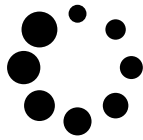


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Mutual Transformations: Unstable Relations between VR-Works, Environments and Exhibitions

by Annette Urban VR-art

Environmental immersion

Epistemic

Objects installation art

De-distancing/de-differentiation

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Mutual Transformations: Unstable Relations between VR-Works, Environments and Exhibitions



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Abstract

In contemporary understanding, a now normalized immersion continues to be associated with digitality and high-tech apparatuses, but is also seen as diffused into the lifeworld. Against this backdrop, the article focuses on two current artworks that extend the internal environmentality inherent in VR as a spatialized image into physical space by using strategies from installation and site-related art. These examples provide for an equation and nesting of work, environment and exhibition that is interpreted here as a potentiated environmentalization. The artistic VR-environments by no means negate their rootedness in imagery, but rather self-reflexively reveal the transitions between image and three-dimensionality, what gives them a special epistemic valence. It thus seems worthwhile to relate them to considerations of knowledge objects and exhibitions, but also to (queer) phenomenological theories of entanglement and becoming originating from the following of lines.

Meanwhile, the epistemic value of their latent objects, disoriented paths, and impossible spaces is only revealed in the interaction with and embodied experience of the virtual space. The article thus participates in debates on how bodily immersion does not exclude, but enables action and reflection within aesthetic experience. With regard to two fundamental paradigms of immersion, it can show how, for this purpose, the artworks turn anew the strategies of de-distancing and de-differentiation.

Keywords [VR-art](#) [Environmental immersion](#) [Epistemic](#)
[Objects installation art](#) [De-distancing/de-differentiation](#)

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De-Distancing and De-Differentiation: Contemporary Aesthetics of Immersion

Immersion is again attracting much attention. Film and media studies, art history, image sciences and narratology have all long participated in its theorization. More recently, theatre, performance and game studies, architectural theory and the history of knowledge¹ have joined in, taking into account a whole range of everyday digital technologies and thus deferring questions of image aesthetics and image technology in favor of investigating body/media/environment relationships. Whereas some theoretical contributions highlight the immersive aspects of a specific medium, there is also a broad tendency to deal with immersion as a prime symptom of today's image cultures and media ecologies what is evidenced by collective terms such as immersive media,² environmental images and iconoscapes. To speak more generally of immersive media deliberately goes beyond media-technical foundations of the concept by arguing with transmedial relevant operations. These are already rooted in narratology, where the opening up and simultaneous closing of a fictional world is accomplished cognitively-mentally: Perceptual immersion is therefore seen to be necessarily complemented by imaginative immersion,³ which only ensures that the sensory stimuli of a medium are translated into a virtual world.⁴ After the debate has been strongly linked to Virtual Reality since the 1990s, immersion continues to be considered under the premises of digital technologies, but at the same time is also discussed as nowadays' *conditio humana* and condition of daily life. Lars C. Grabbe has proposed a new

1 Cfr. D. Kasprowicz, *Der Körper auf Tauchstation: Zu einer Wissensgeschichte der Immersion* (Baden Baden: Nomos, 2019). For Kasprowicz, the immersion concept can be retrieved from the "maelstrom of negative connotations as illusion and absorption" by being understood as a "media anthropological practice of de- and re-differentiation of the body [Körper und Leib] in mediatized environments." Ibid.: 14.

2 Cfr., among others, the Yearbook of *Immersive Media* 2011-2017, ed. by Institute for Immersive Media at Kiel University of Applied Sciences.

3 Cfr. D. Kasprowicz, *Der Körper auf Tauchstation*: 18, with reference to Marie-Laure Ryan.

4 Cfr. T. Hochscherf, H. Kjær, P. Rupert-Kruse, "Phänomene und Medien der Immersion," in *Jahrbuch immersiver Medien* 3 (2011): 9-19, 14, with reference to Matthew Lombard/Theresa Ditton.

cultural-theoretical figure of the *homo immergens* which he considers to be the equivalent of a culture of media hybrids: In succession or better combination of the human capacities for symbol formation and image production, the *homo immergens* has become the creator of its own “multimodal and simulative environments”⁵ whereby the distance to the medial artifact is reduced and a worldly experience is generated.

Thus, recent insights of immersion research owe much to theorizing across media, on the basis of media hybridity, as well as to inputs from other branches of scholarship. Within these multi-faceted approaches two key features emerge that I propose to summarize as a reduction of distance responsible for felt presence and as a reduction of difference. These two aspects cover both, the particular attitude of reception, which has been characterized as a way of submerging, of mental absorption, and bodily-emotional involvement, as well as the various forms of transformative exchange or even assimilation that occur between the recipient and the object of contemplation – to put it in the classical dichotomy of aesthetic experience. Meanwhile, the principles of de-distancing and de-differentiation unfold in numerous ways. They involve more-than-visual, bodily modes of experience, that can be interpreted as a re-centering of the world and the subject, but also as new forms of empathy and encounter. The latter may culminate in ideas of matter-flow inspired by Deleuze/Guattari and of leaving behind all subject-object dichotomies, which some suppose to be still at work in the quasi-objects of the philosophy of science.⁶ Or they remain – as with Grabbe’s term of *representational convergence* referring to the convergence of exterior and mental representations⁷ – closer to the realm of images whose unframing gives the beholder

5 L. C. Grabbe, “Homo Immergens: Immersion as a Parameter for a Media and Cultural Theory of Medial Hybridity,” in J. Bracker, A. Hubrich, eds., *The Art of Reception* (Newcastle: Cambridge Scholars Publishing, 2021): 400-422, 400.

