

Thought Exhibition. On critical zones, cosmograms, and the impossible outside

Daniel Irrgang

Marie Skłodowska-Curie Fellow, Centre Art as Forum, University of Copenhagen
Copenhagen, Denmark
daniel.irrgang@hum.ku.dk

Abstract

The paper discusses the curatorial concept of “thought exhibition” coined by Bruno Latour and Peter Weibel and developed in collaboration with curators, artists, and researchers during four exhibitions at the ZKM Centre for Art and Media, Karlsruhe (Germany). Thought exhibitions transgress the distinctions between philosophy, art, and science by testing ideas in an art museum, a space of discourse, representation, and participation. They engage visitors in a spatio-aesthetic thought experiment by bringing them into a position where preconceptions derived from epistemes of European Modernity are explicated and where alternatives are suggested. The analysis focusses on the most recent exhibition, in the preparation of which the author was involved: “Critical Zones. Observatories for Earthly Politics” (May 23, 2020 – January 9, 2022) mapped the symptoms and origins of the “New Climatic Regime” (Latour) of the late Anthropocene. In this paper, Critical Zones is framed within its theoretical context (Descola, Haraway, Margulis, Whitehead, among others) and discussed as relational spatio-aesthetic approach (Dikeç). The analysis concludes with Sarah Sze’s installation “Flash Point (Timekeeper)” (2018) as one of the exhibition’s central works – a representation, or “cosmogram” (Tresch), of a common planet that may provide an alternative to the globalized world of late capitalism.

Keywords

Anthropocene, art exhibitions, curatorial studies, dualisms, eco-criticism, European modernity, posthumanism, STS

DOI

10.69564/ISEA2023-66-full-Irrgang-Thought-Exhibition

Introduction

“The globe is something viewed from the outside, from a Galilean point of view. The critical zone is a view from the inside. Our show is about this contrast.” With this triangulation Bruno Latour located our endeavour on January 22, 2018, the first day of our very first seminar week, which would be followed by six further weeks over the course of two years. Dubbed by Latour as the ‘Critical Zones Study Group’ and co-organized by the author, the seminar took place at the Karlsruhe University of Arts and Design, the sister-institution of the ZKM Center for Art and Media in Karlsruhe, Germany which is located in the same building and has been the venue of the renown ‘thought exhibitions’ Latour had realized over the years. Our motivation was to conceptually prepare the exhibition ‘Critical Zones – Observatories for Earthly Politics’ at ZKM (May 23, 2020 – January 9, 2022), curated by Latour in collaboration with Peter Weibel, Martin Guinard, and Bettina Korintenberg.

Together with students, post-graduates, researchers, curators, and artists, we tried to triangulate a new “*place to land*”¹, now that the ground on which the globalized world of late capitalism is built is shifting and disintegrating in the age of the Anthropocene. The widely debated potential new geological epoch is certainly the first not only named but created by humans.² Albeit ‘creation’ may not be the appropriate term for the devastating effects caused by capitalist extractivism and consumption. But even less so would be expressions such as ‘accidental effect’, as the data overwhelmingly suggesting the human cause of these ruptures has been known for a long time, despite regressive voices touting climate denialism.³

The aim of this paper is neither to fully analyse the curatorial approach nor to catalogue the exhibitions realized by Latour and his collaborators. This would go beyond its scope, considering the comprehensive thought exhibitions realized at ZKM, and beyond, over the years: ‘Iconoclash. Beyond the Image Wars in Science, Religion and Art’ (2002); ‘Making Things Public. Atmospheres of Democracy’ (2005)—this was, in fact, the first show explicitly called a ‘thought exhibition’, although Latour retrospectively also included Iconoclash⁴; ‘Reset Modernity!’ (2016). Particularly with regards to issues of climate change, Reset Modernity! laid the groundwork for Critical Zones, which was succeeded by ‘You and I Don’t Live on the Same Planet’ (2020/21) at the Taipei Fine Arts Museum for the 2020 Taipei Biennial.

This paper focusses on Critical Zones while trying to trace the specific spatial characteristics of a thought exhibition and its relation to the bodies and things—human, non-human—that *constitute* the exhibition space. After reconstructing the epistemological framework with which Latour approached the ‘cosmological’ shifts and uncertainties leading up to the global crises not limited to the direct effects of climate change, the paper discusses the visitor’s position (both in a figurative and embodied sense). It does so at least on two levels, by first considering the exhibition space as a whole and then by focussing on one of Critical Zones’ central artworks, a ‘cosmogram’ (John Tresch), Sarah Sze’s ‘Flash Point (Timekeeper)’ (2018).

Dualisms

But first I want to come back to the opening quote above. Latour put forward his notion of the globe in two, albeit intertwined, ways, a cosmological (or epistemological) and a spatial (or proxemic) one. Galileo Galilei’s discoveries – with regards to both, scientific methodologies and astronomic bodily movements—initiated a rupture in cosmology, as it catapulted the human from the centre of the cosmos into a spinning orbit around Earth’s star, one of countless in the universe. Despite this displacement, the anthropocentrism remained or was re-incorporated into the worldview of European modernity, most notably by means of a juxtaposition of somewhat separated spheres of *nature* and *culture*.⁵ This dichotomy implies an outside position from which one sphere can be acted up on by the ‘inhabitants’ of the other. The image of the *globe* representing Earth, a cartographic model as constructed as the nature-culture dualism, has become, as Stephen J. Gould would have called it, a “canonical icon”⁶, associated with capitalist globalism and an ideology of limitless growth. Such an impossible teleology not only ignores the limitations of ecosystem capacities but also of ‘natural resources’, to use a term normalized by capitalist extractivism. In this situation, the relation between the world we live *in* and the world we live *of* is distorted. This post-colonial heritage we discussed in our seminar through the concept of “ghost acres” which refers to exploited land abroad to cover a given territory’s consumption (originally of food, but expandable to other goods as well). Considering the devastating effects of such imbalances on exploited areas, “the climate question is at the heart of all *geopolitical* issues and it is directly tied to questions of injustice and inequality”⁷. Latour summarized these

tensions as “New Climatic Regime”, a concept that became a starting point for the Critical Zones exhibition project.

