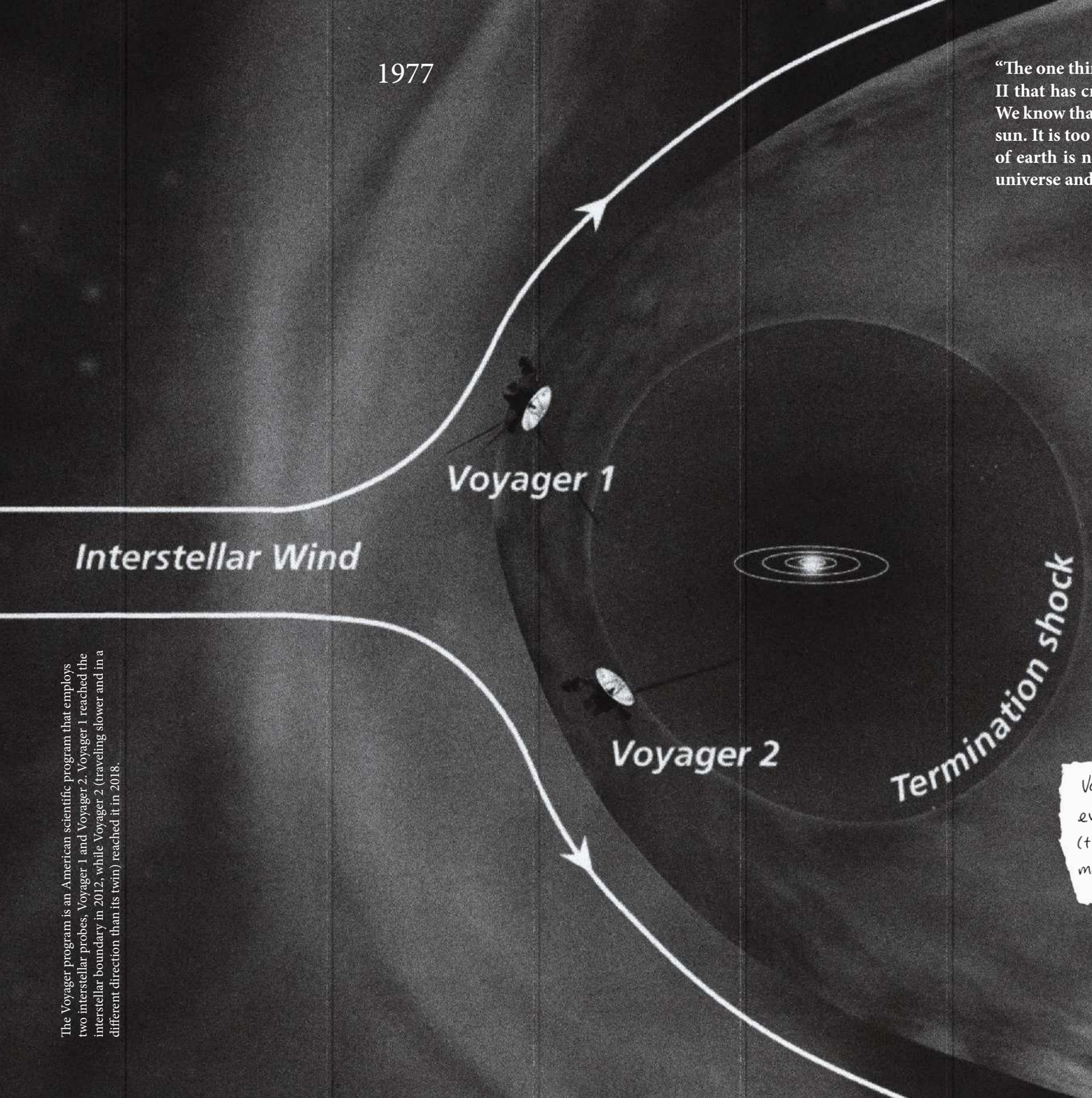
That you sign the attached letter to Dr. Fletcher, Administrator of NASA, formally requesting his Agency's assistance in this effort (Tab A).

The 1976 Bogota Declaration is an unrecognized treaty where 8 equatorial nations claimed sovereignty over the geostationary orbit (GEO) segments directly ~~over~~ above their territories. It challenged the 1967 OST, arguing that GEO is a natural resource and not "outer space", thus allowing for territorial claims but rejected by most of the international community.

1977

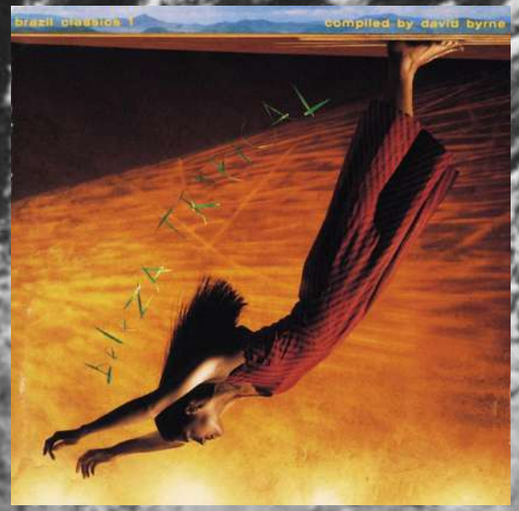
"The one thing I do love more than anything is space [...] We have Voyager II that has crossed beyond that which is even imaginable for us. I love it. We know that the dog star, in fact, has to be beyond the power of the yellow sun. It is too far out. What does that mean? It means the cosmic loneliness of earth is not real [...] We are earthlings. We are a small ball in a small universe and now we have to envision a universe beyond."

Nikki Giovani (1990) lecture at the Massachusetts Institute of Technology for their annual convocation held in memory of Dr. Martin Luther King Jr.



The Voyager program is an American scientific program that employs two interstellar probes, Voyager 1 and Voyager 2. Voyager 1 reached the interstellar boundary in 2012, while Voyager 2 (traveling slower and in a different direction than its twin) reached it in 2018.

Voyager 1 and 2 are the only spacecrafts ever to operate outside the heliosphere (the protective bubble of particles and magnetic fields generated by the Sun).



