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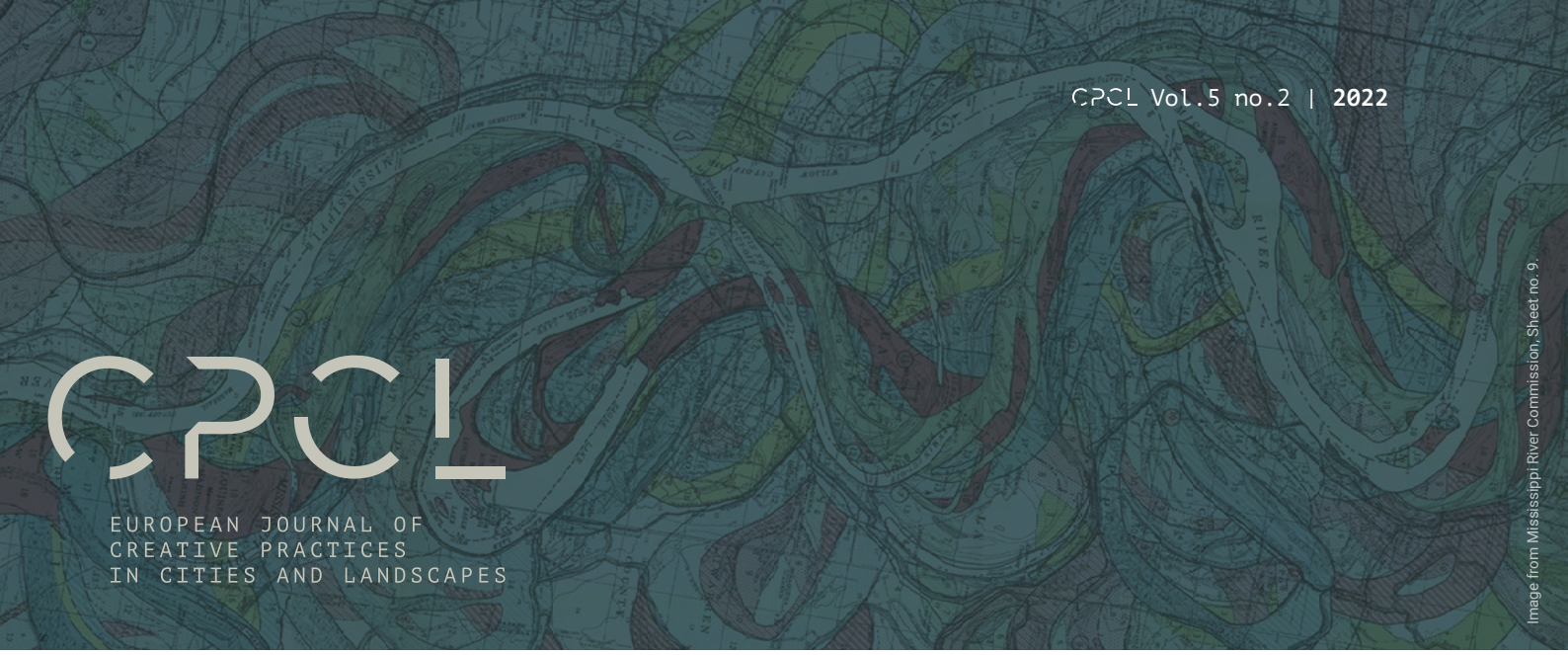

Image from Mississippi River Commission, Sheet no. 9.

MAIN SECTION

Landscape in Transition. The Agency of Time in Understanding and Designing the Landscapes of the Anthropocene

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ABSTRACT

This contribution examines the representation of landscape temporal scale as a driver for landscape design and planning, questioning the univocal relationship between human and environmental processes, both from an aesthetic and procedural point of view. The aim of controlling and measuring the physical space by representing it has progressively evolved into an attempt to narrate the dynamic, ecological and social interactions that characterize its change in order to aesthetically penetrate the reality of objects that ontologically withdraw from us. Design directions can be developed from the quantification and representation of environmental time-based processes and directed towards future-oriented landscape transformations strategies and imagery. Among these perspectives, this essay interweaves the concepts of time and space, exploring how this merging represents a prerequisite for landscape designers, and a necessary exercise for students, in order to critically address design practices within the context of landscapes in transition.

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KEYWORDS

Landscape Architecture, Landscape Representation, Time Based Drawing, Design Process

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Time as condition

We live in an era of fast change where time-scale conditions become increasingly crucial for addressing the project of landscape face to global warming and other massive phenomena arising from human agency. If we accept the definition of the Anthropocene, i.e. the fact that mankind has triggered processes so vast in time and space that human history and the earth's geology coincide, then we cannot think about the world around us without somehow posing the problem of representing this coexistence. In light of this premise, new ways of visualizing and presenting information coming from different dimensions and perspectives are needed to steer design practices toward more challenging outlooks. By referring to the vast scientific literature in this regard and especially the book edited by Marc Treib about the role of representation in landscape architecture[1] it is possible to detect a *fil-rouge* into the discipline (and around it), showing how the temporal dimension, understood as process and sequence, has progressively become indistinguishable from the spatial one with direct repercussions in the potential way of acting and designing the landscape. But it was not an easy journey.

In this regard, it is pretty interesting to note that one of the first attempts to translate the temporal sequence into landscape representation[2] by Humphry Repton was labelled by contemporaries (more so by his competitors) as an illusionist effort to deceive clients. During his career (between the late eighteenth and early nineteenth centuries), the English landscape gardener produced over 100, so-called, Red Books for most of his major commissions. A typical album contains his observations on the present state of a client's property and his recommendations on how it might be improved. Several watercolour illustrations would accompany the text, some of them furnished with hinged or sliding overlays making it possible to compare before-and-after views of the same scene [Figure 01]. At the time, Repton's technique was an innovation, so different to plans and maps produced by landscape designers before, that early became a standard for a profession that more than others has to deal with the long duration and procedural changes (of vegetation, topography, hydrology and so on). Since the very beginning of the nineteenth century, such emergence of time in representation entailed a shift from purely spatial description to the attempt to report—and understand—how phenomena act in space. In cartography, we can find multiple examples of this transition starting from the 1832 "Report on the march and the effects of the Cholera-morbus in Paris"[3] where, probably for the first time, topological

1 Marc Treib, *Representing Landscape Architecture (*New York: Taylor & Francis, 2008), XVIII.

2 Humphry Repton, *Fragments on the Theory and Practice of Landscape Gardening* (London, J. Taylor, 1816).

3 Louis-François Benoiston de Châteauneuf and Charles Picquet, *Rapport sur la marche et les effets du choléra-morbus dans Paris et les communes rurales du Département de la Seine* (Paris: Imprimerie Royal, 1834).

FIG. 1 Comparison of pre and post-landscape gardening interventions on Blenden Hall by Humphry Repton, 1816. Source: Internet Archive, San Francisco.