The term ‘critical zone’ (singular, in contrast to the plural of the exhibition title emphasizing the concept’s manifoldness) is derived from Earth System Science⁸ where it denotes Earth’s “thin biofilm”⁹—down into the soil until the bedrock and up into the canopy and lower atmosphere—where Life¹⁰ subsists. But the critical zone is not only characterized in spatial categories. It is foremost a dynamic field *sui generis*, where the effects of “heterogeneous agencies mixed together in wildly different combinations”¹¹ create their own conditions of Life (e.g., plants’ photosynthesis of carbon to oxygen as condition for other lifeforms that enable the existence of plants). This recursive, dynamic, and always incomplete interrelations have nothing to do with the static and continuous order of the nature-culture dualism cemented by European modernity. In fact, it may open a space for a kind of political action that considers manifold ways of how the interrelations of actors may compose a common world. Such a field cannot be organized as two monolithic blocks of nature and culture, where nature is somewhat treated or affected by human agency. “In that sense, the notion of the critical zone is much less paralyzing for politics than that of the Anthropocene.”¹²

The deconstruction of the nature-culture dualism is well known in Latour’s philosophical work, most notably in *We have never been modern*.¹³ Here the nature-culture dualism produces “hybrids”¹⁴ that are transgressing its dichotomy as they are neither assignable to one category nor to another (e.g., in vitro embryos or holes in the ozone layer). In a paradoxical twist, those hybrids start to dissolve the modern constitution, albeit they are constantly being reintegrated in its dualist structure. Artistic and scientific studies of hybrids are part of the repertoire of the works shown at Critical Zones. In its uncovering of the far-reaching effects of the nature-culture dualism, *We have never been modern* of course doesn’t stand alone. In our seminar sessions Latour emphasized the influence of, among others, Alfred N. Whitehead’s critique of the “bifurcation of nature”¹⁵ into a nature perceivable by humans and a somewhat ‘true’ nature behind perceivable phenomena. Also the work of Philippe Descola played a recurring role in our investigations with his “analysis of the modes of relations between existing entities”.¹⁶ Such a *relational* approach emphasizes the importance of spatial juxtapositions in an exhibition.

Relationality

Notions of relationality, heterogeneity, entanglement, and so forth are prevalent in studies that aim to overcome the distinctions and hierarchies of Western modernity in favour of a more sustainable mode of living together. They are already present in Gregory Bateson’s seminal 1972 work *Steps to an Ecology of Mind*. Criticizing the Western dualism as human separation from and dominion over nature and as a root for the approaching environmental crisis, Bateson emphasized the interconnectedness of all living beings. He also brought forward the notion of an ‘impossible outside’ (to which I will get back below): “We are not outside the ecology for which we plan – we are always and inevitably part of it.”¹⁷ Albeit relationality as ontological or even ethical category is usually judged (a priori) as something positive and preferable, I want to emphasize that not all interrelations are necessary experienced as something desirable. The cultural theorist Lauren Berlant has pointed out „the pressures of being in relation,”¹⁸ be it with human beings or with objects, as “a structural awkwardness in the encounter between someone and anything.”¹⁹ But they also acknowledge the necessity of the interaction with others as what drives one to experience the world. Notions of relationality are, even in this sense a mode of care or “response-ability.”²⁰

Here it should be noted that, in contrast to Bateson’s claim for interconnectedness, the critical zone is not to be conflated with ‘holistic’ concepts of an “unified system [...] where everything is connected.”²¹ This, according to Latour, would suggest yet another universalism. Rather, the relations remain fragile, always incomplete, always in a state of becoming. And yet, the notion of critical zone is closely related to the concept of ‘Gaia’.²² This analogy of Earth system science and Greek mythology was proposed by the geochemist James Lovelock in close collaboration with the microbiologist Lynn Margulis.²³ While Lovelock developed his take from geochemical analyses of planetary atmospheres, Margulis worked with the other side of the magnifying scale, the microbial. Both met in the conclusion that Earth is producing and regulating its own environmental conditions for Life. It is not only this idea of *autopoiesis* and the roots of Lovelock’s work in cybernetics related to planetary self-regulation which places the Gaia hypothesis a bit too close to the universalism of a “unified system”. The mythological eponym also suggests a personification with close bounds to animism, presenting Earth as single entity. Although in the Critical Zones exhibition catalogue Latour makes it clear that “Gaia is not a big organism,”²⁴ the exhibition maintained the concept and used it in interrelation with

'critical zone', as well as with the term 'the terrestrial' denoting a new cosmology of the world we live in. The problems of the Gaia analogy were acknowledged by Latour²⁵—and in fact also by Margulis: "I prefer the idea that Earth is a network of 'ecosystems' over any personification of Mother Gaia."²⁶