Terra, Song by Caetano Veloso, 1978

“Quando eu me encontrava preso na cela de uma cadeia
Foi que eu vi pela primeira vez as tais fotografias
Em que apareces inteira, porém lá não estavas nua
E sim coberta de nuvens
Terra
Terra
Por mais distante o errante navegante
Quem jamais te esqueceria”

Translation:
When I was locked in a prison cell
That’s when I first saw those photographs
In which you appear whole, but you weren’t naked
But rather covered in clouds
Earth
Earth
However distant the wandering navigator
Who could ever forget you

1979

The L-5 Society published this cover on the L5 News in October 1979, early in its campaign to renounce the “Moon Treaty.”

In the history of gemstones, tourmaline is a latter-day Cinderella. Whereas aquamarine was known to the Egyptians over 5,000 years ago, tourmaline was not discovered until the mid-1500s, in Brazil. Even then, it was mistakenly heralded as emerald. Over a hundred years passed until, in 1793, it was recognized as a distinct mineral species and named for toramalli (from Sinhalese, a term applied to waterworn gem pebbles from Ceylon gravels) by Dutch merchants (Ball, 1930; Zara, 1973)

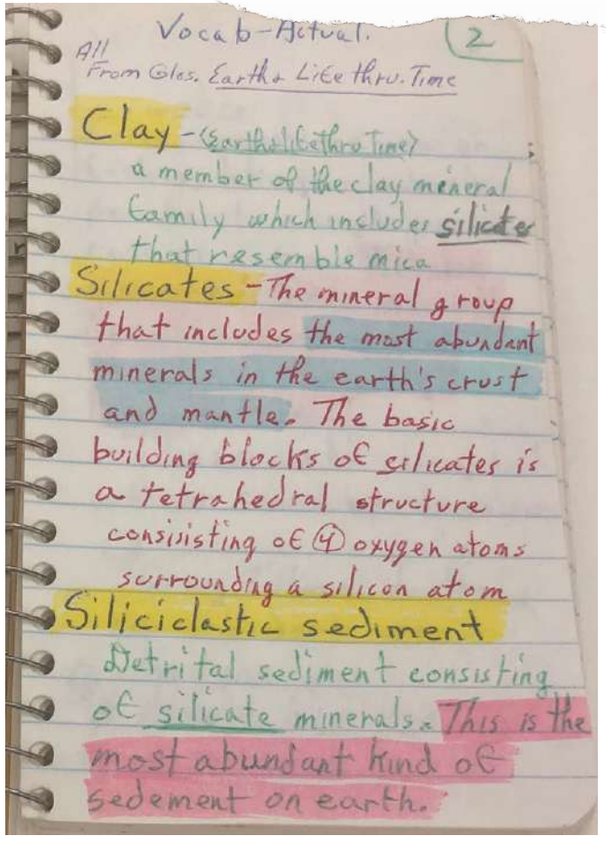
"GEM PEGMATITES OF MINAS GERAIS, BRAZIL: THE TOURMALINES OF THE ARACUAI DISTRICTS" By Keith Proctor

1988

Sigmar Polke, The Spirits That Lend Strength Are Invisible II (Meteor Extraterrestrial Material), 1988

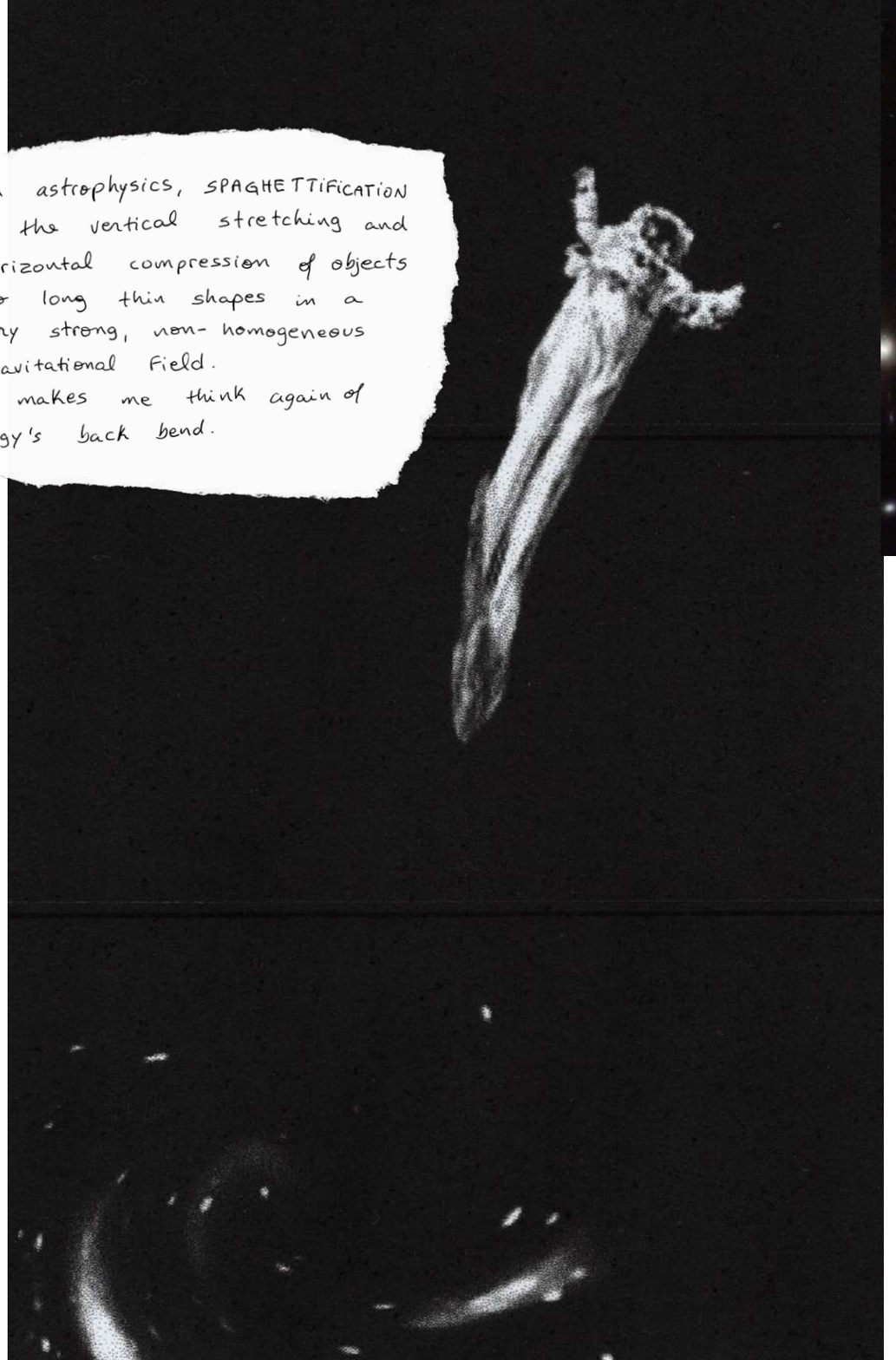
1991

Octavia Butler, one of my favourite sci-fi writers, explored in her diaries the fundamental building blocks of life = silicates. Which also form the crystalline foundation of tourmaline.



