



that the greater the struggle, the greater the reward
كل ما كان النضال أعظم، كل ما كان الأجر أعظم

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ARTIST INSERT

The Sand Reckoner

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INTRODUCTION TO A WORK OF CHOROGRAPHY

The film *Sand Reckoner* (2024) traces the full path of the scirocco wind from Venice, where it causes the *acqua alta* flooding, back to its origins in the primordial dried lake beds, or *wadis*, of the Egyptian Sahara. In undertaking this long journey, I discovered the multitude of ways in which, for millennia, the scirocco has interwoven what are known today as Italian and Egyptian cultures and ecologies of the Mediterranean Sea.

This essay recounts some instances in the film and expresses the theoretical formulations that underpin the project.¹ Both film and essay revive the art and science of *chorography* from antiquity.² Simply put, chorography is a cumulative portrait of a place. Archaeologist Darrell Rohl distinguishes chorography by its 'bidirectional connection of past and present through the medium of space, land, region, or country.'³ The term chorography is a compound of the Greek *chora*, meaning place or land, and *graphia*, writing, while chronology, its sister-science in early historiography, originates from *chronos*, quantitative time. Chorography is often confused with choreography, yet *choreo* means dance. For experimental theatre-maker Clifford McLucas chorography today is a form of deep-mapping 'involv[ing] negotiation and contestation over who and what is represented and how.'⁴

Faced with the inevitable question, what is the value of 'contestation' for art which is unable to directly affect the world it reproduces and conveys; *Sand Reckoner* proposes that the question itself relies on foreclosing cause-and-effect relationships of a chronological approach. Chorography's generous representation of time and space restores our 'temporal palimpsests',⁵ creating conditions more amenable to evolving concepts of freedom.

IN OUR TIMES

Temporal palimpsests are not without their perils. While shooting, I learned the term 'location sickness' used by videographers to describe the vertiginous feeling of discovering that each spectacularly unique aspect of a place is doubled by its connection to every other. As a feeling of adoration takes hold of the filmmaker, the camera lens's fidelity offers redemption. The experience can be shared with others later and may not be just a delusion of grandeur. Some of *Sand Reckoner's* narratives were formed while shooting. The reappearance of motifs confirmed to cinematographer Daniel van Hauten and I that we were on the 'right path' to the scirocco's origin (see image sequence 1).

Focussing on the otherwise invisible or ubiquitous movements of the wind trains audiences to detect the invisible forces that shape our daily lives, be they natural or social. *Sand Reckoner* is designed to work like a memory game. It relies on viewers recognising repetitions of elements to create meaning out of circumstances. The maximalist film is shot in forty-two locations. They include sites of world historical importance such as St. Mark's Basilica in Venice, the Vatican, the harbour of Alexandria, the Mosque of Ibn Tulun in Cairo, and the Botanical Garden of Padua, alongside minor scenes like a dead baby bird on the streets of Venice, mylar decorations in

a Cairo alley, or a carnival ride in Alexandria. Moving from one place to another following the scirocco scrambles the typical hierarchy of significance defining human heritage throughout history.

Waking up in Alexandria, Egypt, Daniel and I took a glance across the hotel balcony and saw Gothic architecture that looked exactly like that we had seen in Venice where our filming journey began. We had come to Alexandria to witness the scirocco's departure from the African landmass over the Mediterranean towards Europe. Yacoub Nassar, the owner of the neighbouring Athenios Hotel, told us that the area is called Little Venice and was designed by Italian architect Giacomo Loria in the 1920s.⁶ He explained that prior to Gamal Abdel Nasser's Presidency of Egypt from 1954–70, Alexandria was a cosmopolitan Mediterranean city (see image sequence 2).

The Athenios remains a temporal palimpsest shaped by and shaping the movement of air. Its rooftop features wind tunnel nozzle-like porticos that compress and accelerate the scirocco, and HVAC vents that take us downstream to Pharaoh Kufu's tomb chamber in the Great Pyramid of Giza (see image sequence 3).

The aerial structures of the Athenios are supported by pillars modelled on the first known stone pillars found in Djoser's North Palace (2667–48 BCE) in the necropolis of Saqqara, Egypt. Both of their ribbed forms recall the bundles of papyrus reeds. Papyrus growing on the banks of the Nile was a source for building material and scrolls. When we were in Egypt, the only place where we could find papyrus growing on the Nile near Cairo was in the Pharaonic Village, a theme park that reenacts the ancient past in present. Nestled among the papyrus stalks we found a statue of the goddess Isis who wrote the 'Book of Breathing' on papyrus to blow life back into the dismembered body of her brother Osiris. Isis fulfills the mother archetype, as does the Virgin Mary in Christianity which we found upstream depicted in Michelangelo's penultimate rendition of the *Pietà* in the Vatican. The pursuit of the invisible wind reveals latent cultural connections.

Sand Reckoner addresses the modern obsession with origins and authenticity created by imperial expansion. The figure of empire is often symbolised by the planting of the flag. However, in the film, a flag moves through vast deserts in reverse, becoming a tentacle-like instrument that seeks out the wind. To find an origin one must always move backwards. The search for origins is often a regressive act of barbarism passed off as noble.⁷ The claim of a more authentic past makes the present appear as derivative in contrast, like the Pharaonic Village. Rather than just at the end, we repeatedly arrive at the *wadi* where the scirocco originates; undermining the narrative arc of a quest for an origin. The moment of finding the origin is represented by grasping the soil in hand, holding the *terra firma* and releasing it to the wind, inaugurating the natural process the film follows. If the act of grasping the soil evokes notions of 'homeland' and rootedness in popular culture, its dispersal in the wind points to broader horizons of life in movement.