Impossible Outside

According to Latour, universalisms such as the nature-culture dualism or "unified systems" suggest "the hidden presence of an engineer at work who has devised the whole as a system of which we see only the parts."²⁷ This would imply a somewhat external position from which one may act on the Earth, or on 'nature'. Such a position, taken by classical understandings of science (the 'objective' observer or experimenter) creates a relationship of maximum distance, both spatially and (let's use this loaded term) ethically: When there is a sphere to dwell in ('culture') which can be separated from both the catastrophes we inflict on our planet ('nature') and human responsibility, then what is there to worry about? But if we do not live on the globe of modernity but *inside* the critical zone, a terrestrial interdependence in which we are intertwined with other entities to create our environment, every harm inflicted is eventually self-inflicted. As Margulis put it in an interview when describing the recycling processes of cyanobacteria: "If we would listen to them or watch them [...], we would recognize that you can't just throw things out—you never throw anything *out*, it goes *around*. [...] Now these bacteria have solved that issue, people haven't solved it at all. [...] People are ruining their environment. These bacteria are producing an environment that's liveable."²⁸

Following this notion of an 'impossible outside', a central aspect of the exhibition was to find an alternative to the representation of Earth as the famous Blue Marble, seen from a distant position in space. The matter of representation is by no means trivial or restricted to the task of finding an imaginary for an art exhibition, it has epistemological implications—a notion put forward prominently by the first thought exhibition, *Iconoclash*. And as Latour pointed out with *Reset Modernity!*, the view on the Blue Marble is "the place of nowhere," as no one dwells in space. Like the eternal engineer's gaze, this is a cartographical view of Earth as globe, "unified, continuous, and homogeneous"²⁹, where every element has been placed, by science, in its assigned section of a 'grid'. A grid in a literal sense when cartography slices projected space into metrics, but also in a conceptual sense, e.g., in taxonomical orders in biology. While this

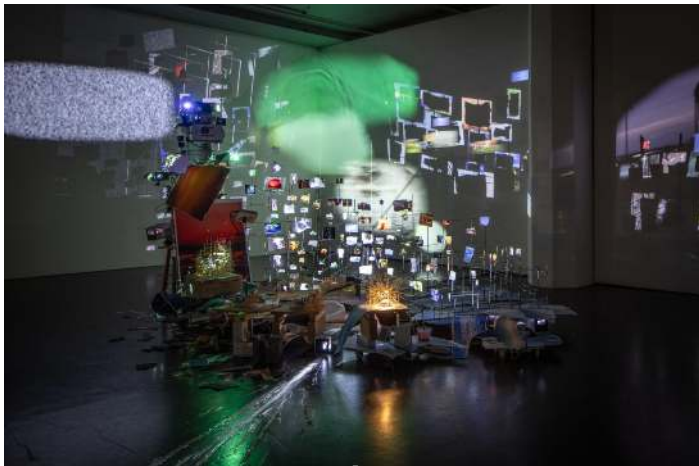
implies an external entity which organizes all other entities, the critical zone "breaks down the *cartographical* view of planet Earth."³⁰ Here there is no outside, but entities creating their own living conditions—and thus the critical zone itself. "Gone is the idea of a disinterested distant gaze."³¹ This is far from a notion of space as *container* to be filled. It is a space *composed* of manifold elements and connections, "tiny, fragile, and provisional."³²

Compositionism

Composition, or "compositionism", is a central concept not only in Latour's writings but also for his curatorial approach.³³ It is related to his earlier notions of politics described as an activity of "progressive composition of the common world."³⁴ As in the notion of critical zone, there is no world to be found *a priori*, ready to be inhabited. A common world must be continuously generated, "pieced together, element after element, through many travails and conflicts"³⁵. Here a key text is "An Attempt at a 'Compositionist Manifesto'" which, in its epigraph, Latour dedicated to "D.H.". The nod to Donna Haraway makes sense: Not only is, in this essay, her book *When Species Meet* credited as being "a compositionist book if ever there was one"³⁶. Her follow-up monograph *Staying with the Trouble* also picks up, etymologically, on the notion of composition or 'compost': "Critters—human and not—become-with each other, compose and decompose each other, in every scale and register of time and stuff in sympoietic tangling [...]."³⁷ According to Latour, the cosmological disruptions of the New Climatic Regime, the loss of the globe of globalization as a possible vector of impossible exponential growth, are "forcing all of us—scientists, activists, and politicians alike – to compose the common world from disjointed pieces instead of taking for granted that the unity, continuity, agreement is already there."³⁸

It is this approach of building alliances from disparate parts that makes a thought exhibition, and especially Critical Zones, an assemblage of scientific instruments (various measuring devices of different historical contexts, underlining the historicity of the world perceived), participatory practices (workshops, performances, field trips), and, of course, artworks. The heterogeneous artworks span from, e.g., Julian Charrière's installation "Future Fossil Spaces" (2017), columns made of layers of lithium deposits and salt lumps, to a video installation by Barbara Marcel on a science and community project related to the Amazon Tall Tower Observatory ("Ciné-Cipó – Cine-Liana", 2019–

2020), to a section of German Romanticism paintings, curated by the art historian Joseph Koerner. Although visitors could consult, similar to the predecessor exhibition *Reset Modernity!*, the guidance of a field book in order to navigate through the exhibition, its parts are meant to be put together or into relation subjectively. Here the museum becomes a testing ground, the exhibition a “scale model to test ideas” for how to approach complexities such as climate change, “much too vast to be treated head on.”³⁹



This is where the notion ‘thought exhibition’ comes in: A useful tool in science to test a hypothesis, or to make even new discoveries, with regards to objects too big, too complex, too remote, or too impractical to treat directly, is the thought *experiment*. Within a sufficiently structured framework it offers, albeit imaginary, an experimental approach towards potential solutions and virtualities. Although a thought *exhibition*, or every exhibition, remains limited to its space – an institution, in the case of Critical Zones located in Central Europe—and time—the ‘here’ of late capitalism –, it is also a protected and experimental space where alternative futures, “a way to anticipate a situation of which there is as yet no real instance,”⁴⁰ can be safely explored. Here imagination may become a projective capacity with which new worlds, beyond teleological concepts of growth, may find their vectors.