Octavia Butler's Glossary for the Parable books (1991), The Huntington Library, OEB 3123

In astrophysics, SPAGHETTIFICATION is the vertical stretching and horizontal compression of objects into long thin shapes in a very strong, non-homogeneous gravitational field.
It makes me think again of Iggy's back bend.



JWST image of a number of galaxies whose light is being gravitationally warped by galaxy cluster MACS-J0417.5-1154, making the background galaxies appear to form a question mark

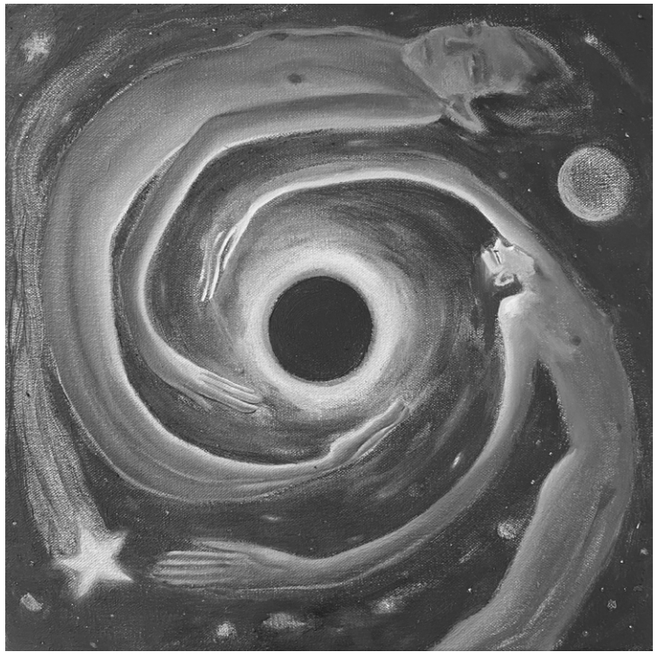
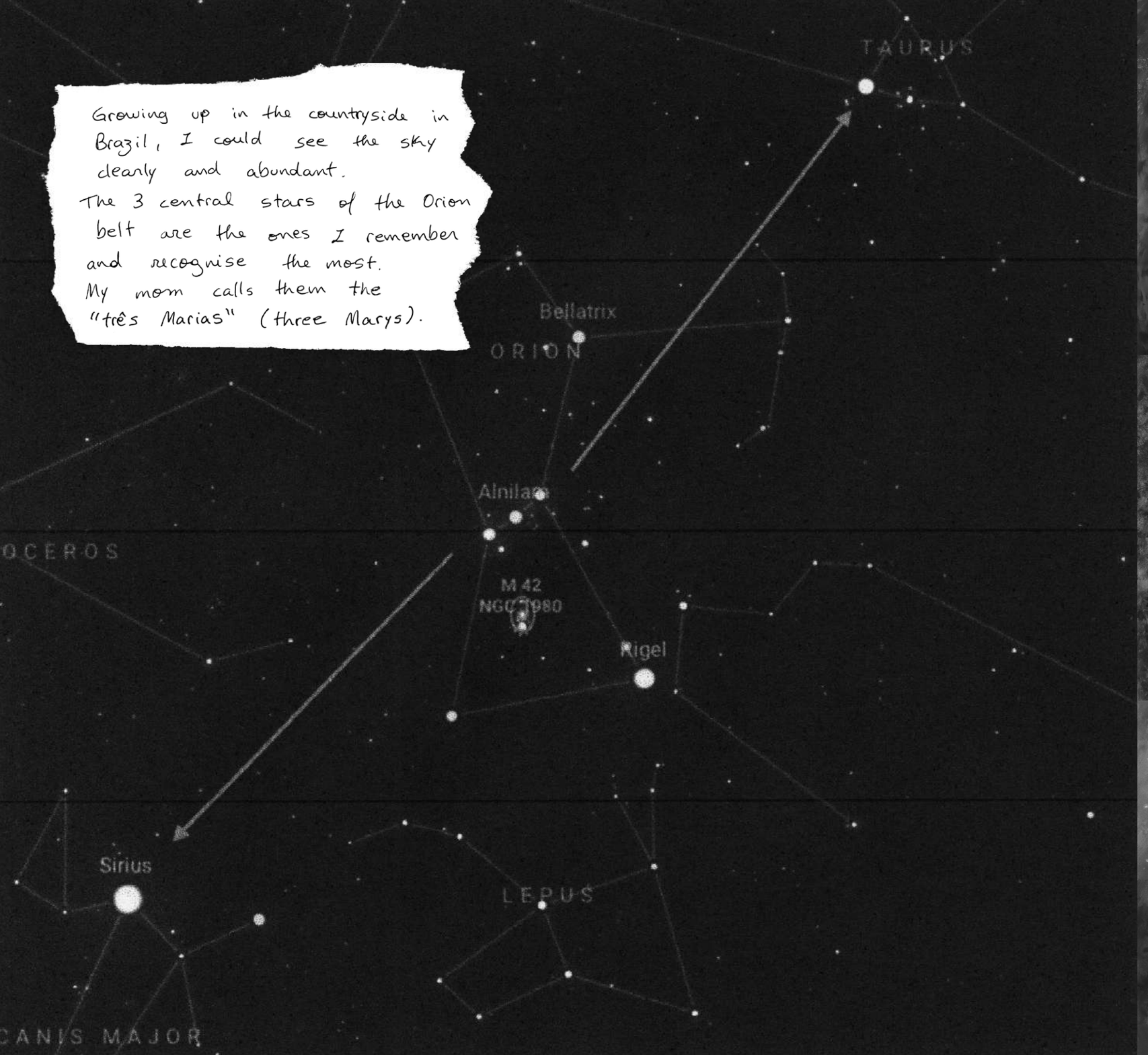
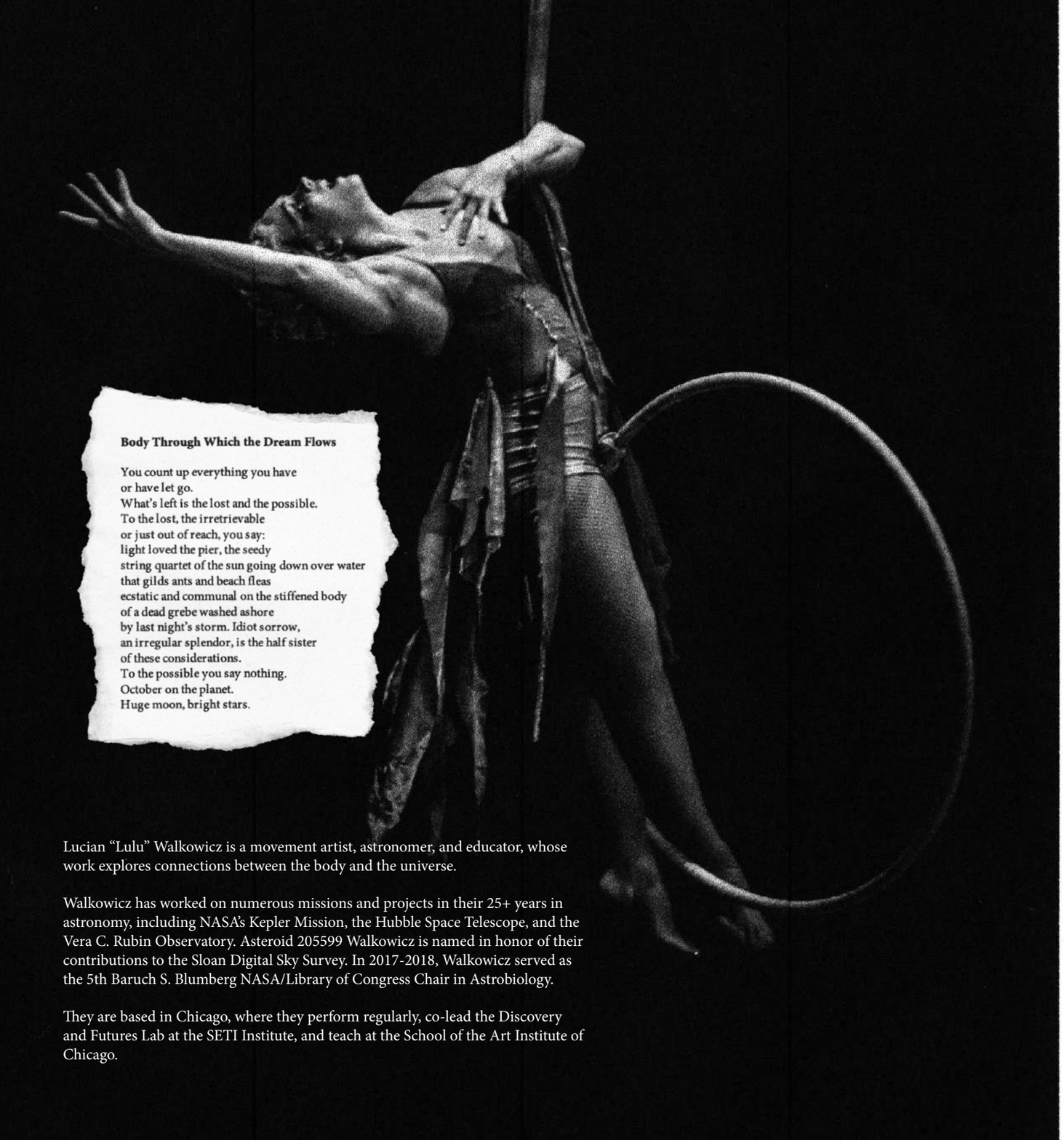