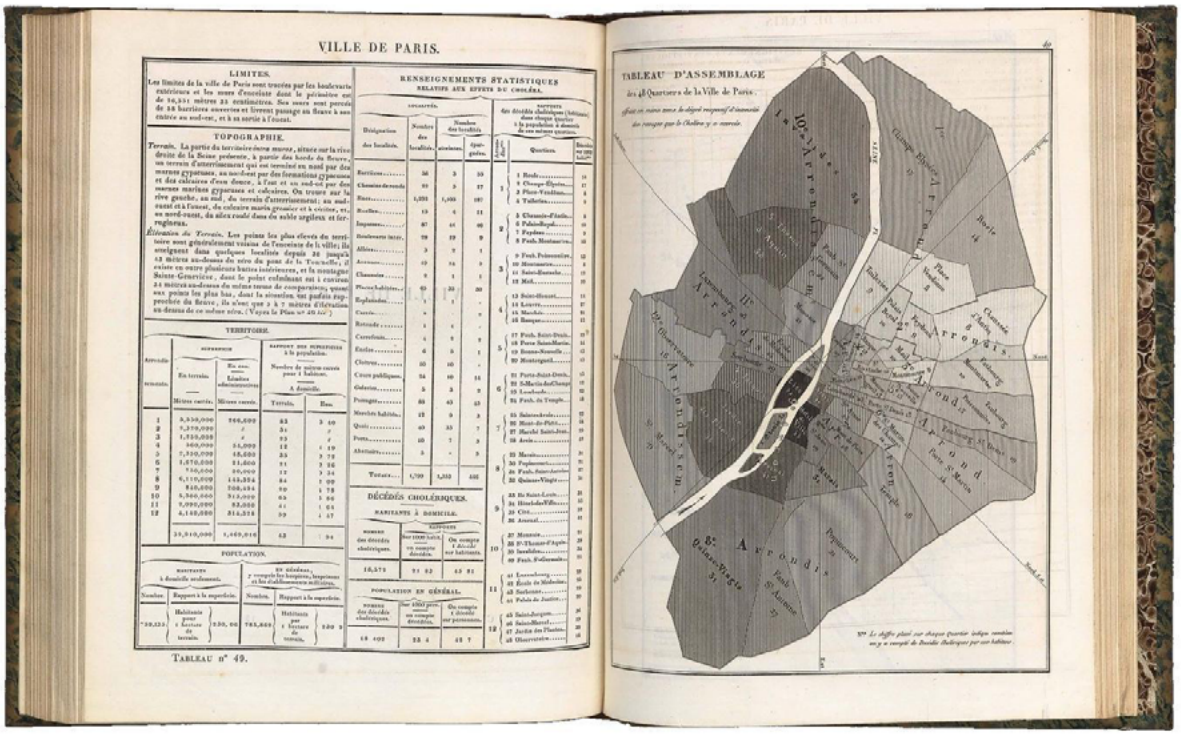

FIG. 2 The first epidemiological map regarding cholera effects in Paris by Louis-François Benoiston de Châteauneuf and Charles Picquet, July 1834. Source: Daniel Crouch rare books, London.

features and event-related data (i.e. number of deaths) were synthesized on maps **[Figure 02]**.

Within a few years, this approach evolved into the "spatial analysis" that we find applied in the fullest sense by the John Snow's notorious Ghost Map[4] of 1855. Here, representation becomes the agent for interpreting and understanding the causes of the spread of cholera in a particular London neighbourhood with a high death rate **[Figure 03]**. Starting from the hypothesis that the virus was in some way connected to the drinking water extraction pumps, Snow draws the isochronous line describing the average travel time (15 minutes) within which the houses that were supplied with it could be included and discovers a clear correlation with deaths.

In this case, the map becomes both an *ante-litteram* forensic architecture as well as proof of the *Vibrio cholerae* bacterium existence itself before it was even discovered in 1854.[5] Under an OOO[6] perspective and referring to Graham Harman's quadruple object formulation[7] **[Figure 04]**, the Ghost Map can be interpreted as an aesthetic attempt to access the object of Cholera through the space-time tensions between the object and its

4 John Snow, "On the Mode of Communication of Cholera", *Edinburgh Medical Journal* 1.7 (1856): 668.

5 Raymond Borremans, *Le grand dictionnaire encyclopédique de la Côte d'Ivoire*, tome 2 (Abidjan: Nouvelle Éditions Africaines, 1988), 32.