ANEMOPHILOUS: LOVERS OF THE WIND

In 1603 when Prospero Alpini became the fourth prefect of the Orto Botanico in Padua, Italy, he brought much of his knowledge and garden's collection from Egypt where he had served as doctor to

Previous spread:
Stills from *Sand Reckoner*, location:
Egyptian Sahara, 2024

the Venetian consul. Possibly inspired by the scirocco that connects Egypt and Italy, Alpini elaborated an early scientific theory of aerial fertilisation of plants and focused on papyrus and date palms, as documented in his seminal 'De Plantis Aegypti Liber' (1592).

Papyrus and date palms are among the anemophilous plants. As lovers of the wind, they reproduce through it.⁸ The term anemophilous is derived from Anemoi, the eight ancient Greek gods of the wind – chief among whom is Aeolus. Aeolian landscapes are still regarded in science as those shaped principally by the movement of wind. In *Sand Reckoner*, papyrus and palms accompany us through many places along the path of the scirocco.

Orto Botanico is today the oldest garden dedicated to medicinal plants in the world. Though exposed to the elements, its classical circular form is still maintained and the plants it contains abide to seasonal change. However, in the modern expansions of the Orto Botanico, plants are kept inside greenhouses where foreign ecologies and particular climates can be simulated. One part of the greenhouse is dedicated to the Nile where papyrus is maintained far from its original habitat. *Sand Reckoner* demonstrates how the ability to control wind and climate directly correlates to the ability to control territory and time and elaborates that this is why it is used in museums, churches, mosques, temples and tombs (see image sequence 4).⁹ They are sites at the edge of infinite unknown expanses which their owners supposedly rule.

An octagonal greenhouse preserves the oldest specimen in the Orto Botanico, the 'Goethe Palm'. Planted in 1585, it was renamed after the renowned German polymath who, after spending time with it in 1786, developed his theory of plant morphology¹⁰ and his own theory of aerial fertilisation which relied on spiral-shaped spermatozoa.¹¹ Fellow botanist Karl Friedrich Philipp von Martius introduced Goethe to the 'spiral tendency' which he claimed to have discovered. *Sand Reckoner* includes a reenactment of the drawings they made. Goethe later wrote '[I became] absorbed by the vortex of the spiral tendency';¹² or 'obsessed', interjected botanist and translator Frederic Soret, who saw the spiral as a 'very uncertain and hypothetical thing.' All fluid movement revolves and devolves into vortical spiral movements. If this fluid and vortical motion determines life and reproduction,¹³ how does it condition thought and perception?

SPIRALLING

The spiral form is only recognisable with enough distance from the fluid that contains all life as we know it. *Sand Reckoner* is organised through and deals with the concept of history as a spiral,¹⁴ which offers a sense of redemption from chaos in two ways. First, it anticipates and recognises disparate occurrences according to their apparent and 'non-sensuous similarities'.¹⁵ Rather than creating a static order, the filmic elements are montaged to create a dynamic and fluid morphology that eventually form vortical turbulence patterns. According to Chris Cutrone, '[t]he spiraling cycle of history can go either way, towards a re-instantiation of the present as a version of the past, or towards an escape from it, merely in the guise of the past, of the fulfillment and redemption of the past.'¹⁶ In the film, the use of classical, religious and modern iconography, including the motif of the spiral itself,¹⁷ may appear to some as a reconsolidation of closed cosmologies. However,

my hope is that these cosmologies can be mobilised to furnish utopian imaginations. Good art is made at the expense of mass culture and belief systems (see image sequence 5).

Second, spirals assure us that everything has an origin and repeats, but to what end?¹⁸ The more coherent narratives of progress endemic to the twentieth century are exhausted or obscured, the more emphatic the contemporary obsession with phantasmic origins becomes. Throughout the film we are trying to find our way to where the scirocco comes from. The path like the fluid medium of the wind is non-linear. Upon finally arriving at the scirocco's origin in a primordial dried lake bed in the Egyptian Sahara, we discovered that the scirocco concludes where the Khamsin wind begins. Khamsin is named for the fifty days it blows hot air into Southern Egypt, Libya and Sudan. Its origins lay farther South. How can we distinguish between these two, or any winds? Treating the conclusion that all winds and 'everything is connected' as a *priori* would 'put the cart before the horse,' rendering our efforts to learn and make meaning incidental.

The 'End of History' thesis has prevailed for some time now.¹⁹ It has been used to justify the Iraq and Afghan Wars and has affected our consciousness, sensory perception and artistic production and reception. The political crisis becomes permanent, instilled by 24-hour news cycles. Varieties of social and natural catastrophes are consolidated into a downward spiral that only relents in the all-consuming admittance that 'everything is going to hell.'

Climate change models anticipate the future with such certainty that time itself seems irrelevant. The discourse of the Anthropocene has probably yielded the feeling of collective failure to alter its predicted demise more than effecting the climate. The ecological thematic of *Sand Reckoner* attempts to restore some individual agency through art. I took the liberty to make a long film which limited its exhibition possibilities. A longer artwork asks us to understand our material conditions as the footage did of me while making this film.