And yet, also a thought exhibition is curated, that is, laid out in a way determined by an author. In this sense, the paths it offers through the exhibition space are limited (even if there are multiple) and given or suggested (albeit if they remain open to alternatives). But maybe it is in this tension, between the curatorial concept and the visitor’s subjective experience and imagination, in this “complete uncertainty of what the visitors will do in the end in the environment that you’ve imagined for them,”⁴¹ where new worlds can evolve. Latour repeatedly emphasized that Critical Zones, or any of his

thought exhibitions, is not meant to somewhat *illustrate* ideas written somewhere else, but to offer a spatial configuration for exploring, testing, or modifying ideas. As he pointed out in a conversation with Hans Ulrich Obrist on the connection between his philosophy and exhibitions: “For me there is absolutely no difference between doing an exhibition, writing a piece of philosophy or doing fieldwork with ethnographic methods, or writing a play. [...] So, it’s not a migration of concept—concept *is* a medium, among others, and they don’t migrate, they resonate with each other. [I]t’s first of all a space—and the space is the concept.”⁴²

Spatio-aesthetics

The spatial arrangement invites the visitor to take different perspectives—figuratively and literally, that is, spatially – on how things and actors interact with each other. This is no trivial notion of space (as a physical container) and even goes beyond the relational approach mentioned above. The urban researcher Mustafa Dikeç emphasizes the spatial and aesthetic conditions of political or activist intervention: “Space not only gives form to and orders how this world appears, but also allows distinctive gatherings of beings—things and people—that establish relationality and open new spaces [...]. Thinking politics spatially is both figurative, in the sense that it evokes spatial forms, and imaginative, which allows for the possibility of reordering things, [...] established orders and systems of representation.”⁴³

It is worth pointing out the parallels between Dikeç’s interdependence of space, politics, and aesthetics (“gatherings of beings – things and people”, “altering established orders of representation”) and Latour’s “political ecology”⁴⁴, particularly the thought exhibitions. When “spatialisation is fundamental to constructing, apprehending and projecting worlds and entering into relation with them”⁴⁵, then Critical Zones offers a valuable testing ground for how we may live response-able in a common world.

Dikeç understands aesthetics in the broad sense of *aesthesis*, as in perception by the senses or the bodily (spatial) experience.⁴⁶ Making sense of the world is an embodied phenomenological activity. If we couple this to Latour’s equally broad notion of aesthetics, “defined as what renders one sensitive to the existence of other ways of life”⁴⁷, we can underline the spatial mode of experimenting with alternative worlds. As mentioned above, here we need new forms of representations that help us to aesthetically conceive this shift. New forms offering an alternative to the iconic Blue Marble, to

sufficiently represent the fragile and entangled biofilm or critical zone. “Changes in cosmology cannot be registered without changes in representation.”⁴⁸ Artistic aesthetic expressions can have this capacity to render us sensitive to alternative worlds and their discontinuities to past and present.

Cosmogram

Here the notion of ‘cosmogram’ comes into play. During the January 2019 session of the Critical Zone Study Group, we had the privilege to host a lecture by the art and science historian John Tresch. His concept of cosmogram relates to objects, architectural forms, or practices which bring a given cosmology of a certain group of people at a certain point in time – a rather abstract set of shared beliefs constituting a worldview—into the aesthetically concrete.⁴⁹ Based on Latour’s assumption that we, in our attempt to orient ourselves in the New Climatic Regime, are in need of a new cosmology succeeding the globe of modernity—a reorientation he compared to the Galilean paradigm shifts of the 17th century in science and the social order —, the cosmogram concept helped us to frame such kind of artistic representation. As example for a well-known cosmogram (at least in Jewish and Christian mythologies), Tresch refers to the Tabernacle of Moses. Here a religious-based worldview is precisely described as a model for a spatial or architectural formation representing the godly regime, where the elements of the given cosmology find their assigned place and relations to each other. Despite the example of the rather dogmatic Tabernacle, a cosmogram is not necessary static. It may provide “the basis for new interpretations and action: social relations, relations with other cultures, with natural entities, with animals, plants.”⁵⁰ Thus, it is important to stress the projective capacity Tresch assigns to cosmograms, as they can enable a (note the Latourian term) “*redescription*, in the conditional or future tense: not the world as it is but the world as it could be.”⁵¹ As in Critical Zones’ description of this shift and its redescription of the world towards a new common ground, “cosmograms often guide [such a] recreation and restabilization of the world.”⁵²

Although one could make an argument for understanding the Critical Zones exhibition itself as a cosmogram—and there have been undertakings to use this concept as a curatorial approach for art exhibitions⁵³—, here I want to reserve this term for one of Critical Zone’s key artworks, Sarah Sze’s ‘Flash Point (Timekeeper)’, a 2018 iteration of her ‘Timekeeper’ series (fig. 2).⁵⁴ The Timekeeper installations investigate,

among other materialities, the dichotomies of digital societies, i.e., materiality–digitality or spatiality–virtuality.⁵⁵ They consist of various everyday objects and digital images (mostly found online) projected and printed on paper sheets in various sizes, most of which are mounted on fragile wooden frames. Installed in a separated and scarcely illuminated area of the ZKM ground floor, the mounted prints of ‘Flash Point (Timekeeper)’ were illuminated by projected images and complemented by projections spinning along the walls beyond the installation. Although it was difficult to say where “beyond the installation” actually was, as its space-encompassing projections as well as materials of the installation scattered on the floor made its spatial boundaries blurry.