Image above: NASA, ESA, CSA, STScI, Vicente Estrada-Carpenter (Saint Mary's University). Received from Just Space Alliance Newsletter
Image below: "Spaghettification" painting. Paula Turmina, 2026.



The "Three Marys" (or Tres Marias) is a popular name for the three bright, aligned stars forming Orion's Belt: Alnitak, Alnilam, and Mintaka. These hot blue supergiant stars are in the constellation Orion, visible globally in winter. They are also known as the Three Kings, Three Sisters, or a string of pearls.
Images to the left: "Blue Mary", "Yellow Mary" and "Red Mary", paintings by Paula Turmina (2026)



Body Through Which the Dream Flows

You count up everything you have
or have let go.
What's left is the lost and the possible.
To the lost, the irretrievable
or just out of reach, you say:
light loved the pier, the seedy
string quartet of the sun going down over water
that gilds ants and beach fleas
ecstatic and communal on the stiffened body
of a dead grebe washed ashore
by last night's storm. Idiot sorrow,
an irregular splendor, is the half sister
of these considerations.
To the possible you say nothing.
October on the planet.
Huge moon, bright stars.

Lucian "Lulu" Walkowicz is a movement artist, astronomer, and educator, whose work explores connections between the body and the universe.

Walkowicz has worked on numerous missions and projects in their 25+ years in astronomy, including NASA's Kepler Mission, the Hubble Space Telescope, and the Vera C. Rubin Observatory. Asteroid 205599 Walkowicz is named in honor of their contributions to the Sloan Digital Sky Survey. In 2017-2018, Walkowicz served as the 5th Baruch S. Blumberg NASA/Library of Congress Chair in Astrobiology.

They are based in Chicago, where they perform regularly, co-lead the Discovery and Futures Lab at the SETI Institute, and teach at the School of the Art Institute of Chicago.

"How does the cosmos divide from the body; how does the body divide from the cosmos?

These questions are variations on those raised by Matthew Goulish in his 2001 book, 39 microlectures in proximity of performance, writing on the notion of self in reference to a line of poetry by Robert Hass "Body through which the dream flows". This phrase inspired a 1993 violin concerto by John Adams; quoting Goulish, this concerto envisioned "the orchestra as the organized, delicately articulated mass of blood, tissues, and bones; the violin as the dream that flows through it."

In this performance I move through space, space in both the pedestrian and cosmic sense. It is impossible to do otherwise, as we are in and of the universe: the most ordinary things in our lives, the most wretched, the most gorgeous, are all constructed from the same material. In profound ways we have yet to understand, this same material also gives rise to creatures who dream.