THE XENAGOGUE

Ptolemy wrote that chorography 'requires a landscape drawing'²⁰ Made nearly 2000 years after Ptolemy, *Sand Reckoner* is a filmic map of much of our time until now. From Egypt to Italy and the interceding Mediterranean and Adriatic seas, the film transverses 7000 years of man-made constructions and 100-million-year-old geology.

We traced the path of the scirocco with our own bodies. In 1570, Lambarde walked through Kent, England, to inform his chorographic study of the shire, and called his method 'perambulation'. Lambarde's ensuing book was one of the first chorographies to be written since antiquity of which many were already lost.²¹ As with the voiceover in contemporary documentaries, Lambarde had to rely on the narrator's voice to convey his observations on the land. He called this person the 'xenagogus' or 'guide for guests, strangers and foreigners.'

Our film has xenagogues too. In Italy the scirocco is attended to by two who collect and release the Saharan dust it brings to Venice. In Egypt, I am the primary xenagogus, while glimpses of a young boy xenagogus appear occasionally too. The film offers the people of Italy and Egypt insight into each other. The scenes in Italy are voiced

by Mostafa Adel Abdelhamid in Egyptian Arabic, while the scenes in Egypt are voiced by Rebecca Polloni in Italian while English subtitles remain throughout..

The xenagogue think of one another but never meet. Only the shared invisible medium of the scirocco connects their physical existence from the opposite ends of the wind's path.²² The xenagogue wear uniforms consisting of alternating red and blue shirts, jackets and hats. The two colours are used to represent wind in meteorology: red indicating high pressure and warm temperature, while blue points to low pressure and cool temperature. Not all xenagogues in the film are human. In a remote oasis in Egypt we encounter a red and a blue dragonfly that let us know we were on the right path.

CATCH AND RELEASE

In the *Sand Reckoner*, the body of St. Mark the Evangelist tells the story of the scirocco's role in shaping religious history. Tintoretto's painting *The Abduction of the Body of Saint Mark* (1562–66) depicts the windy storm that God sent to prevent the martyred body of the saint from being burned in Alexandria, where he had died. In 828 AD, Venetian merchants absconded his body under a shipment of pork which Muslim customs agents would not examine. St. Mark's Basilica in Venice, with its Eastern-inspired architecture, was built to house his body. In the film we also visit the Coptic Orthodox Cathedral in Cairo where part of the saint's body is housed upon its return to the Egyptian Coptic church in 1968. Copts claim they have St. Mark's head while Catholics say they have only given them a shoulder blade. In any case the parts of the body are in dialogue with one another across the Adriatic and Mediterranean seas.

The Mediterranean Sea was once the ancient Tethys Sea and the Sahara was its floor. In the middle of the desert we encountered primordial whale skeletons exposed to the air after excavation. These whales still had hand-like appendages and represented the passage of dwelling from the fluid medium of water to that of air – another form of return. (see image sequence 7). Dust particles are indexes of information. Carried by the scirocco from Egypt to Italy transforms them: the rounder their edges, the longer they have tumbled in the clouds *en route*. In the film, they are captured by a Dust Collector placed in the belvedere of Palazzo Contarini del Bovolo that spirals above much of Venice. After analysing the particles for traces of their origins, the xenagogues take them to Certosa Island, in the Venetian Lagoon, for release. The Dust Expeller is located in the centre of a monastery's courtyard. It was ruined and rendered roofless first by Napoleon's looting, and later by Allied bombing of an adjacent munitions factories. Its open-air structure makes it ideal for reintroducing the dust back into the flow of the scirocco so it may return to its path.

Saharan dust particulates were not always considered fortitudinous. Prospero Alpini thought that they carried 'nitrous elements' that caused ill health. Many still believe that what comes over the sea from Africa to Europe is harmful. However, according to Professor Emanuela Molinaroli, a geologist specialising in Saharan dust transport, 'the most important materials for Mediterranean and aquatic, and European terrestrial ecologies come from the Sahara and are Nitrogen, Phosphorus, and Iron.'²³ She adds that 'much imagination can be inspired by studying these particular materials.'

THE SAND RECKONER

Archimedes felt inspired by accounts of the vast Saharan sand seas when he chose a single grain of sand as his unit of measure for the volume of the Universe. The imaginative device he created was called the 'sand reckoner'. Producer Ariane Koek suggested this title for the film as it evokes the specific qualitative and quantitative imagination we hoped to inspire.

Archimedes estimated that the universe can contain 1,000 grains of sand. That is 10 to the power of 63 (10^{63}) grains in the numerical exponent system Archimedes created for this calculation. We now know that there are more stars in the universe than grains of sand.²⁴ While his estimation was limited by his concept of the universe, his exponential method persists to measure vast quantities. Some currently estimate that the observable Universe can contain 2.29×10^{92} sand grains. How can we survive in this vast space? Can our existences even be considered?

Insofar as the sand particles reaching Venice convey their place of origin in the Sahara, the *part can stand in for the whole*. *Sand Reckoner* offers a scale of experience in which the significance of a particle can outweigh its size – alluding to alternative ways of valuing existence; a hopeful sign in impossible vastness.