All Timekeeper works evoke such an “immersive” effect, “like a series of experiments which envelop the surrounding architecture”.⁵⁶ It is this uncertainty of knowing where the installation ends and where one, as a viewer, enters its perimeter that constitutes an important aspect of the installation’s function as a cosmogram representing the critical zone. Although I want to use the term “function” carefully here. As Martin Guinard has pointed out while discussing with me the curatorial approach of Critical Zones, “illustration is the enemy”⁵⁷: It is not about staging concepts developed in Latour’s writings in the exhibition space, but to use the space as well as the objects and actors assembled there to actively test ideas. Artworks are not somewhat degraded to serve as illustrations of concepts developed by someone else. Martin expanded on this in his recently published obituary for Latour: “Criticisms understandably arise when philosophers curate exhibitions and use artworks merely to illustrate ideas. But in fact, we took a very different approach, which was to imagine an encounter between artists’ works and his ideas, each of which followed different trajectories.”⁵⁸ Such an encounter took place, on several occasions, between Latour and Sarah Sze. Referring to Latour’s interest in the Timekeeper series with regard to Critical Zones, Hans Ulrich Obrist emphasized the viewers’ experience of manifoldness when approaching the installation, as well as the uncertainty of their own position when investigating it more closely: They find themselves always *inside* the installation, sometimes partly enclosed by its material, sometimes serving as a temporary, embodied screen when crossed by a projection.⁵⁹ In his comment, Obrist referred to ‘Twice Twilight’ (2020), the Timekeeper iteration installed at Sarah Sze’s solo exhibition at the Fondation Cartier in Paris,⁶⁰ which is a more extensive installation compared to the work shown at ZKM. The immersive experience of the visitor is here also amplified by the building it

inhibited: The façade of the Foundation Cartier, designed by the architect Jean Nouvel, is mostly made of glass and steel. Surrounded by trees and garden sections partly encompassed by glass walls, it is at times challenging to make out the inside and outside of the building. This effect was amplified by the Timekeeper projections penetrating the glass façade. Such architectural conditions are quite different from the spatially separated Timekeeper, located within the massive walls of the ZKM building, a former ammunition factory. Reflecting on her exchange with Latour, Sze compares the piece's fragile structure and porous boundaries to the critical zone, that is "the world as very thin, very fragile membrane of life."⁶¹

At an artist talk between Latour and Sze on the occasion of her Foundation Cartier exhibition, which started as a tour outside of the building, Latour right away pointed out the viewer experience of an undefined spatial position: "One of the characters of your work is that the distance between the inside and the outside is put into question."⁶² During the tour he continued to draw a connection between 'Twice Twilight' and the impossibility of an outside position in the critical zone, as in both cases "you never know when you are in and when you are out. [...] The visitors are asked to subvert his or her idea of what the Earth is like. Because there is no outside, really." The, as Martin Guinard put it, "different trajectories" of the artwork and the Critical Zones curatorial concept become intertwined as a dialogue between the artist and the philosopher. While Latour went so far, albeit jokingly, to rename the piece 'Critical Zone' – "because the bricolage, scaffoldings and the fragility, yet the strength and multiplicity, is exactly what lifeforms have done in the critical zone" –, Sze pointed out "one of the important things about the work, [the] fragility between what is an object, what is an image, and what is life".⁶³ This conceptual convergence is not a somewhat affirmative agreement by an artist to a philosopher's statement, but reflects an inherent characteristic of the Timekeeper works. In fact, a comparison between the fragility of Life and Timekeeper was pointed out before by the art historian Hal Foster: "A philosophy of life might be intimated here, one that cuts across biology and technology, life seen as a system that struggles with flux."⁶⁴

By describing Sarah Sze's work method as "*compositional principle*"—carefully assembled of disparate pieces, always experienced anew by the changing position of an immersed viewer—Latour acknowledged the Timekeeper works as terrestrial cosmograms: Through the spatio-aesthetic encounter of the installation, "viewers can escape the dichotomy

between seeing inside-out or outside-in, as if they were caught in a vortex. They become 'composers of space' in their own right".⁶⁵

– In memory of B.L. & P.W. –

Acknowledgements

This research has received funding from the European Union's Horizon 2020 program under the Marie Skłodowska-Curie Grant Agreement N° 101028379.