The movements in this performance are natural to me, an exploration of the pathways my body is capable of and wants to travel. As I move, the fabric of spacetime (here made literal) moves with and through me; it shapes my movements and their possibilities as much as I shape my own. Accompanying these movements is an ambient sound work that uses field recordings of natural and municipal water sources throughout the city of Chicago. Water, of which we are made, and which is essential to life throughout the universe, shapes selections of Adams' melody as they wind through the soundscape."

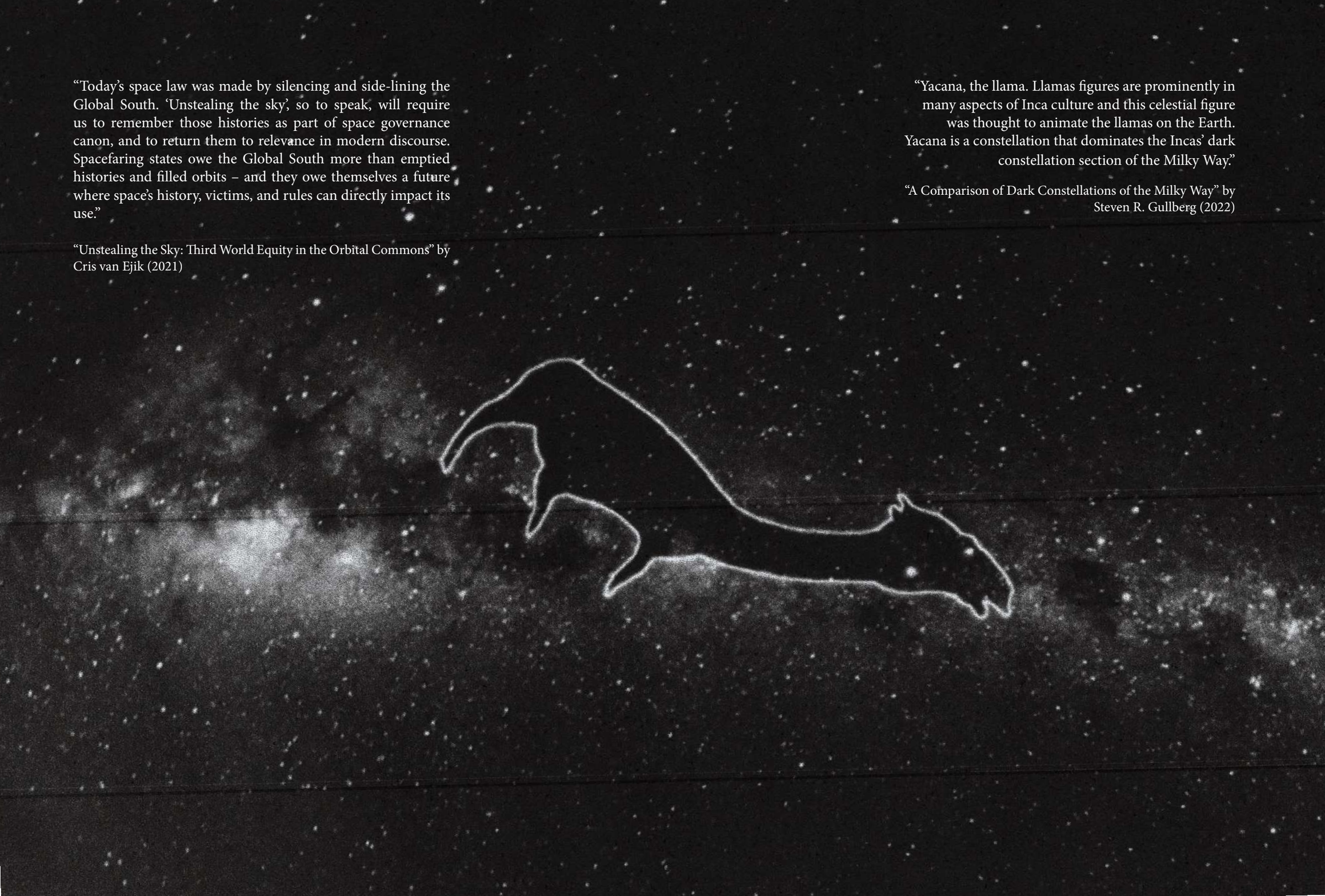
Lucian Walkowicz on the performance piece for the exhibition "Space is Punk". (2026)

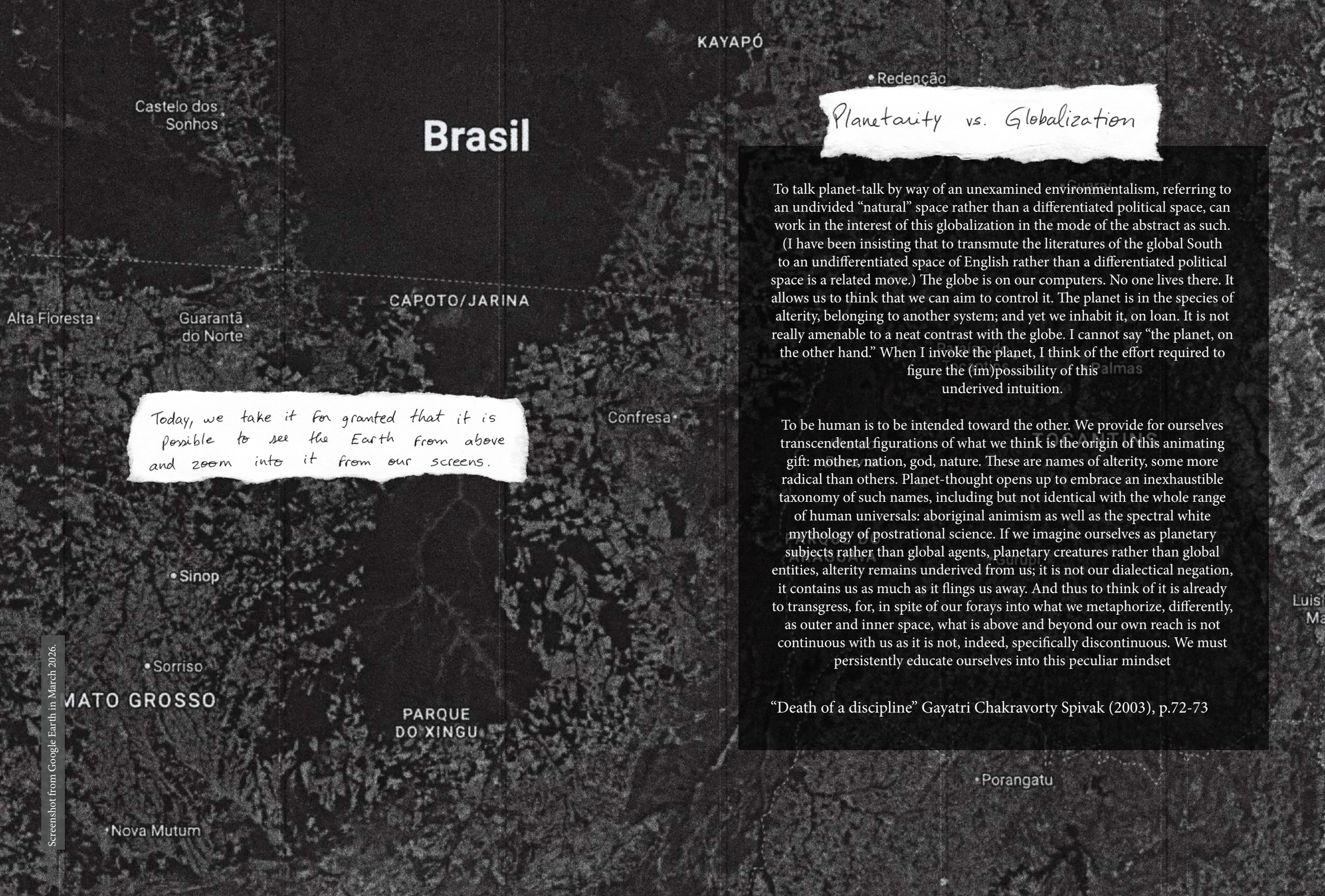
"Today's space law was made by silencing and side-lining the Global South. 'Unstealing the sky', so to speak, will require us to remember those histories as part of space governance canon, and to return them to relevance in modern discourse. Spacefaring states owe the Global South more than emptied histories and filled orbits – and they owe themselves a future where space's history, victims, and rules can directly impact its use."