HOPE IN THE HORROR VACUI

Both my film and Archimedes' sand reckoner propose a full Universe where every spatial point could be occupied. but, what of the void? Through the formulation of 'horror vacui' Aristotle called upon the fluid medium of air to fill the void, saying that 'nature abhors a vacuum.'²⁵ Wind is air rushing in to fill low-pressure zones.

The desire to vanquish the void may be a necessary condition of life as we know it, relying on the relatively thin layer of fluid held to the surface of the earth by gravity. This corporeal condition resonates through cultural production too. In his 1979 essay 'Taming the Horror Vacui in Islamic Art',²⁶ art historian Richard Ettinghausen ascribed the entire motivation of Islamic art to the 'warding off of empty space'. After enduring the vast desolation of the desert, travellers on months-long caravan expeditions were relieved arriving in Caravanserais. The geometric ornamentation covering the interiors of these structures were designed for potential infinite repetition. Once there, the eye of the traveller was met with the presence of the anonymous craftsmen or the ultimate creator, Allah, according to Ettinghausen, a Western art historian possibly projecting the effects the void had on his own tradition.²⁷

Xenagogues use mylar balloons that spell the word 'void' to find the wind Words are drawn to their meaning as the wind is to the void – doubling the effect. The Greek word for absolute, empty or void space is *kenos* or *chaos*, meaning expanse or duration without the presence of a thing. It is often mistranslated as *choros* which technically means the boundary of the extension of some thing(s). *Choros* is the container or receptacle of a body.²⁸ The function of architecture is to contain bodies and *Sand Reckoner* was shot in locations that exemplify the relationship of Italian and Egyptian vernacular architecture with wind, like Venetian *altane*, patios built to access fresh air above dense cities, or the *malqaf*, wind scoops, and *mashribiya*, patios that cool Cairo homes and residents.

The focus on architectural strategies to mediate wind is one of the film's leitmotifs. Wind is shaped by and shapes our planetary, urban and interior spaces and bodies. The fluid of air alone links different scales of existence.

Sand Reckoner provides instances of the wind shaping solid forms, and compares them. Alexandria's Al-Raml tram station has an aerodynamic egg-like form. Images of the White Desert are superimposed to show how wind erosion strips objects of edges to create streamlined silhouettes. The White Desert is made of the bodies of innumerable plankton-like creatures that inhabited the ancient Tethys Sea. The wind carves the stones into ventifacts, some of which have been named 'The Bunny' or 'The Hen' after their shape. The film introduces a recent archaeological theory that goes one step further claiming that people appropriated the sculptural work of the wind to build the sphinx, which has been since further eroded by the wind, making the creative acts of man and wind indiscernible.

THE CONFESSION

Sand Reckoner is ultimately a complicated piece of propaganda aimed at converting everyone to the religion of the wind by demonstrating that all religions are an attempt to come to terms with the reality of our dependence on fluids that are invisible to us. The film works on perception; the afterimages are its real product. The sensitivity to the invisible effects of the scirocco may raise suspicions for the cause of many invisible phenomena that rule our lives.

The film visits a number of domed religious buildings. To take them in we must spin our bodies like the fluid medium surrounding us revolve into vortices. Amusement Park swing rides work on the same principle but to take pleasure in this spinning motion. Ultimately, winds are created by the Coriolis effect that sets the atmosphere in motion as an effect of the Earth's rotation. In *Sand Reckoner*, my large-scale sculpture the *Library of the Winds* (2022) accounts for the world's winds. It reoccurs throughout the film as a an objective third space to triangulate amongst the other places featured. Its floor and roof rotate as do its aeoliphones. Aeoliphones have been used since the sixteenth century to create the effect of the wind for opera, theatre and film. When we think of the sound of the wind today, do we think of it as it occurs in nature or as reproduced by these aeoliphones? The *Library of the Winds* appears alongside the *Face of the Wind* (2015–19), a turbulence pattern that resemble a face. Can we conceive of nature without anthropomorphising it? *Sand Reckoner* shows the wind to be both a cultural and natural phenomenon.

The film reveals that the focus on the scirocco was determined by the air-powered lottery machine of the *Library of the Winds*. The Roman god Fortuna was both the god of wind and good fortune, showing they have been associated since antiquity. It is no coincidence that St. Peter's Square in the Vatican is an enormous wind rose. A massive obelisk brought from Heliopolis by Caligula in 37 AD is placed at its centre – a testament to the power of the wind and its supposed favour of the Catholic Church.

We may ask 'who's side is the wind on?' It certainly seems asymmetrical by blowing and taking from one place to another.

Faith in the vortex means knowing that what is taken will return. The film recounts the Old Testament's Genesis story in which *Ruach*, the breath of God, moving over the void of the waters inaugurates all of existence. It also includes verse 164 from the Quran's Surah al-Baqarah

'He has dispersed therein animals of all kinds, and in the varying direction of the winds, and the clouds subservient between the heaven and earth, there are indeed signs for people of understanding.' The point of this is not a 're-instantiation of the past, but an escape from it., The material I conjure is subservient to this artwork not its creators.

As a piece of wind-religious propaganda, *Sand Reckoner* risks devolving into archaic beliefs. However, if successful, it might introduce ways of redeeming the past to create new horizons. If so, it must work like a hurricane whose centre is always empty; material revolves around it, defining its integrity but never fully conveying it.