References

- 1 Bruno Latour, *Down to Earth. Politics in the New Climate Regime*, Cambridge, Polity Press, 2018, 5.
- 2 Jan Zalasiewicz et al., "The technofossil record of humans," *The Anthropocene Review* 1/1, 2014, p.34–43, 40. For a widely discussed 'start date' of the Anthropocene as potential new geological epoch, stretching from 1450 with the rise of colonization and subsequent capitalism (thus designated as 'Capitalocene' by Jason W. Moore) to the post-WWII 'Great Acceleration' (Alvin Toffler) or 'Sixth Extinction' (Elizabeth Kolbert), see Adele E. Clarke, "Introducing Making Kin not Population," in *Making Kin not Population*, ed. Adele E. Clarke and Donna Haraway, Chicago, Prickly Paradigm Press, 2018, p.1–39. Latour designated the cosmological paradigm shift towards modernity to 1610 and the Galilean scientific revolutions; cf. Bruno Latour, "Seven objections against landing on Earth," in: *Critical Zones. The Science and Politics of Landing on Earth*, ed. Bruno Latour and Peter Weibel, Cambridge, MA, MIT Press, 2020, 12–19, 15.
- 3 Reto Knutti, "Closing the Knowledge-Action Gap in Climate Change," *One Earth* 1/1, 2019, 21–23.
- 4 Bruno Latour, "Thought Exhibitions", lecture at the Museum of Contemporary Art Zagreb, September 23, 2017; <http://modesofexistence.org/what-is-a-gedankenaustellung/#introduction>.
- 5 Bruno Latour, *Nous n'avons jamais été modernes. Essai d'anthropologie symétrique*, Paris, La Découverte, 1991.
- 6 Stephen Jay Gould, "Ladders and Cones," in *Hidden Histories of Science*, ed. Robert B. Silvers, New York: New York Review Books, 1995, 37–67.
- 7 Bruno Latour, *Down to Earth*, 2.
- 8 Earth System Science "builds upon the traditional disciplines [geology, biochemistry, etc.] but promises to provide a deeper understanding of the interactions that bind the Earth's components in a unified, dynamical system", Earth System Sciences Committee NASA Advisory Council (ed.), *Earth System Science. A Program for Global Change*, Washington: NASA, 1988, 15.
- 9 Alexandra Arènes, Bruno Latour, Jérôme Gaillardet, "Giving depth to the surface: An exercise in the Gaiagraphy of critical zones," *The Anthropocene Review* 5/2, 2018, 20–135, 121.
- 10 "Life" with capital 'L' denotes, in Latour's writings, life in its multitude of interrelations, including "animals, plants, bacteria, [...] atmosphere, soil, rocks, seas, clouds, minerals, continents",

- Bruno Latour, "Seven objections against landing on Earth," 18.
- 11 Bruno Latour, "Some advantages of the notion of 'Critical Zone' for Geopolitics," *Procedia Earth and Planetary Science* 10, 2014, 3–6, 4
- 12 Ibid.; cf. Haraway's notion of 'Chthulucene', which prefers modes of living together to rather fatalistic implications of the Anthropocene. *Staying with the Trouble. Making Kin in the Chthulucene*, Durham, NC, Duke University Press, 2016.
- 13 Bruno Latour, *Nous n'avons jamais été modernes*.
- 14 Ibid.; cf. Haraway's "cyborgs, hybrids, mosaics, chimeras". Haraway, "A Cyborg Manifesto. Science, Technology and socialist-feminism in the late twentieth century [1985]," in *The Cyber-cultures Reader*, ed. David Bell, Barbara M. Kennedy, London and New York, Routledge, 2001, 291–324, 313.
- 15 Alfred N. Whitehead, *The Concept of Nature*, Cambridge, Cambridge University Press, 1920, 30.
- 16 Philippe Descola, *Beyond Nature and Culture*, Chicago and London, The University of Chicago Press, 2013 [2005], s.p.
- 17 Gregory Bateson, "Ecology and Flexibility in Urban Civilization [1970]," in *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*, Northvale, NJ and London, Jason Aronson 1987, 499–511, 510.
- 18 Laurent Berlant, *On the Inconvenience of Other People* (Durham and London: Duke University Press, 2022, 11.
- 19 Ibid., 9.
- 20 Donna Haraway, *Staying with the Trouble*.
- 21 Bruno Latour, "Some advantages of the notion of 'Critical Zone' for Geopolitics," 5.
- 22 Bruno Latour, *Face à Gaïa. Huit conférences sur le nouveau régime climatique*, Paris, La Découverte, 2015; cf. Bruno Latour and Timothy M. Lenton, "Extending the domain of freedom, or why Gaia is so hard to understand," *Critical Inquiry* 45/3, 2019, 659–680.
- 23 Bruce Clark and Sébastien Dutreuil (eds.), *Writing Gaia: The Scientific Correspondence of James Lovelock and Lynn Margulis*, Cambridge, Cambridge University Press, 2022.
- 24 Bruno Latour, "Seven objections against landing on Earth," 18.
- 25 In a talk with Sarah Sze in October 2020 he remarked that, albeit both critical zone and Gaia are scientific concepts, that "Gaia always gets people worried" due to its mythological or vitalist suggestions. Artist talk "Sarah Sze et Bruno Latour: une balade-discussion dans l'exposition 'De nuit en jour' – Fondation Cartier pour l'art contemporain." Livestream October 19, 2020; archived: <https://www.youtube.com/watch?v=JPQijl921f0>.
- 26 Lynn Margulis, *Symbiotic Planet. A New Look at Evolution*, New York, Basic Books, 1998, 106.
- 27 Bruno Latour, "Some advantages of the notion of 'Critical Zone' for Geopolitics," 5.
- 28 Lynn Margulis in a 1998 interview, in: "Symbiotic Earth. How Lynn Margulis rocked the boat and started a scientific revolution", documentary film by John Feldman, USA, 2017.
- 29 Bruno Latour, "Seven objections against landing on Earth," 14. Cf. the documentation of Latour's performance lecture "Inside", in: Frédérique Aït-Touati and Bruno Latour, *Trilogie Terrestre: Inside suivi de Moving Earths*, Montreuil, Éditions B42, 2022.
- 30 Bruno Latour, "Seven objections against landing on Earth," 14.
- 31 Bruno Latour, "Some advantages of the notion of 'Critical Zones' for Geopolitics," 5.
- 32 Bruno Latour, "Seven objections against landing on Earth," 14.
- 33 I am indebted to Martin Guinard for pointing me to this.
- 34 Bruno Latour, *Politics of Nature. How to Bring the Sciences into Democracy*, Cambridge, MA, Harvard University Press, 2004, 53.
- 35 Bruno Latour, "Some advantages of the notion of 'Critical Zones' for Geopolitics," 3.
- 36 Bruno Latour, "An Attempt at a 'Compositionist Manifesto'," *New Literary History* 41, 2010: p.471–490, endnote 40.
- 37 Donna Haraway, *Staying with the Trouble*, 97.
- 38 Bruno Latour, "An Attempt at a 'Compositionist Manifesto,'" 485.
- 39 Bruno Latour, "Seven objections against landing on Earth," 18.
- 40 Bruno Latour, "Let's touch base, in: *Reset Modernity!*," ed. Bruno Latour, Cambridge, MA and London, MIT Press, 2016, p.11–23, 22. Cf. Bruno Latour, "Seven objections against landing on Earth," 18f.
- 41 Bruno Latour, "Thought Exhibitions", lecture at the Museum of Contemporary Art Zagreb.
- 42 Bruno Latour interviewed by Hans Ulrich Obrist, Paris, January 9, 2016; <http://modesofexistence.org/what-is-a-gedankenausstellung/#introduction>.
- 43 Mustafa Dikeç, *Space, Politics and Aesthetics*, Edinburgh, Edinburgh University Press, 2015, 1ff.
- 44 Bruno Latour, *Politics of Nature*.
- 45 Mustafa Dikeç, *Space, Politics and Aesthetics*, 4.
- 46 Mustafa Dikeç, *Space, Politics and Aesthetics*, 1.
- 47 Bruno Latour, "Seven objections against landing on Earth," 19.
- 48 Ibid.
- 49 Based on David Damrosch's cosmogram approach in religious studies. John Tresch, "Cosmogram," in *Cosmograms*, ed. Melik Ohanian and Jean-Christophe Royoux, New York, Lukas & Sternberg, 2005, .67–76, 67.
- 50 John Tresch, "Cosmogram," 69.
- 51 Ibid., 75 (emphasis in the original).
- 52 Ibid., 74.
- 53 Ohanian and Royoux (eds.), *Cosmograms*. Joshua Simon proposes the notion of cosmogram "to look at the art exhibition as a model of the world as it appears to itself." Simon, "The Exhibition as Cosmogram," *Parse* 13/2, 2021; <https://parsejournal.com/article/the-exhibition-as-cosmogram/>.
- 54 Bettina Korintenberg, one of the co-curators, confirmed my hypothesis of the key function of Sze's installation for this show, as well as its position as a cosmogram in Bruno's and John Tresch's sense (email correspondence between Korintenberg and the author, October 10 and 11, 2022).
- 55 Sarah Sze in conversation with Hans Ulrich Obrist, in: *The Hero Winter Annual*, 2020, 190–203, 193.