"Unstealing the Sky: Third World Equity in the Orbital Commons" by Cris van Ejik (2021)

"Yacana, the llama. Llamas figures are prominently in many aspects of Inca culture and this celestial figure was thought to animate the llamas on the Earth. Yacana is a constellation that dominates the Incas' dark constellation section of the Milky Way."

"A Comparison of Dark Constellations of the Milky Way" by Steven R. Gullberg (2022)





Planetarity vs. Globalization

To talk planet-talk by way of an unexamined environmentalism, referring to an undivided "natural" space rather than a differentiated political space, can work in the interest of this globalization in the mode of the abstract as such. (I have been insisting that to transmute the literatures of the global South to an undifferentiated space of English rather than a differentiated political space is a related move.) The globe is on our computers. No one lives there. It allows us to think that we can aim to control it. The planet is in the species of alterity, belonging to another system; and yet we inhabit it, on loan. It is not really amenable to a neat contrast with the globe. I cannot say "the planet, on the other hand." When I invoke the planet, I think of the effort required to figure the (im)possibility of this underived intuition.

To be human is to be intended toward the other. We provide for ourselves transcendental figurations of what we think is the origin of this animating gift: mother, nation, god, nature. These are names of alterity, some more radical than others. Planet-thought opens up to embrace an inexhaustible taxonomy of such names, including but not identical with the whole range of human universals: aboriginal animism as well as the spectral white mythology of postrational science. If we imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities, alterity remains underived from us; it is not our dialectical negation, it contains us as much as it flings us away. And thus to think of it is already to transgress, for, in spite of our forays into what we metaphorize, differently, as outer and inner space, what is above and beyond our own reach is not continuous with us as it is not, indeed, specifically discontinuous. We must persistently educate ourselves into this peculiar mindset

"Death of a discipline" Gayatri Chakravorty Spivak (2003), p.72-73

2005

Our generation is the first in human history to witness the sunset on Mars.

NASA's Mars Exploration Rover Spirit
NASA/JPL/Texas A&M/Cornell (2005)

NGC 2207 is a pair of colliding spiral galaxies. Their bright central nuclei resemble a striking set of eyes. In visible light (Hubble), trails of stars and gas trace out spiral arms, stretched by the tidal pull between the galaxies. When seen in infrared light (IR; Spitzer), the glow of warm dust appears. This dust is the raw material for the creation of new stars and planets. Complementary to the IR, the X-ray (Chandra) view reveals areas of active star formation and the birth of super star clusters. Though individual stars are too far apart to collide, the materialbetween the stars merges to create high-density pockets of gas. These regions gravitationally collapse to trigger a firestorm of starbirth. The galaxy collision will go on for several millions of years, leaving the galaxies completely altered in terms of their shapes.

2018

NASA: Colliding Galaxies (NGC 2207)
Released Monday, April 23, 2018

In 1960, Arthur C. Clarke speculated, in an article for *Playboy*, about a future in which an American Space Force might develop a weapon capable of blacking out the sun, and use it to threaten enemies abroad.[8] Trump's Space Force is, like many of the imaginaries we see catalogued here, an old future, warmed back up like a classic science fiction franchise given a gritty reboot. The language in publications and press releases from the US Space Force, though, is almost beyond parody and fiction: outer space is a new "theater" for conflict here, and America needs the Space Force in order to maintain "dominance," "superiority," and even "supremacy" within it.[9]

If property rights are the basis for a capitalist economy, then the right to possess and exploit material in space, as upheld by Obama's SPACE Act of 2015 (which affirmed property) and Trump's executive order of 2020 (which disavowed common heritage), is the foundation of a space economy. A Space Force is an obvious next step, with the capability to defend those rights on behalf of American interests. The supporters of the Space Force see threats to those interests in emerging state actors like China, and in other established ones like the old Russian rivals.

These are the same fears about state power that von Braun, in 1948, imagined such a space force might face down. But in all likelihood, the US Space Force will also act in ways that transcend the state. If there is the necessity for proprietary "safety zones" on the Moon, to protect others from the harmful effects of transportation and mining, then some kind of regulatory agency will be necessary to administer them. In the void left behind after the rejection of the commons, the Space Force may be poised to step into that role. If the would-be Moon

"terra nullius," and therefore as fair game for colonization and exploitation.[12] Principles and practices in land development recognize the concept of "highest and best use" for a given piece of territory. If the people who currently occupy it are not curious about how to use it in other ways or about what might exist somewhere else, this worldview imagines, then it is okay for those who are inquisitive and expansive to turn it to their own ends.