1 The film was commissioned as part of the Earth, Water, Sky Residency produced by Ariane Koek, hosted by Ca Foscari University and Science Gallery Venice and fully funded by Fondation Didier et Martine Primat.

2 Chorography's earliest mention can be found in the works of Homer, Plato, Aristotle, Herodotus and their contemporaries. Most of these sources are now lost, but a surge of interest in chorography has emerged recently, especially among the landscape-archeology, art and theater communities. The appeal of chorography comes from its immanently transdisciplinary approach of integrating multiple forms of quantitative and qualitative representation.

3 I am grateful to Rohl and his essay for providing a clear and compelling overview of chorography and its contemporary applications. Chorography may be on the verge of vanishing again. Many of the works Rohl mentions are no longer available, aside from some online archives. Darrell J. Rohl, 'Chorography: History, theory and potential for archaeological research', *Theoretical Roman Archaeology Journal*, 2011, p.25.

4 Oliver Dawkins, 'Clifford McLucas – There Are Ten Things I Can Say about Deep Maps...', *Digital Deep Mapping*, 10 August 2021, available at: digitaldeepmapping.pubpub.org/pub/clifford-mclucas-there-are-ten-things-i-can-say-about-deep-maps/release/2 (last accessed on 14 November 2023).

5 See Geoff Bailey, 'Time Perspectives, Palimpsests and the Archaeology of Time', *Journal of Anthropological Archaeology* vol.26, no.2, 2007, pp.198–223. A further explanation of 'archaeological palimpsest is a seemingly random, dense and confusing accumulation of living debris scattered over a surface or buried floor over time.' Department of Sociology and Anthropology. *Rangifer Central*, Carleton University, available at: carleton.ca/rangifercentral/?p=557. (last accessed on 16 October 2023).

6 For more information on the Italian architecture of Alexandria, Egypt see: Farah El-Akkad, 'Memories of Italian Alexandria', *ahram online*, 1 October 2022, available at: <https://english.ahram.org.eg/News/367738.aspx> (last accessed on 15 November 2023)

7 Shortly before the German socialist revolution of 1918 was lost to what became the Nazi Party, Rosa Luxemburg wrote "Either the triumph of imperialism and the destruction of all culture Or the victory of socialism, that is, the conscious struggle of the international proletariat" and that "Bourgeois society stands at a crossroads, either transition into socialism or regression into Barbarism." Luxemburg, Rosa. "The Junius Pamphlet." Rosa Luxemburg: The Junius Pamphlet (1915), www.marxists.org/archive/luxemburg/1915/junius/. Accessed 5 June 2024.

8 Wind egg fertilisation was a commonly believed theory across many cultures in antiquity according to which animals and people could reproduce with the wind as plants do. See Haseeb Ahmed, *The Wind Egg*, PhD thesis, University of Antwerp, 2018

9 Greenhouses are a colonial invention that allowed the study and display of plants from the colonies in the centres of empire. The ability to control climatic conditions within is directly linked to the control of territories without. See Mae-Ling Lokko, 'Hot Air Raising', *e-flux*, 2022, available at: <https://www.e-flux.com/architecture/digestion/487068/hot-air-rising/> (last accessed on 27 March 2024) and Salvatore Basile, *Cool: How Air Conditioning Changed Everything*, New York: Fordham University Press, 2016.

10 Johann Wolfgang von Goethe, *Die Metamorphose der Pflanzen*, 1790.

11 W. H. Hooce, 'Goethe's Palm', *Principes*, vol.26, no.41, 1982, pp.194–99.

12 Sabine Mainberger, "In the vortex of the spiral tendency": questions of aesthetics, literature and natural sciences in the work of Goethe', *Estudos Avancados*, no.24, 2009, pp.203–18.

13 The spiral motion of sperm remains controversial and an active theory in development <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7399739/>

14 In modern Western philosophy, the concept of history as a spiral has its origins in the work of Spinoza before being taken up by Hegel as the pattern of the human world spirit coming to know itself through particular occurrences. Marx politicised it as an historical reoccurrence offering the chance for humanity to consciously steer social development. Vladimir Lenin and Rosa Luxemburg further developed it into a political practice for Vanguard parties which provided leadership to mass working-class movements at the beginning of the twentieth century and were decimated in WWI. The equivalent of the political vanguard in the arts were the historical avant-garde movements which formulated art as continually moving ahead of, and later being metabolised by, popular culture as Kitsch, according to Clement Greenberg's seminal essay 'Avant-garde and Kitsch' (1939). Greenberg's nuanced and often misrepresented point – further elaborated in his later essay 'Modernist Painting' (1961) – is that art's historical role as avant-garde retreats into formalism as a means of self-preservation during periods of regression.

15 Walter Benjamin updated the fundamental organic drive of creation arising from mimesis. Mimesis is the copying or repeating of something, with variations accepted while maintaining a sensuous material qualification. Non-sensuous similarity is finding similarity in events or objects not based on their material similarity. This abstraction allows us to consider distinctions between what Adorno calls the 'forms of appearance' of an element.

16 W. Benjamin, 'On the Mimetic Faculty' in *Reflections: Essays, Aphorisms, Autobiographical Writings* (ed. Peter Demetz; trans. Edmund Jephcott), New York: Random House, 1995, pp.350–54.