6 Object Oriented Ontology.

7 Graham Harman, *Guerrilla Metaphysics: Phenomenology and the Carpentry of Things* (Chicago: Open Court, 2011).

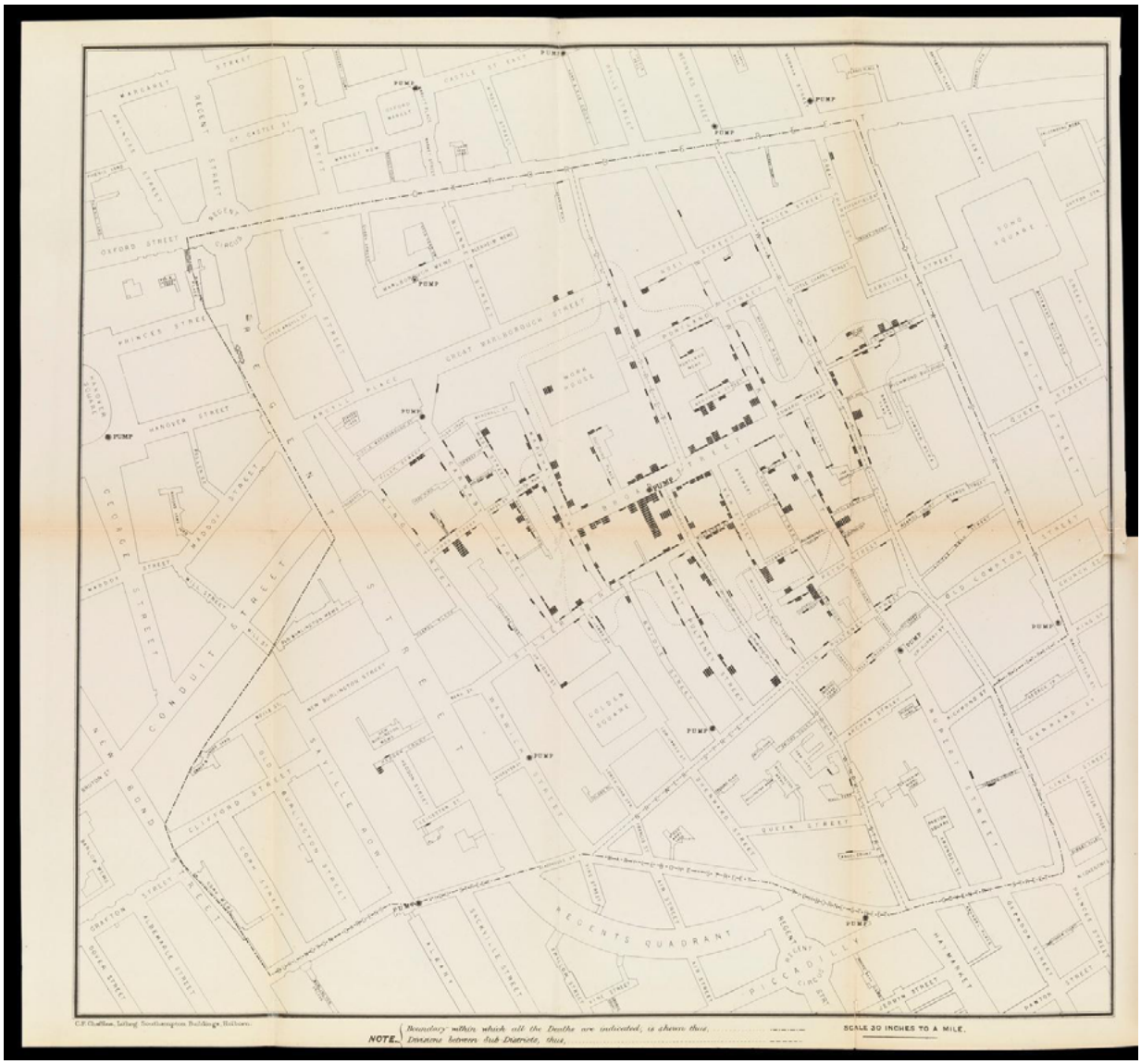

FIG. 3 Map produced by John Snow showing the correlation between cholera and drinking water distribution points along Broad Street, July 1855. Source: Wellcome Library, London.

sensual qualities even before its real qualities were even codified. But more interesting is the fact that Snow reached that result by putting human and non-human entities on the same heuristic level: the water supply network and its wells, the urban morphology that determines the habits and movements of people to fetch water, the faults in the sewerage network that caused the contamination of the water, as well as the number of the dead bodies in each house, are all equally understated in a representation that is more powerful, macabre and certainly closer to reality than the image of the bacterium seen through the lens of a microscope can be.

Grounding on such "flat ontology", the access to reality is based on the interactions between objects with no preconceived hierarchy between human beings and things. As Harman argues against correlationism,[8] if we assume this flatness we also should accept the fact that interactions

8 The OOO as Speculative Realism rejects the Kantian idea that philosophy can only speak about what human mind is able to think.

between things are just as deep, and just as limited, as the interaction between them and human thought. Entities entering into a common field of relations do not exhaust each other because any single object has always a residue of reality inaccessible to others. This condition is ultimately what makes it infinitely more interesting and fruitful to render such tensions through an aesthetic rather than materialist, constructionist or even literal approach. Since we can just allude to the object's reality, the most efficient strategy to do that is via metaphors rather than analytical explanations. And in the visual representation, there is no doubt that time is one of the ultimate metaphoric devices.

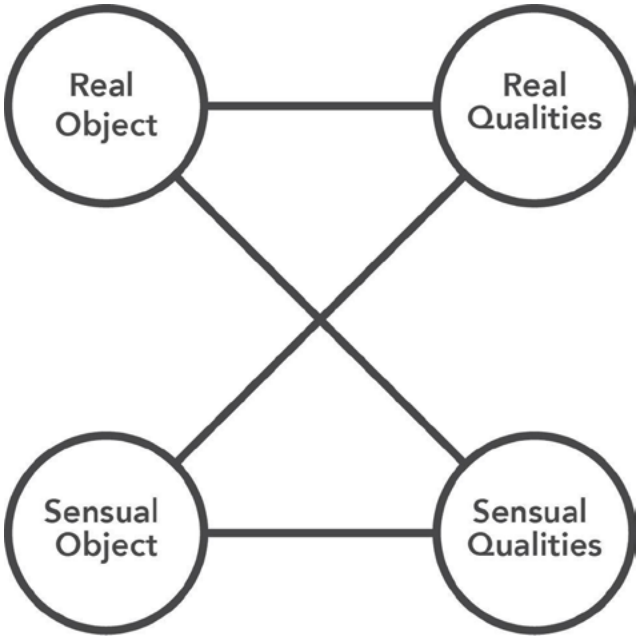

FIG. 4 The quadruple object diagram by Graham Harman, 2011.

When we look at Claude Monet's Rouen Cathedral series **[Figure 05]**, the transfiguration operated by time to the object-cathedral is not limited to an account of the progression of hours and seasons but refers to the historical dimension of an artefact whose stone, as Marcel Proust says, "[...] nature has taken back by immersing it in itself."[9] Thus, like time, the space of representation cannot be enclosed by the frame of the canvas, or limited to the dichotomy between subject and context, insomuch that into the series, as Giulio Carlo Argan points out, "the image tends to enlarge itself, to occupy the whole space of our consciousness, to go beyond it even. One feels that the facade extends beyond the limits of the painting, goes out of our field of vision: therefore, the field of vision does not coincide with the field of consciousness."[10] Monet erodes the comfortable aesthetic distance proper to Romanticism by letting the colours float free of specific forms and crowd toward the viewer and beyond the always partial framing of the building. In this way, instead of referring to the vertigo of a Romantic infinity or the reassuring otherness of an ideal nature, the artwork plunges us directly into the object, or rather, into a series of objects perturbing each other as much as they do with the material of the canvas and our interpretation.

This aesthetic breakthrough occurs not surprisingly at a moment of history, around the year 1900, when the fall of some scientific and philosophical certitudes prefigures the advent of what would later be called the Anthropocene: quantum and relativity theories question the spatial-temporal cohesion of objects, while Husserl's phenomenology shows us the limited nature of human thought incapable of grasping the dark side of entities. In spite of everything, however, the eternal theme of the Kantian

9 Gérard-Georges Lemaire, *Monet* in Art dossier, (Firenze: Giunti Editore, 1990).

10 Giulio Carlo Argan, *L'arte moderna 1770/1970* (Firenze: Sansoni, 1978).

FIG. 5 Claude Monet's last paintings depicting Rouen Cathedral, 1894 series. Source: Arteworld.

gap between phenomenon and things will remain stuck in the correlationist circle and into an anthropocentric worldview for a century to come until recently when the Speculative Realism movement began to move beyond this conception, in part because of the awareness of global warming and the very fact that, being in the Anthropocene, a genuine ecological perspective cannot treat reality as an exclusively human affair. But the temptation is always strong, and this is demonstrated by the term Anthropocene itself, which is quite self-contradictory in that it overemphasizes the human genesis of certain phenomena while it should designate the period in history when for the first time the non-human emerges and comes into decisive contact with us humans in a way that we, however, struggle to locate in space and time.

Climate change is an example of this: it does not exist as a function of our knowledge or perception, it just exists. Like other objects, it retracts, it is irreducible to a univocal scale as well as it is inexhaustible by our admittedly vast knowledge in the same way it is by the, perhaps more limited but certainly different, knowledge of a cetacean. Humankind can statistically study some of its manifestations, sensitive or relational, at the local level, but no one will ever be able to completely describe its contours or report it everywhere at the same time scale. According to

Timothy Morton's definition[11], such entities, which he calls "hyperobjects", are something deeper than processes since they occupy the multidimensional space of phases, which means they cannot be located at a single point in time or space. So, climate change, like other hyperobjects, exhibits its effects only in an "interobjective" manner; that is, it can only be detected in a space that consists of the reciprocal relationships between the aesthetic (sensible) properties of objects, whether human, artefact, animal or social constructs.