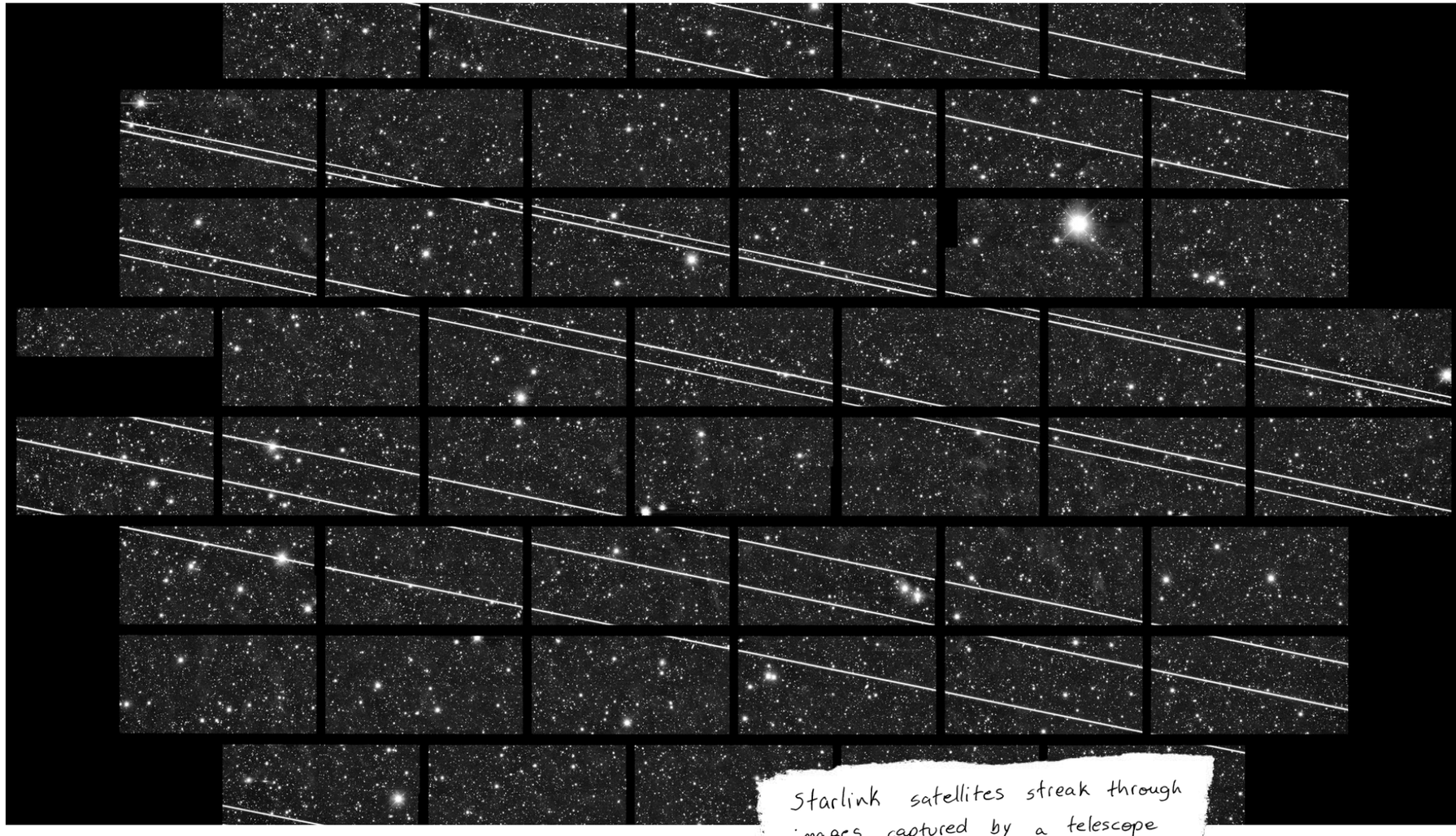
The capability to move to a new territory, exploit it until it is depleted, and then move on to others is not necessarily correlated with long-term, species-level survival. In a 2019 article for *Acta Astronautica*, Martin Elvis, a Harvard astro-physicist, and Tony Milligan, an ethicist at King's College London, build an argument about space resources based on the principles of exponential growth and induced demand. These forces, they show—given even a modest 3.5 percent growth rate in the space economy—imply that existing amounts of mineral resources in the Solar System would be exhausted within a relatively short timeframe, slightly less than 500 years.[13] The line goes up and to the right, and it does so very quickly.

If this is the case, they speculate, then maybe it is prudent to set some kind of trip wire, an alert triggered at an inflection point beyond which there is no return. Humans have a hard time intuitively grasping the effects or scale of exponential functions, as we've seen over the course of the COVID-19 pandemic. With this in mind, the authors recommend setting this alarm to go off when only one-eighth of available resources have been used, which would occur in time to allow for the space economy to be retooled toward some kind of steady-state existence. Given the wildly rapid doubling that occurs in such functions, this inflection

Image from the Mars Perseverance Rover - NASA

Space Forces: A Critical History of Life in Outer Space (2021). Book by Fred Scharmen. (Image: screenshot from e-book)

2019



Starlink satellites streak through images captured by a telescope in Chile. We no longer can see and study the sky with clarity.

(NSF's National Optical-Infrared Astronomy Research Laboratory / CTIO / AURA / DELVE) 2019