17 Chris Cutrone goes on to say that '[t]his is what Benjamin means by a "time filled full by now-time," which thus may be "homogeneous" but is not "empty," so charged as to blast the continuum of history.' C. Cutrone, 'Adorno's Marxism', PhD Dissertation, The University of Chicago, 2013, available at: https://www.academia.edu/3085199/Adornos_Marxism. (last accessed on 15 November 2023).

18 Western Modernity replaced traditional cosmologies with scientific paradigms like the second law of thermodynamic in which reality appears as a constant struggle to maintain a sense of order against chaos. This sense of entropy motivated a great many artists and writers through the twentieth century as documented in Nico Israel's *Spirals: The Whirled Image in the Twentieth Century*, New York: Columbia University Press, 2015.

19 In 'The Eighteen Brumaire of Louis Bonaparte' Marx issues one of his most well-known quotes 'Hegel remarks somewhere that all great world-historic facts and personages appear, so to speak, twice. He forgot to add: the first time as tragedy, the second time as farce.' Karl Marx, 'The Eighteenth Brumaire of Louis Bonaparte', 1852, available at: www.marxists.org/archive/marx/works/1852/18th-brumaire/. (last accessed on 8 February 2024).

20 In an article originally published after the fall of the Berlin Wall, Francis Fukuyama wrote about 'the end of history as such: That is, the end-point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government.' F. Fukuyama (1989), 'The End of History?', *The National Interest*, vol.16, 1989, pp.3–18

21 Ptolemy, *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*, (trans. J. Lennart Berggren and Alexander Jones), Princeton: Princeton University Press, 2001.

22 William Lambarde, *A perambulation of Kent conteining the description, hystorie, and customes of that shyre*, London, 1576, p.7. Available at: <https://quod.lib.umich.edu/e/eebo2/A72509.0001.001?view=toc> (last accessed on 14 November 2023).

23 The xenogogue are two female-presenting bodies in Italy and two male-presenting bodies in Egypt. The assigned voices in each area are the opposite sounding gender.

24 The interview was conducted on 8 August 2021, and included in an installation commissioned by Thiago de Paula Souza for the third edition of the Frestas Triennial 'The River is a Serpent' (2020–21). See: <https://frestas.sescsp.org.br/> (last accessed on 15 November 2023). The installation was set up as a research station to collect Saharan dust carried by the Garua, a Western trade wind.

25 Robert Krulwich, 'Which Is Greater, the Number of Sand Grains on Earth or Stars in the Sky?', *NPR*, 17 September 2012, available at: www.npr.org/sections/krulwich/2012/09/17/161096233/which-is-greater-the-number-of-sand-grains-on-earth-or-stars-in-the-sky (last accessed on 27 March 2024).

26 John Thorp, 'Aristotle's Horror Vacui', *Canadian Journal of Philosophy*, vol.20, no.2, 1990, pp.149–66. See also: Aristotle, *Physics* (trans. Robin Waterfield and David Bostock), Oxford: Oxford University Press, 1996.

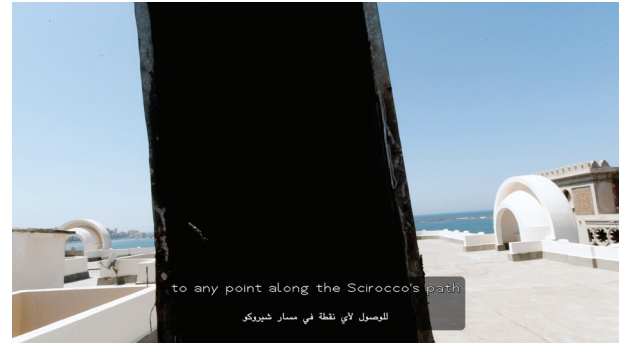
27 Richard Ettinghausen, 'Taming the Horror Vacui in Islamic Art', *Oxford Art Online*, 2003, available at: <https://doi.org/10.1093/gao/9781884446054.article.t038990> (last accessed on 15 November 2023).

28 Few primary documents exist from craftsmen of this era. We cannot know the symbolic associations ascribed to architectonic or geometric form. See Gülru Necipoğlu, *The Topkapı Scroll: Geometry and Ornament in Islamic Architecture: Topkapı Palace Library MS H. 1956*, Getty Center for the History of Art and the Humanities, 1995. Anachronistic efforts have been made to ascribe meaning to Islamic architecture such as Nader Ardalan and Laleh Bakhtiar, *The Sense of Unity: The Sufi Tradition in Persian Architecture*, Chicago: University of Chicago Press, 1973.

29 Fred Lukermann, 'The Concept of Location in Classical Geography', *Annals of the Association of American Geographers*, vol.51, no.2, 1961, pp.194–210.



Stills from *Sand Reckoner*, location: Egyptian Sahara, 2024

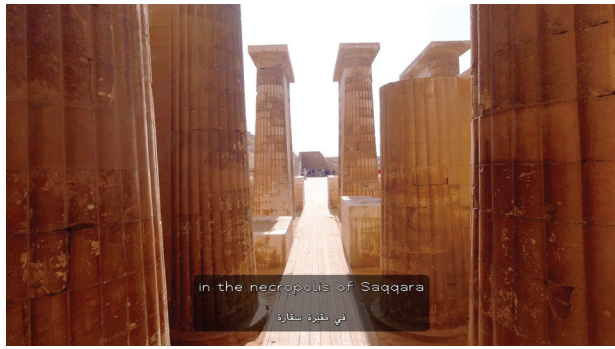


Stills from *Sand Reckoner*, Ponte dell'Accademia, Venice; Little Venice, Alexandria; Athenios Hotel Rooftop, Venice; and Pyramid, Giza, 2024



Its columns are based on the very first stone columns.