- 56 "Introduction," in *Sarah Sze: Timekeeper*, ed. Rose Art Museum, New York, Gregory R. Miller & Co., 2017, 4.
- 57 Martin Guinard in a conversation with the author during the Critical Zones Study Group session in May 2019.
- 58 Martin Guinard, "Homage to Bruno Latour," *e-flux Journal* 131, 2022, <https://www.e-flux.com/journal/131/502967/homage-to-bruno-latour/>.
- 59 Sarah Sze in conversation with Hans Ulrich Obrist, 199.
- 60 Sarah Sze, "De nuit en jour", Fondation Cartier pour l'art contemporain, Paris, October 24, 2020 – May 30, 2021.
- 61 Sarah Sze in conversation with Hans Ulrich Obrist, 200.
- 62 "Sarah Sze et Bruno Latour: une balade-discussion dans l'exposition 'De nuit en jour'."
- 63 Ibid.
- 64 Hal Foster, "The art of teetering," in *Sarah Sze: Timekeeper*, ed. Rose Art Museum, New York, Gregory R. Miller & Co., 2017, p.103–201, 197.
- 65 Bruno Latour, "The verifiable Image of the World?," contribution to the exhibition catalogue *Sarah Sze, De nuit en jour / Night into Day*, Paris: Publication Fondation Cartier pour l'art contemporain, 2020, here quoted from the manuscript (transl. Lucas Faugère); http://www.bruno-latour.fr/sites/default/files/165-SARAH-SZE-PARIS_GB.pdf. 2.