In this sense, the representation of landscape as a device for aesthetic mediation with reality can be extremely effective in alluding to entities so complex and large in space and time, even beyond the purpose and intentions of those who produce them. A very powerful demonstration of this statement can be found, for example, in the historical cartography produced by Harold Fisk in his 1944 "Geological Investigation of the Alluvial Valley of the Lower Mississippi River" that, after the two devastating floods of spring 2011, was brought to the public's attention by the media as the evidence of a lost environmental awareness about the river and its dynamics. Fisk's work was pragmatically aimed at a more efficient regimentation of the Mississippi for the protection of crops and settlements, for its navigability or for the mining of sedimentary deposits[12]. Although, as Morris[13] notes, today the study of Fisk's drawings inevitably suffers from certain ecological rhetoric which is extraneous to the original purpose of the author and his clients, the visual power of the representation, and the techniques used to capture the diachronic processuality of landscape formation, are still there anticipating one of the central challenges of the contemporary project.[14]

Precisely because we are in the Anthropocene and the idea of climate change looms large in our minds, now we can better appreciate the innovative approach Fisk used to visualize landscape evolution reconstructing the Mississippi's ever-changing routes along the 600 miles of its course and through the ages **[Figure 06]**. As described in the introduction to the technical report, the reconstruction of the development phases of the river system owes much to the aerial photographs taken after the great flood of 1927. Much of the work carried out by Fisk has consisted in interpreting and retracing the "[...] scars of abandoned channels and associated features [...] discernible from the patterns of soils, vegetation and drainage"[15].

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11 Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013).

12 Ellis L. Krinitzsky, "The Contributions of H.N. Fisk to Engineering Geology in the Lower Mississippi Valley", *Engineering Geology* 45(1) (1996).

13 Christopher Morris, "Reckoning with "the Crookedest River in the world": The Maps of Harold Norman Fisk", *The Southern Quarterly* 52(3) (2015).

14 Gianni Lobosco, "Visualising Time and Uncertainty. Harold Fisk's Mississippi River Maps", *Oase* 107 (2021).

15 Harold N. Fisk, *Geological Investigation of the Alluvial Valley of the Lower Mississippi River: US Army Corps of Engineers* (Vicksburg: Mississippi River Commission, 1944).

FIG. 6 Harold N. Fisk's geological investigation of the alluvial valley of the lower Mississippi where each colour corresponds to a different period of the river path evolution, 1944. Source: Mississippi River Commission, Sheet no. 9.

The 33 plates (in 60 sheets) that make up the study are the result of field analysis, historical cartographic sources and aerial photographs that trace, combine and synthesize in a sort of territorial palimpsest where objective data and interpretations coexist. In this methodological approach—probably for the first time in the history of landscape representation—analytical detachment and empirical engagement are mixed to achieve a deep understanding of environmental dynamics.

This multiscalar perspective does not only derive from the existence of new tools and possibilities of surveying but arises, like many other advances in cartographic practice, from a specific need for geographical control which, in this case, mainly concerns "time" and its effects on physical changes rather than on space. Although Fisk's focus was on the past,

some features of the "agency of mapping"[16] derived from his work are still valuable to be transposed into future planning and design perspectives. And this is exactly what Anuradha Mathur and Dilip da Cunha did in their visionary book "Mississippi Floods"[17] by superimposing to Fisk's maps additional layers of drawings, photos and newspaper clippings for moving the narrative about the river away from the pervasive rhetoric of disaster and risk. They investigate and criticize how the representations of the Mississippi River over time have mainly been used as ideological instruments to build an unambiguous meaning for those landscapes, ultimately framing design and management policies within a rigid and more controllable system. As a result of this mystification, the authors argue that only two ways of representing floods seem possible: as a natural disaster that should be controlled by engineering interventions, or as a cultural catastrophe that requires the displacement of human settlements. By rejecting this dichotomy, shifting the focus to the description of both the dynamic nature of the landscape and the idea that we make of it – i.e. its representation – the authors demonstrate how this process can provide fertile ground for the creation of "new imagery".

The book somehow enlarges the Corboz's notion of "palimpsest"—which describes the territory as a set of layers in which the signs of transformation are deposited, superimposed, accumulated and partially erased[18]—by rendering Morton's "interobjectivity" between a plethora of entities simultaneously presented although they seem so far. Under these premises, the future landscape is therefore configured as a necessary overwriting of existing structures in which the ways of supporting either continuity or opposition to preexisting patterns is an owed act of critical interpretation of time. The diachronic processuality of landscape formation anticipates one of the central challenges of contemporary design that also develops and progresses through representation: the ability to assimilate the temporal scale within landscape and territorial design processes.

We can find this ability, for example, in the famous map with which OMA depicts the distortion of European geography following the realization of the high-speed rail network.[19] In this case, by bending space-time, the infrastructure redefines relationships, centralities and hierarchies of the territory on a scale that escapes human perception, but which will (we have since ascertained) have a more than significant impact on the social and economic structures of the old continent. Somehow, therefore, its profound imprint on reality is no longer measurable and detectable through the filter of direct perception but is articulated on scales that resound with

16 James Corner, "The Agency of Mapping: Speculation, Critique, and Investigation" in *Mappings*, edited by D. Cosgrowe. London: Reaktion books, 1999.

17 Anuradha Mathur and Dilip Da Cunha, *Mississippi Floods: Designing a Shifting Landscape* (Yale: Yale University Press, 2001).

18 André Corboz, "The Land as Palimpsest", *Diogenes* 31.121 (1983).

19 Rem Koolhaas and Bruce Mau, *S, M, L, XL* (New York: The Monacelli press, 1995).

broader processes. As in the case of Cholera or Mississippi floods, we cannot represent the fullness of such an infrastructure in its deeper effect on reality because it exceeds local dimensions, but we can anyway grasp some of its manifestations involving time as a mapping condition.

Today, while we are into the Anthropocene, the very high definition of satellite images, the digital reconstructions of the terrain and the dynamic analyses made possible by predictive algorithms (morphological and hydrodynamic analyses, but also biological, biodynamic and ecological ones) give us the feeling that we can manage the complex stratification of spatial-temporal information. But the uncertainty implicit in the forecasts and statistical models makes us aware of the fact that the future is not an equation. So, the objective of controlling and measuring physical space through its representation has progressively evolved into an attempt to narrate the dynamic, ecological and social interactions that characterize its change. In this perspective, the analogical function of representation has replaced the purely descriptive and analytical one, projecting itself more and more towards an operative design tool. This does not imply a renunciation of the description and analysis of physical space but rather pushes the research deeper towards those characteristics of the landscape that simultaneously resume a plurality of meanings.