عماميده ستينية على اول اعمدة حجرية



in the necropolis of Saqqara

في مقبرة سقارة



Fellow botanist Karl Friedrich Philipp von Martius
Il collega botanico Karl Friedrich Philipp von Martius

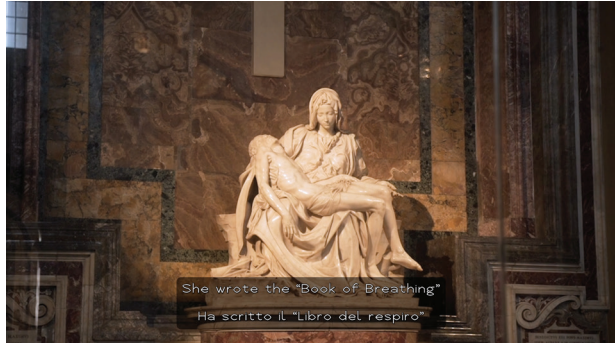


Fellow botanist Karl Friedrich Philipp von Martius
Il collega botanico Karl Friedrich Philipp von Martius



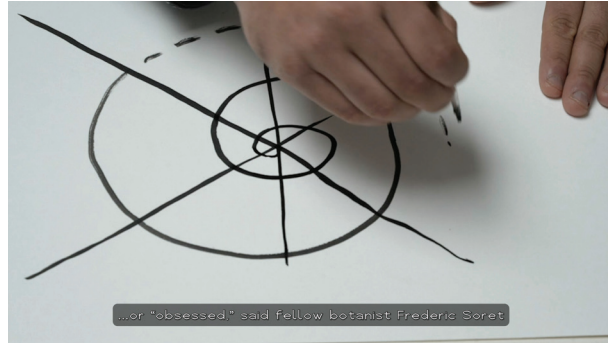
Here found the goddess Isis nestled among the papyrus

هنا لنا الالهة ايزيس بين ورق البردي

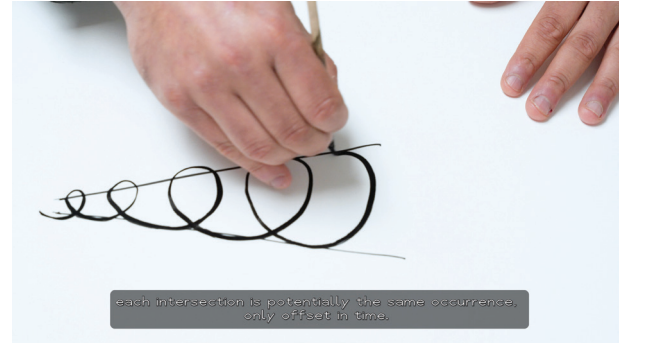


She wrote the "Book of Breathing"

Ha scritto il "Libro del respiro"



...or "obsessed!" said fellow botanist Frederic Soret



each intersection is potentially the same occurrence, only offset in time.



Here we find part of the Nile.

Qui troviamo parte del Nilo.



The second drawing also happens to depict sunlight

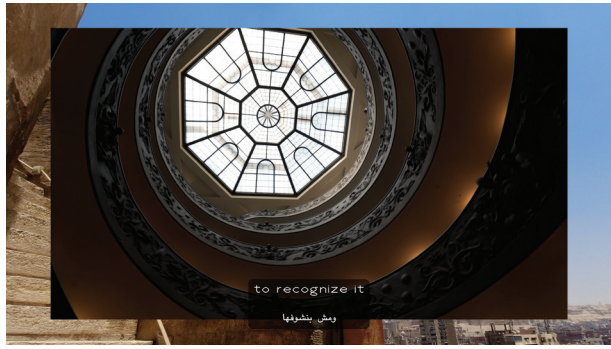
الرسمه الثانيه تصور نور الشمس





Or are you moving against it?

ولا أنت يتحرك عكسها!

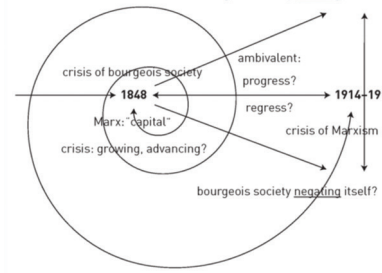


to recognize it

بعض بشرونها

how could the crisis of Marxism be revolutionary?

how to reattain 1848?



But, all Xenogogues are drawn to the void.