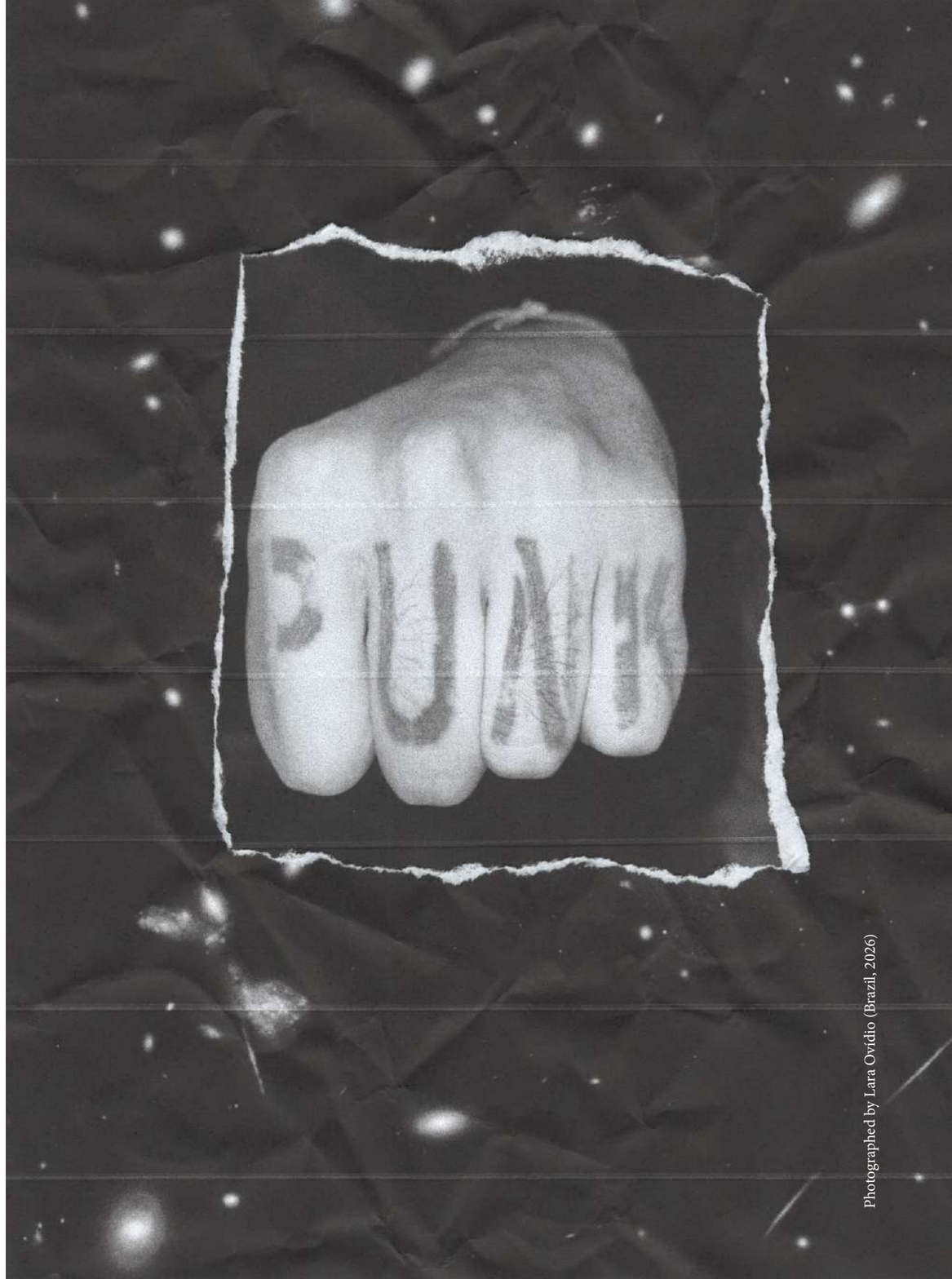
Today, multiple agreements appear to draw from the OST's ambiguity, with the main threat being the militarisation of space. Including the "Artemis Accord" and the "ILRS" Guide.

"The existing international legal instruments governing the Arctic high seas and outer space as commons are state-centric and, as such, contain within them provisions that would allow for the increasing promotion of state territorial and commercial interests even beyond national jurisdictions. Examples include the gap in the OST allowing for states to enact commercial laws for outer space mining, the expansion of the continental shelf under the UNCLOS regime, or the existing no-harm or liability provisions for the mining of the deep-seas. Also, most of the Arctic region is under state jurisdiction.

The Earth system as a whole demonstrates that its apparent fracturing in human understanding, practice, and regulation does not stem from its own inherent multiplicity, but from the human understanding thereof. The same applies to outer space, or the cosmos. The cosmolegal proposal argues that law, instead of being the mirror of permanently split human subjectivity, could recognize the indeterminate nature of the world beyond it.

As Donna Haraway has argued, "[i]t matters which stories tell stories, which concepts think concepts. Mathematically, visually, and narratively, it matters which figures figure figures, which systems systemize systems." It matters how the "stories tell stories" in the legal context, how humans define the spaces in which they live and operate, or which sciences and knowledges are consulted and referenced. What also connects the Earth system and outer space is the argument, or imagination, that in the case Earth becomes uninhabitable (and not only for that reason), humans can and will colonize other planets."

The Next Generation of International Law: Space, Ice, and the Cosmolegal Proposal" by Elena Cirkovic.
Published online by Cambridge University Press: 17 March 2021



Photographed by Lara Ovídio (Brazil, 2026)

Io, Jupiter's moon (Image: NASA/JPL/University of Arizona)

2022

"The Hunt for Artemis" (2022) is a tribute to NASA's Artemis 1 moon mission. Astrophotographers Andrew McCarthy and Connor Matherne spent a year to make the image from thousands of photos. (Image: Cosmic Background)

An isophotic map (left) with its "mean subjective image" (right), from Die nördliche Milchstrasse (1920) by Anton Pannekoek.

Anton Pannekoek was a Dutch astronomer and Marxist thinker (1873 - 1960) who argued that studying the Milky Way reveals as much about human perception as it does about the cosmos. He believed that each observer, shaped by their historical and social context, reinterprets what they see rather than uncovering a fixed and objective reality.

Nowadays, cosmic perspectives are being replaced by the dream of AI, with plans of sending its data centre to space. How will the sky look then? And what will we make of it?

April 3, 2026 - A view of a backlit Earth taken by NASA astronaut and Artemis II Commander Reid Wiseman from one of the Orion spacecraft's window after completing the translunar injection burn on April 2, 2026.

2026

Artemis II Captures Dark Side of the Earth. Image: NASA

Image: black and white detail of “Space is punk” (2026), painting by Paula Turmina

Acknowledgments

Instituto de Visión
Beatriz Lopez
Omayra Alvarado-Jensen
Paulina Avila Esqueda
Ana Balaguera

Lucian Walkowicz
Cris van Eijk
Fred Scharmen
Lara Ovídio

Jon Archdeacon
Joules & Joules

Mario Radev
Francisca Sosa Lopez
Catharine Turmina
Liana Maria Pasinato
Agenor Turmina
Daniella Tecchio Klaus
Asafe Ghalib
Iago Caniato
Ta'wa
Juliana Mascolo
Maria Elena Pombo
Pauline Batista
Merve Iseri
Renan Porto
Iria Suarez Martinez
Ambar Quijano
Matheus Yehudi
Sofia Pappi

Paula Turmina, 2026.