On this topic, the contemporary landscape architecture panorama is questioning itself to find possible answers. According to Girot, for example, the concept of "topology"[20] powerfully encapsulates different meanings and processes, expressed by the poetics of a three-dimensional points cloud that together give back the continuity and complexity of the landscape. With a quite different approach, Mathur and da Cunha use the power of representation for questioning the way social and cultural constructs have often mystified the comprehension of human-inhabited environments. For example, in the book *Soak*[21] they propose a new visualization of Mumbai's terrain for demonstrating how to move this mega-city out of the language of flood and the widely accepted trajectory of war with the sea and monsoon that this language perpetuates. With this aim, they explore the potential of topography by reconstructing through a sequence of sections an image "[…] of Mumbai not as an island periodically attacked by floods but rather as an estuary that will seasonally soak, a place where the sea and the monsoon are perceived not as invaders but as insiders."[22]

From these and other theoretical positions, as we'll see in the next section, it seems that the landscape representation has finally come to a crossroads where different conceptualization of reality risk colliding.

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20 Christophe Girot et al., *Topology. Topical Thoughts on the Contemporary Landscape* (Berlin: Jovis Verlag GmbH, 2013).

21 Anuradha Mathur and Dilip da Cunha, *Soak: Mumbai in an Estuary* (New Delhi: Rupa & Co., 2009).

22 Nicholas Pevzner and Sanjukta Sen, "Preparing Ground. An Interview with Anuradha Mathur and Dilip da Cunha", *Places Journal* (2010): on-line.

Landscape representation approaches

Even in the face of the challenges imposed by climate change and its effects, landscape design in recent decades has been radically transformed from a practice-oriented toward the perception and visual composition of outdoor space to a more ecologically oriented discipline for which an understanding of the environment, in its biotic and abiotic components, is a key element. This trend, which has its roots in the work of Ian McHrag[23], has naturally influenced the methods of land representation and investigation that have themselves become an integral part of a design approach largely inspired by the notion of landscape design as a hermeneutic practice theorized by James Corner in his two essays[24] published in Landscape Journal in 1991. Thirty years later, the then-emerging dialectic between the conception of landscape architecture as scenography or infrastructure, although from a purely theoretical point of view, now seems to have been overcome in favour of the latter (i.e. infrastructure), in practice, it remains a perfectly valid opposition when analyzing the forms of representation still used today. In this regard, as noticed by Richard Weller[25], a distinction can be done in the current types of representation assuming as a reference both the concept of "hyperreal" and the already mentioned notion of "hyperobject".

Hyperreal representations are structured as "picturesque" images (in terms of perspective and points of view) and with a certain erotic tone. They contrast vividly with the context to enhance the "greenish" sharpness of the proposed intervention. One of the characteristics of frequently used representations is that of freezing the image in the future, showing a mature intervention (think of plants usually depicted as mature, tall and lush, i.e. in a condition that takes decades to reach) without focusing on what are instead the long, lived phases of an environmental-landscape-type intervention. What the images associated with the hyperreal concept present is a suggestion of "confidence and comfort" linked to an idea of an "ecological paradise" **[Figure 07]**. The focal point is that such images mask the landscape and its processes, do not show the deeper, structural ecological and social problems of contemporary cities by playing on a totally "passive" observation. The deep-seated and widespread problem with the hyperreal is that "it is suspended between truth and fiction without exercising and enjoying the full potential of both."[26] On the other hand, representing the landscape "not as scenic but as complex

23 Ian L. McHarg, *Design with Nature* (New York: American Museum of Natural History, 1969).

24 James Corner, "A Discourse on Theory I: Sounding the Depths—Origins, Theory, and Representation", *Landscape Journal* 9 (1990). James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics", *Landscape Journal* 10 (1990).

25 Richard Weller, "The Hype of Representation: Some Thoughts on the Roles of the Hyperreal and the Hyperobject in Contemporary Landscape Architecture", *Ri-Vista* 02 (2020): 30.

26 Ibid., 32.

environmental processes"[27] is instead the theme related to hyperobject representation that proactively includes the temporal dimension and identify the human as "one actor in larger ecological and political networks wherein all species and all forms of matter have both rights and agency."[28] While it is true that this excess of reality nonetheless surpasses our perception, it is also true that today we are increasingly able, thanks to digital tools, to expand our awareness of the landscape beyond horizons and substances that were until recently obscure.

Analyzing the ecological component in its most technical and scientific part by distancing oneself from purely aesthetic positions reveals the landscape as a system in which the balance of forces is the only true impartial judge. Flows, forces, behavior, relationships. These are the factors that, in their becoming, continuously and irrepressibly shape the landscapes around us. Beginning to perceive and represent invisible but extremely present factors is a fundamental prerequisite for a critical landscape exploration. Describing both the dynamic nature of the landscape and the image we perceive of it—i.e. its representation—the time-scale representation process can provide fertile ground for the creation of new imaginary to shape new landscapes. Reasoning on J. B. Harley[29] position regarding the fact that time-space relation is a fundamental element for spatial planning and that a dynamic multiplicity of urban processes cannot be contained within a singular, fixed spatial frame, James Corner states that "projecting new urban and regional futures must derive less from a utopia of form and more from a utopia of process—how things work, interact and interrelate in space and time. Thus, the emphasis shifts from static object-space to the space-time of relational systems. And, it is here, in this complex and shifty milieu, that maps, not plans, achieve a new instrumental significance."[30] As Weller noticed, since the subject at the center of the hyperobject is the processes of change, it is necessary to incorporate the dimension of time within landscape imagery. Engaging with the aesthetics of time in itself is difficult enough, but the more "important challenge is not only to illustrate change but to show how certain forms of human intervention (design) can affect, redirect, accelerate or slow down change."[31] In other words, the challenge of working with hyperobjects is not to indulge in what we might today call a contemporary sublime dictated by the aesthetics of the Anthropocene, but to insert ourselves with greater precision and critical sense into the environmental processes (and not only) that shape the landscape with the aim of understanding and redirecting them towards coherent and sustainable design practices.

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27 Ibid., 30.

28 Ibid., 34.

29 J. Brian Harley, "Maps, Knowledge, and Power.", in *Geographic Thought: a Praxis Perspective*, edited by G. Henderson and M. Waterstone. New York: Routledge, 2009).

30 James Corner, "The Agency of Mapping", 228.

31 Richard Weller, "The Hype of Representation", 35.

FIG. 7 Photo-realistic image by landscape architect Grant Associates for a new urban park in northern China, 2017. Source: Grant Associates, Bath.

Mapping the future

As Deleuze and Guattari said, "Make a map not a tracing! What distinguishes the map from the tracing is that it is entirely oriented toward experimentation in contact with the real. The map does not reproduce an unconscious closed in upon itself; it constructs the unconscious. It fosters connections between fields, the removal of blockages on bodies without organs, the maximum opening of bodies without organs onto a plane of consistency […]. The map has to do with performance, whereas the tracing always involves an 'alleged competence.'"[32] To represent an object is therefore to approach its understanding. In such perspective especially in the case of landscape architecture, wishing to be far removed from mere picturesque rhetoric, the temporal scale must be given as much importance as the spatial one with the objective of clearly and specifically identifying all the factors that could potentially affect the object and or be the subject of a project. In this sense, perhaps one of the greatest contributions of landscape architecture to the way contemporary design challenges are conceived and addressed lies precisely in the acceptance of uncertainty. Concerning representation, this translates into the concept of accuracy which recalls a strategic attitude to selective precision: conscious or unconscious omissions and the coexistence of potential alternative paths become essential characteristics of a resilient design process. This does not imply a renunciation of the description and analysis of physical space but pushes the research deeper into those features of the landscape that simultaneously take up a plurality of meanings.