Bibliography

- "Introduction," in *Sarah Sze: Timekeeper*, ed. Rose Art Museum, New York, Gregory R. Miller & Co., 2017.
- "Symbiotic Earth. How Lynn Margulis rocked the boat and started a scientific revolution", documentary film by John Feldman, USA, 2017.
- Frédérique Aït-Touati, Bruno Latour, *Trilogie Terrestre: Inside suivi de Moving Earths*, Montreuil: Éditions B42, 2022. Arènes, Alexandra, Bruno Latour, Jérôme Gaillardet, "Giving depth to the surface: An exercise in the Gaigraphy of critical zones," *The Anthropocene Review* 5/2, 2018:120–135.
- Gregory Bateson, "Ecology and Flexibility in Urban Civilization [1970]," in *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*, Northvale, NJ and London: Jason Aronson 1987, 499–511.
- Laurent Berlant, *On the Inconvenience of Other People*, Durham and London, Duke University Press, 2022.
- Bruce Clark, Sébastien Dutreuil (eds.), *Writing Gaia: The Scientific Correspondence of James Lovelock and Lynn Margulis*, Cambridge, Cambridge University Press, 2022.
- Adele E. Clarke, "Introducing Making Kin not Population," in *Making Kin not Population*, ed. Adele E. Clarke and Donna Haraway, Chicago, Prickly Paradigm Press, 2018, 1–39.
- Phillippe Descola, *Beyond Nature and Culture*, Chicago and London, The University of Chicago Press, 2013 [2005].
- Mustafa Dikeç, *Space, Politics and Aesthetics*, Edinburgh, Edinburgh University Press, 2015.
- Earth System Sciences Committee NASA Advisory Council (ed.), *Earth System Science. A Program for Global Change*, Washington, NASA, 1988.
- Hal Foster, "The art of teetering," in *Sarah Sze: Timekeeper*, ed. Rose Art Museum, New York, G. R. Miller, 2017, 103–201.
- Stephen J. Gould, "Ladders and Cones," in *Hidden Histories of Science*, ed. Robert B. Silvers, New York, New York Review Books, 1995, 37–67.
- Martin Guinard, "Homage to Bruno Latour," *e-flux Journal* 131, 2022, <https://www.e-flux.com/journal/131/502967/homage-to-bruno-latour/>.
- Donna Haraway, "A Cyborg Manifesto. Science, Technology and socialist-feminism in the late-twentieth century [1985]," in *The Cybercultures Reader*, ed. David Bell and Barbara M. Kennedy London and New York, Routledge, 2001, 291–324.
- Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, Durham and London, Duke University Press, 2016.
- Reto Knutti, "Closing the Knowledge-Action Gap in Climate Change," *One Earth* 1/1, 2019, 21–23.
- Bruno Latour, "An Attempt at a 'Compositionist Manifesto,'" *New Literary History* 41, 2010, 471–490.
- Bruno Latour, "Let's touch base, in: *Reset Modernity!*," ed. Bruno Latour, Cambridge, MA and London, MIT Press, 2016, 11–23.
- Bruno Latour, "Some advantages of the notion of 'Critical Zone' for Geopolitics," *Procedia Earth and Planetary Science* 10, 2014: 3–6.
- Bruno Latour, "The verifiable Image of the World?," contribution to the exhibition catalogue *Sarah Sze, De nuit en jour / Night into Day*, Paris, Publication Fondation Cartier pour l'art contemporain, 2020; manuscript (transl. Lucas Faugère): www.bruno-latour.fr/sites/default/files/165-SARAH-SZE-PARIS_GB.pdf. 2. Latour, Bruno, "Thought Exhibitions", lecture at the Museum of Contemporary Art Zagreb, September 23, 2017; <http://modesofexistence.org/what-is-a-gedankenausstellung/#introduction>.
- Bruno Latour, Sarah Sze, artist talk "Sarah Sze et Bruno Latour: une balade-discussion dans l'exposition 'De nuit en jour' – Fondation Cartier pour l'art contemporain", Livestream October 19, 2020; archived: www.youtube.com/watch?v=JPQijl921f0.
- Bruno Latour, Timothy M. Lenton, "Extending the domain of freedom, or why Gaia is so hard to understand," *Critical Inquiry* 45/3, 2019: 659–680.
- Bruno Latour, *Down to Earth. Politics in the New Climate Regime*, Cambridge, Polity Press, 2018.
- Bruno Latour, *Face à Gaïa. Huit conférences sur le nouveau régime climatique*, Paris, La Découverte, 2015.
- Bruno Latour, interviewed by Hans Ulrich Obrist, Paris (January 9, 2016); <http://modesofexistence.org/what-is-a-gedankenausstellung/#introduction>.
- Bruno Latour, *Nous n'avons jamais été modernes. Essai d'anthropologie symétrique*, Paris, La Découverte, 1991. Latour, Bruno, *Politics of Nature. How to Bring the Sciences into Democracy*, Cambridge, MA, Harvard University Press, 2004.
- Bruno Latour, "Seven objections against landing on Earth," in: *Critical Zones. The Science and Politics of Landing on Earth*, ed. Bruno Latour and Peter Weibel, Cambridge, MA, MIT Press, 2020, 12–19.
- Lynn Margulis, *Symbiotic Planet. A New Look at Evolution*, New York, Basic Books, 1998.

Joshua Simon, "The Exhibition as Cosmogram," *Parse* 13/2, 2021, <https://parsejournal.com/article/the-exhibition-as-cosmogram/>.

Sarah Sze, in conversation with Hans Ulrich Obrist, in: *The Hero Winter Annual*, 2020, 190–203.

John Tresch, "Cosmogram," in *Cosmograms*, ed. Melik Ohanian, Jean-Christophe Royoux, New York, Lukas & Sternberg, 2005, p.67–76.

Alfred N. Whitehead, *The Concept of Nature*, Cambridge, Cambridge University Press, 1920.

Jan Zalasiewicz et al., "The technofossil record of humans," *The Anthropocene Review* 1/1, 2014, 34–43

Author Biography

Daniel Irrgang is a postdoctoral researcher (Marie Skłodowska-Curie fellow) at the Centre Art as Forum (Dept. of Arts and Cultural Studies), University of Copenhagen, and associated researcher at the Weizenbaum Institute, Berlin. His current research focusses on the concept of 'thought exhibition' (Latour/Weibel). He holds a PhD in media studies on diagrammatics and expanded mind theories and is author and editor of numerous books on the history and theory of media, culture, and the arts.