بس كل زينوجوج بيخدهم الفراغ

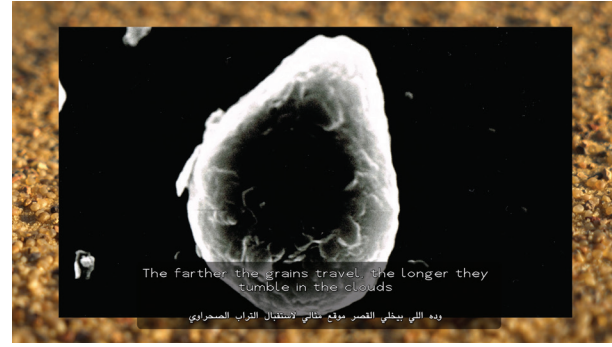
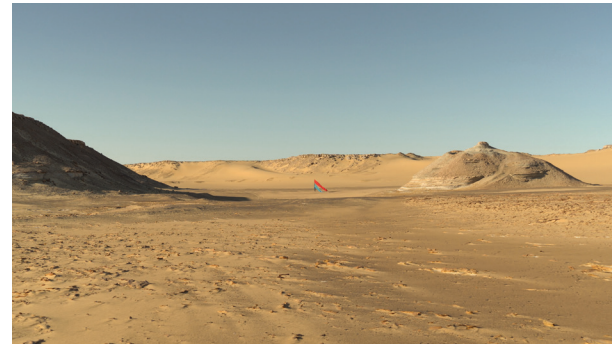
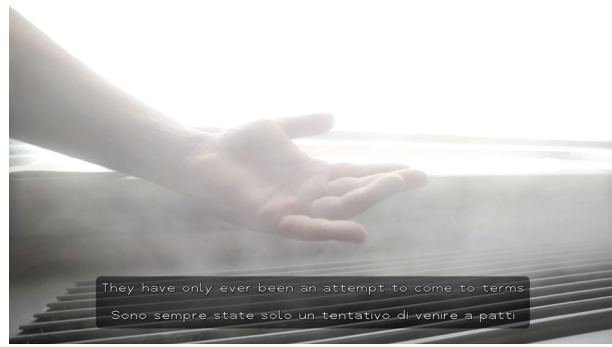


Not all the Xenogogues are human.

بعض كل زينوجوج بشي ادمي

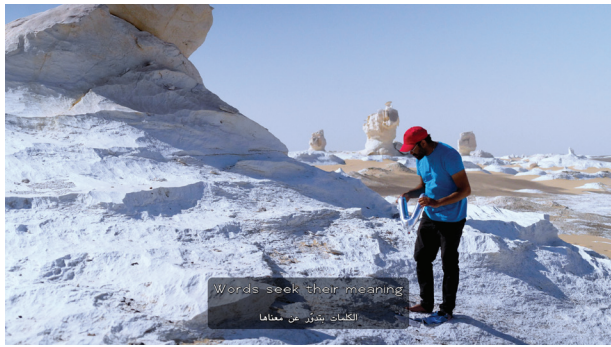
Spiral of Palazzo Contarini del Bovolo (IT), Spiral Staircase of the Minaret of Ibn Tulun (EG), Bramante Staircase at Vatican Museum (IT), Chris Cutrone, Lenin: history not linear but spiral (2011).

Xenogogus 1 in Egypt, Xenogogus 2 in Egypt, Xenogogus 1 in Italy, Xenogogus 2 in Italy, Red Dragonfly Xenogogus, Blue Dragonfly Xenogogus



Hand of Pakicetus (50 million years old), Xenogogus at Gallerie dell'Accademia, Xenogogus at Pharoah Kufu's tomb chamber in the Great Pyramid of Giza, Xenogogus at the origin wadi, Xenogogus at Saharan dust collector in Palazzo Contarini del Bovolo, Xenogogue at Saharan dust blower in the ruined monastery of Certosa Island

Wadi originating the scirocco, close up of sand in the wadi, microscopic image of quartz from the wadi courtesy of Professor Emanuela Molinaroli



Xenogogus using balloons to determine the direction of the sirocco in the White Desert, Egypt

Altana, Venice, Italy; Mashribiya in Al-Rifa'i Mosque, Cairo, Egypt; Al Raml Tram Station, Alexandria, Egypt; The Bunny, White Desert, Egypt; The Sphinx, Giza, Egypt, A beggar, Venice, Italy

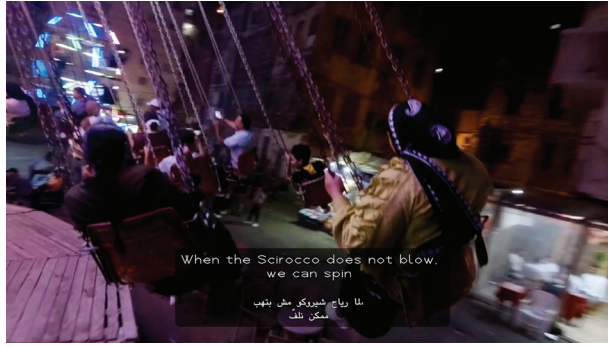


spinning generates a void within us

التلف يولد فراغاً جونا



2. And the earth was [a] void... the spirit of God blew upon the face of the waters.
2. E la terra era vuota... lo spirito di Dio soffiò sulla superficie delle acque.



When the Scirocco does not blow, we can spin

عندما رياح شيروكو مش يهب
ممكن تلف



Let's try and meet in the same point at another time

علينا نحاول نتقابل في نفس النقطة في وقت تاني



but we won't be the same and neither will it



Face of the Wind (2015); Sidi Morsi Abu al-Abbas Mosque, Alexandria; St. Mark's Basilica, Venice, Italy; National Museum of Egypt, Cairo, Egypt; City Festival, Alexandria, Egypt; Pharaonic Village, Cairo, Egypt; Library of the Winds, Kadoc, Leuven, Belgium