Focusing on the uncertainty and intertwining of the concepts of precision and stratification, we worked with fifth-year students from the Department

32 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. and foreword by Brian Massumi (Minneapolis: University of Minnesota Press, 1987): 12.

of Architecture in Ferrara as part of the Final Master Thesis Studio on a workshop about the representation of landscape transformations over long-term time horizons. The exercise we proposed is designed to develop an effective method of representing the landscape by confronting dimensional and temporal scales such as to stimulate critical reasoning on the transformative processes that may affect a given environmental context. The work was carried out in three phases corresponding to as many plates they had to draw:

1 / Current scenario. Based on the available information, an initial drawing describing the current condition of the chosen landscape had to be done. In particular, notable and recurring landscape elements were depicted, such as topography, vegetation system, hydrogeology, anthropogenic components and so on. The location was left to the free choice of each student.

2 / Transformation processes. Concerning the context described in phase 1, the possible effects that phenomena, events or dynamics (water levels, drought, hydrogeological instability, abandonment of agricultural areas, development of infrastructure, deforestation, etc.) could potentially have on the landscape are identified and represented to project its possible transformation.

3 / 100-year scenario. The third phase consisted in redesigning the landscape analyzed, according to the same rules used for the current one, but projected over a 100-year time horizon. The permanence or transformation of the anthropic and environmental systems is decided according to the previously hypothesized processes. This new landscape balance was matched by a coherent spatial articulation of the elements described in phase 1.

Besides this assignment, a few more contents were given, concerning for example the use of colours and, in particular, the fact that each phase had to be drawn in a plan to a scale of 1:5000, no matter what location they chose to investigate. Such a relatively restricted viewport on the landscape should have emphasized, or not, the correlation between some transformative dynamics and their field of influence. In other words, the work aimed to explore how the relationship between a given period and a given dimensional scale interfered with the representation of the landscape and its understanding. Asking the students to limit the map to a certain framing has been a way to encourage them to think outside the box (and the boundaries of representation) for finding larger phenomena that may affect the transition of the physical space; which is, in the end, the very challenge that any landscape project should address in our times.

The results extrapolated from the exercise were very heterogeneous so that some areas examined seemed not to significantly change while others showed major variations. By way of example, we will briefly compare hereafter two works that highlight, in slightly different geographic contexts, the impacts of time [Figure 8].

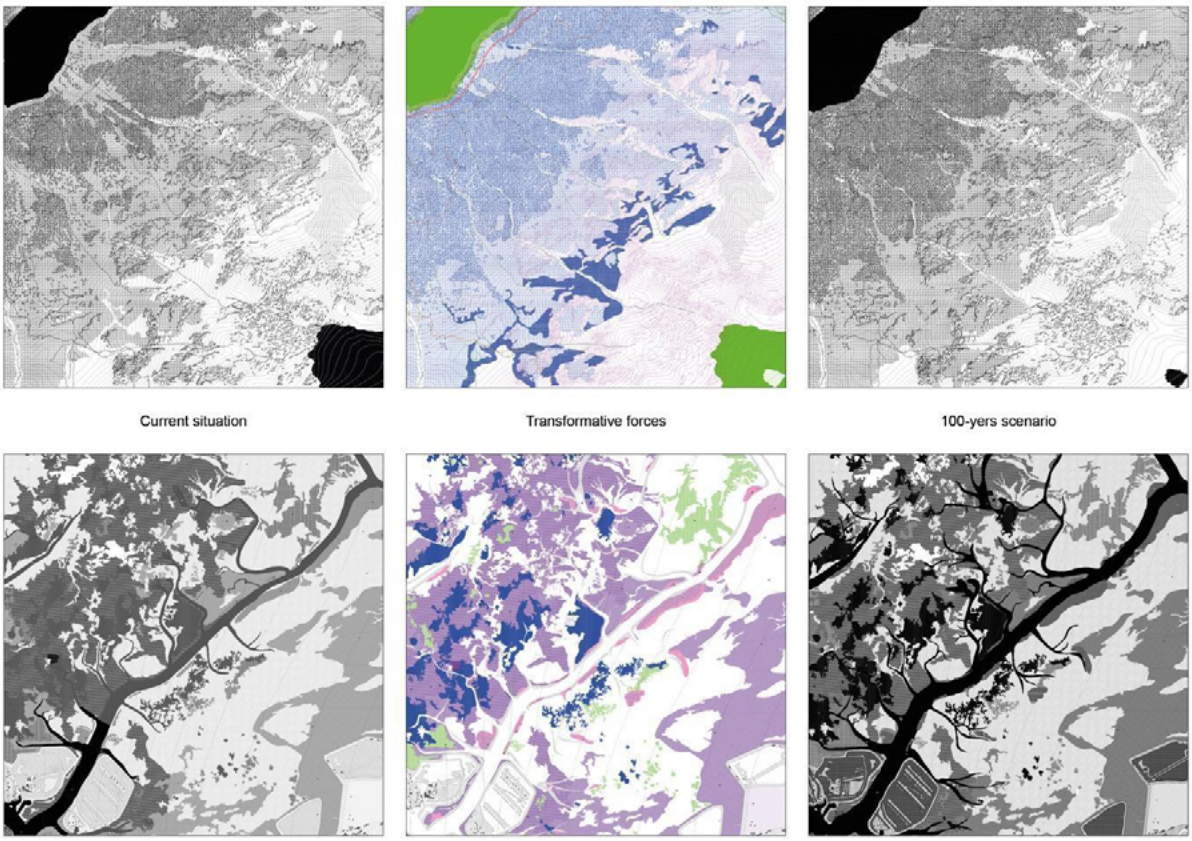

FIG. 8 Two examples of the maps produced by students of the Final Master Studio at the Architecture Department of Ferrara. Above, the hypothetical 100-years evolution of the Gioveretto Glacier in the province of Bolzano, Italy (elaborated by Gianluca Sartin); below, the analogous period investigated for an area in the Grado Lagoon in Friuli-Venezia Giulia, Italy (elaborated by Yasmine Nouira).

The first case study focuses on the landscape between Lake Gioveretto and the glacier of the same name that currently extends to just below Rabbi's Peak in the province of Bolzano, Italy, at an elevation of about 3250 meters. The study of climate trends related to rising average temperatures has made it possible to estimate the actual retreat of the glacier within a century. This phenomenon is accompanied by a whole series of impacts on the hydrological and vegetation structure that will lead to a drastic change in the landscape. These include the likely rise in the mean lake level downstream of the glacier and the consequent need to relocate part of the road infrastructure bordering it. This will be accompanied by a gradual expansion of coniferous forests at higher elevations and simultaneously the extension of pioneer vegetation into areas that currently lack them.

The effects of sea level rise within the Grado Lagoon in Friuli-Venezia Giulia were addressed using the same methodology. This second case study examined an eastern quadrant of this ecosystem currently characterized by the coexistence of different biotopes (salt marshes, mudflats, etc.) whose variety is closely related to the position of soils concerning tidal levels. In the elaboration of the 100-year projection, a heavy anthropogenic intervention—consistent with the current directions of lagoon landscape conservation—was assumed to compensate for the rise of the

mid-sea through backfilling operations of the excavated material from the navigable canals, guaranteeing as much as possible the permanence of the wet, semi-wet areas and their related habitats. In this case, the future scenario is nothing more than a sweetened, and equally artificial, version of the current one: visible only through a representation that shows what is happening below the surface of the water, but which otherwise would not be clearly perceptible by a hypothetical observer on the field.

Looking at these examples, it is quite clear that is only by the means of representations that baulk at man's intrinsic perception that we are able to grasp the already mentioned hyperobjects or, at least, realize what changes they might produce on a certain landscape. Only by taking a critical-descriptive approach we can channel this information and project it towards concrete and coherent scenarios that go beyond a postcard image of reality. Far from being a purely speculative exercise, approaching the landscape through the representation of its ongoing and future dynamics is essential for approaching design and planning much more aware of the forces that, blending together, shape the environment in which we live.

Time as agent

What finally emerges from the reported experiences is the research (by drawing) of a "transversal" reading of space and time that even current technologies and digital cartographic representations, although ultra-precise and at a very high definition, obviously cannot yet entirely depict. As we have tried to demonstrate by synthetically retracing some of the most important stages in landscape representation, the aim of controlling and measuring the physical space has progressively evolved into an attempt to narrate the dynamic, ecological and social interactions that characterize its change. In this perspective, the analogical function of representation has replaced the purely descriptive and analytical one in order to aesthetically penetrate the reality of objects that ontologically withdraw from us. Although, some idealistic forms of representation (like the "hyperreal" ones) still persist and permeate the media, new approaches are rising for questioning the "very large finitude"[33] of the hyperobjects featuring the Anthropocene.

Among these certainly the use of artificial intelligence programs to generate images based on textual (and other) inputs is the phenomenon that has been attracting the most interest in recent times both in the media and the international scientific community. In particular, since the release on July 12, 2022, of the open-beta version of the *Midjourney* algorithm, application experiences of this technology have proliferated in a very short

33 Timothy Morton, *Hyperobjects*.

time from the field of digital art to architecture.[34] As we write, the debate between those who are against or in favor seems to trace the same dualism between "apocalyptic and integrated" already analyzed by Umberto Eco[35] in his 1964 essay on the relationship of intellectuals with the mass media. Beyond the internal contradictions of both positions, what we are interested in emphasizing on the subject are some aspects that may have strong repercussions in the future even in the ways of landscape representation and production.

It is now well known that one of the key issues related to artificial intelligence in its various uses is the so-called "algorithmic bias" that is, the tendency of the digital mind to systematically repeat the same choice—which may turn out to be discriminating or limiting—on the basis of the programming inputs or datasets from which it extracts information to generate its outputs. Simply put, the algorithm is not neutral in that the spectrum of information from which it draws or the logical procedures it adopts are preordained by a group of persons whose ethical, social, aesthetic, and cultural orientation indirectly affects the system.

That said, it is quite evident how even in transposing a user-submitted prompt into images, the artificial intelligence is tapping into a figurative universe that, while vast, is still structured on predetermined linguistic archetypes, rules, priorities and associations. *Midjourney*'s operation, however, is slightly more sophisticated in that, relying on the social platform (not surprisingly) for video gamers "Discord", it nourishes itself on the interaction and feedback provided by users to refine its performance according to the classic procedure of "machine learning". Somehow, then, the algorithm's response to the individual's commands is also the fruit of the imagination of a community that shares in writing the rules of the game. But it is precisely this playful aspect, with its arbitrary and sometimes frustrating limitations, that constitutes the most interesting side of the tool and makes it a means of representation (despite appearances) closer to the field of hyperobjects than to the one of hyperreality as defined by Weller.

As Ian Bogost—another of the philosophers ascribable to OOO—explains well in his latest book *Play Anything*[36], the ethics of play, by forcing us "[...] to consider things as they are, rather than as we want them to be,"[37] frees the subject from his self-referential isolation to immerse him in the world with its limitations. In clear contrast to modern thought that places the concept of freedom (even creative freedom) on a human subject alienated

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34 Matias del Campo and Neil Leach (Eds.), *Machine Hallucinations: Architecture and Artificial Intelligence* (New York: John Wiley & Sons, 2022).

35 Umberto Eco, *Apocalittici e integrati: comunicazioni di massa e teorie della cultura di massa* (Milano: Bompiani, 1964).

36 Ian Bogost, *Play Anything: The Pleasure of Limits, the Uses of Boredom, and the Secret of Games* (New York: Basic Books, 2016)

37 Ibid., 14.

FIG. 9 Three examples of the Midjourney's response to same prompt ("/imagine: a meandering river with branches in the landscape, meanders, morning light, bird-eye view, ultra realistic, detailed, 8k --upbeta --testp"), tested about a month apart. Source: Gianni Lobosco, through Midjourney's artificial intelligence.

and separated from the world (think of the historical artistic avant-gardes), Bogost instead locates this freedom in the inherent potential of the constraints determined by the very objects (human and non-human) that surround him. After all, accepting the constraints of a situation and trying to do something new within them is something that anyone involved in design experiences daily and knows to be far more fruitful than being faced with a blank canvas.

In this sense, the representations generated through artificial intelligence have that something that paradoxically brings them closer to the real than the virtual because even before they exist in that given form that progressively appears to us on the screen they are already present among the meshes, constraints and layering of messages that inform the algorithm. In the same way as hyperobjects, such images can be viewed as partially opaque entities that contain others: momentary manifestations of a collective aesthetic process that continues to work over time. The image that springs from a given prompt at a given moment will not be the same a few days later because in the meantime the rules and the language from which they come have evolved **[Figure 9]**. The interaction of textual input with these variables takes each time the form of *mise-en-scène* in which the director, the acting company, and even the audience's tastes are no longer the same. While this uncertainty is understandably destabilizing, it also prefigures, in a still embryonic way, a novel approach to the construction—co-creative and dynamic—of images, concepts and mental associations.

If, as the history of art and societies teaches us, there is no landscape without representation, then the landscape of the future will also pass through these kinds of "rendering machines" that we should not ignore precisely because of their increasing pervasiveness and manifest imperfections.

FIG. 10 "Ammassalik" wooden maps of the East Greenland coast. Source: Robert Petersen, "East Greenland before 1950", 624.

Our creative, and therefore ethical, engagement certainly requires us to be increasingly militant even in these hitherto little-explored fields precisely because they can affect that "social imaginary" which will be as valid for the Anthropocene as it has been for past eras.

In 1885, the Danish explorer Gustav Holm brought back from Greenland some wooden artefacts received from an Inuit hunter native of Ammassalik. These objects **[Figure 10]**, known as "Ammassalik maps", seemed to give a fairly precise three-dimensional representation of the fjords that characterize large portions of the Inuit coast. According to a western-centrist vision, these easily portable, floating and recognizable-by-touch objects were soon interpreted by anthropologists as very functional maps to be used for orientation during overnight seal hunting.

The most recent studies based on Holm's testimonies, attribute instead to these artefacts a social, almost ritualistic function: they are story-telling and theatrical[38] devices. In the context of our discourse, such an anecdote tells two things. The first one is that, like in Inuit tradition, the act of

38 Graham Harman, *Object-Oriented Ontology: A New Theory of Everything*. (London: Penguin Book, 2018).

making a map is frequently as much important as the finished map itself.[39] Moreover, the true essence of the map lies not elsewhere, not in its causes or effects,[40] but actually in the object-map itself which, shining with its sensual qualities, enables the creation of new metaphors for the world.

In a very similar way, in the contemporary design culture, the production and reproduction of the landscape need to be increasingly configured as an imaginative act aimed at establishing a field of comparison, a horizon of meaning from which to develop multiple narratives for the future. The project is thus identified as a field of possibilities related to interdependent—and in any case variable—environmental (vegetal, geological and morphological) patterns, rather than as a univocal response to specific needs. Instilling a critical awareness of the dynamism linked to the intrinsic processes of the landscape means taking on the burden of a fundamental step to design it. Therefore, it is important to incorporate the "agency of time" in representation, addressing those environmental, social and cultural forces we have tried to summarize in the image of "landscapes in transition".

39 Robert A. Rundstrom, "A Cultural Interpretation of Inuit Map Accuracy", *Geographical Review* (1990).

40 Here we refer to the concept of the irreducibility of objects to their properties (undermining) or to their actions (overmining), extensively analyzed by Graham Harman in all his writings on the *Object Oriented Ontology*.

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References

Argan, Giulio Carlo. *L'arte moderna 1770/1970*. Firenze: Sansoni, 1978.

Bogost, Ian. *Play Anything: The Pleasure of Limits, the Uses of Boredom*, and the Secret of Games. New York: Basic Books, 2016.

Borremans, Raymond. *Le grand dictionnaire encyclopédique de la Côte d'Ivoire*, Tome 2. Abidjan: Nouvelles Éditions Africaines, 1988.

Châteauneuf, Louis-François Benoiston and Picquet, Charles. *Rapport sur la marche et les effets du choléra-morbus dans Paris et les communes rurales du Département de la Seine*. Paris: Imprimerie Royal, 1834.

Corboz, André. "The Land as Palimpsest", *Diogenes* 31.121 (1983): 12-34. https://doi.org/10.1177/039219218303112102

Corner, James. "A Discourse on Theory I: Sounding the Depths - Origins, Theory, and Representation", *Landscape Journal* 9 (1990): 61–78. https://doi.org/10.3368/lj.9.2.61

———. "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics", *Landscape Journal* 10 (1990): 115-133. https://doi.org/10.3368/lj.10.2.115

———. "The Agency of Mapping: Speculation, Critique and Invention", in *Mappings*, ed. Denis Cosgrove (London: Reaktion Books, 1999), 213-252.

del Campo, Matias and Leach, Neil (Eds.). *Machine Hallucinations: Architecture and Artificial Intelligence*. New York: John Wiley & Sons, 2022.

Deleuze, Gilles and Guattari, Félix. A *Thousand Plateaus: Capitalism and Schizophrenia*. Translated by Brian Massumi. Minneapolis: University of Minnesota Press, 1987.

Eco, Umberto. *Apocalittici e integrati: comunicazioni di massa e teorie della cultura di massa*. Milano: Bompiani, 1964.

Fisk, Harold N. *Geological Investigation of the Alluvial Valley of the Lower Mississippi River: US Army Corps of Engineers*. Vicksburg: Mississippi River Commission, 1944.

Girot, Christophe et al., Topology. *Topical Thoughts on the Contemporary Landscape*. Berlin: Jovis Verlag GmbH, 2013.

J. Brian Harley, "Maps, knowledge, and power.", in *Geographic thought: a praxis perspective*, eds. G. Henderson and M. Waterstone (New York: Routledge, 2009), 129-148.

Harman, Graham. *Object-Oriented Ontology: A New Theory of Everything*. London: Penguin Book, 2018. https://doi.org/10.1093/acrefore/9780190201098.013.997

———. *Guerrilla Metaphysics: Phenomenology and the Carpentry of Things*. Chicago: Open Court, 2011.

Koolhaas, Rem and Mau, Bruce. *S, M, L, XL*. New York: The Monacelli press, 1995.

Krinitzsky, Ellis L. "The Contributions of H.N. Fisk to Engineering Geology in the Lower Mississippi Valley". *Engineering Geology* 45(1) (1996): 45–58. https://doi.org/10.1016/S0013-7952(96)00006-3

Lemaire, Gérard-Georges. *Monet*, in Art dossier. Firenze: Giunti Editore, 1990.

Lobosco, Gianni. "Visualising Time and Uncertainty. Harold Fisk's Mississippi River Maps". *Oase* 107 (2021): 114-116.

Mathur, Anuradha and Da Cunha, Dilip. *Mississippi Floods: Designing a Shifting Landscape*. Yale: Yale University Press, 2001.

———. Soak: *Mumbai in an Estuary*. New Delhi: Rupa & Co., 2009.

Morris, Christopher. "Reckoning with "the Crookedest River in the world": The Maps of Harold Norman Fisk", *The Southern Quarterly* 52(3) (2015): 30–44.

Morton, Timothy. *Hyperobjects: Philosophy and Ecology after the End of the World*. Minneapolis: University of Minnesota Press, 2013.

Petersen, Robert. "East Greenland before 1950", in *Handbook of North American Indians*, Vol. 5: Arctic, ed. D. Damas (Washington, DC: Smithsonian Institution Press, 1984), 622–639.

Pevzner, Nicholas and Sen, Sanjukta. "Preparing Ground. An Interview with Anuradha Mathur and Dilip da Cunha". *Places Journal* (2010). https://doi.org/10.22269/100629

Rundstrom, Robert A. "A Cultural Interpretation of Inuit Map Accuracy", *Geographical Review* (1990): 155-168. https://doi.org/10.2307/215479

Repton, Humphry. *Fragments on the Theory and Practice of Landscape Gardening*. London: J. Taylor, 1816

Snow, John. "On the Mode of Communication of Cholera", *Edinburgh Medical Journal* 1.7 (1856): 668.

Treib, Marc. *Representing Landscape Architecture*. New York: Taylor & Francis, 2008. https://doi.org/10.4324/9780203412817

Weller, Richard. "The Hype of Representation: Some Thoughts on the Roles of the Hyperreal and the Hyperobject in Contemporary Landscape Architecture", *Ri-Vista* (2020): 30-39.