6 Cfr. T. Ingold, “Drawing Together: Materials, Gestures, Lines,” in T. Otto, N. Bubandt, eds., *Experiments in Holism: Theory and Practice in Contemporary Anthropology* (Chichester: Wiley-Blackwell, 2010): 299-313, 304-305.

7 Cfr. L. C. Grabbe, “Homo Immergens:” 400.

the feeling of being surrounded by them. This perspective on artificially spatialized images⁸ invites to focus on the transitions between images and illusionistic 3D-entities, and to a closer examination of the environmentalization inherent in it.

In the widely ramified discourse on environmentality, the art historical point of view still seems under-represented as far as the obvious link with the so-called *Ausstieg aus dem Bild*, with installation and site-related art is concerned. They equally mark a significant reference point for spatialization and meanwhile break down the status of art as distinct, object-like work. Instead, the art historical interrogation of environmentality has recently been deepened in reference back to screen media and the paradigm of projection: In her comprehensive study, Giuliana Bruno has illuminatingly interpreted the spatiality established by light projection in terms of materially transformative processes, transductive conversions of energy and the histories of energetic environments. But while she emphasizes the ambulatory “non-linear movement in forms of transduction”⁹ and explicitly investigates inhabitable spaces of immersion, with her focus on the act of projection, however, environmentality remains tied back to a transitive gesture of transmission and transport.¹⁰ In a broader disciplinary context, its exploration ranges from the new non-visual environments established by sensor technologies, from biologically, autopoietically or systems-theoretically conceptualized relations between an organism/a system and its *Umwelt*, to the environmental concerns of new materialism, anthropology and queer phenomenology, rewriting the Heideggerian irreducible world reference of the embodied self. Sara Ahmed’s approach is of particular interest here because it takes up the “bodily inhabitation of [...] space”¹¹

8 Cfr. J. Schröter, “Die Ästhetik der virtuellen Welt: Überlegungen mit Niklas Luhmann und Jeffrey Shaw,” in M. Bogen, R. Kuck, J. Schröter, eds., *Virtuelle Welten als Basistechnologie für Kunst und Kultur? Eine Bestandsaufnahme* (Bielefeld: transcript-Verlag, 2015): 25-36.

9 G. Bruno, *Atmospheres of Projection: Environmentality in Art and Screen Media* (Chicago-London: Chicago University Press, 2021): 109. See also *ibid.*: 111-112.

10 *Ibid.*: 2.

11 S. Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham: Duke University Press, 2006): 6.

as a basic parameter of orientation, but in doing so opens up Heidegger's familiarity with the world to other directions and objects that were not always already at hand. Similarly, in Tim Ingold's anthropology, "joining with the togetherness of life"¹² as drawn lines serves a better understanding of the particular environmentality of the lifeworld. In the following, I propose to combine art historical thinking about site-related installation aesthetics with phenomenological and epistemological perspectives. They promise an understanding of bodily extension into space as an orientedness towards objects as well as towards others and simultaneously take account of an unstable objecthood. This offers an alternative way out of problematic dualistic premises that so far often separate art historical genealogies of immersion and debates on aesthetic experience from knowledge-historical considerations that see subject-object dichotomies undermined precisely by immersed bodies and their negotiation of environmental relations.¹³

As I want to show by analyzing two examples by Theodoulos Polyviou and Rosa Menkman, the de-differentiation between the work, its spatial surroundings and, by consequence, the exhibition display, is in particular renegotiated in recent VR-art. Its often closed imaginary worlds do not only present themselves as spatialized images, but simultaneously as an assemblage of things in space that reinforce the connection to installation art and display issues. As Christiane Paul remarked in 2003, VR does not only allow for the "full [...] immers[ion of] its users in a three-dimensional world generated by a computer" but also for "an interaction with the virtual objects that comprise that world."¹⁴ While the immersive environment thus means the withdrawal of the artwork as a singular (pictorial) object and counterpart of aesthetic experience, it simultaneously results in a multiplication of spatially arranged objects to which the visitor relates in an interactive, cognitive and – we might add – environmental or even (life) worldly way. This

12 T. Ingold, "Drawing together:" 303. See also *ibid.*: 301-304.

13 Cfr. D. Kasprovicz, *Der Körper auf Tauchstation*: 22, 24, 30.

14 C. Paul, *Digital Art* (London: Thames and Hudson, 2003): 125.

ultimately leads to a multiplied nesting of work, environment and exhibition whose institutional and infrastructural conditions I will briefly consider at the end.

Normalized Immersion and the Epistemics of Virtual Objects and Spatialities

The recent VR-artworks of Polyviou and Menkman have been chosen for this study because, to some extent, they reinvest in immersive high-tech media arrangements similar to those of the 1990s and early 2000s. Cyprus-born artist Theodoulos Polyviou resorts to calculated 3D environments that reproduce existing spaces with architectural precision and make them individually explorable via head-mounted display (HMD) as well as on the desktop. Dutch artist and theorist Rosa Menkman uses the online walk-through spaces of the newart.city.org platform to host a collection of im/possible images in a specially designed artificial environment. At the same time, the two artists share the impulse to re-embed the virtual into a physical environment. Polyviou works with an elaborate recalibration of the virtual to the physical exhibition space, and Menkman reintegrates the interactive experience of the website into an exhibition design she creates, which in its own way restructures the physical space. This shared concern with relocalization hints at a contemporary understanding of immersion that does not privilege computer-generated simulated worlds. Doris Kolesch has summarized it as “an increasingly everyday interaction not only with digital media, but also and above all, with designed spaces and spaces of experience.”¹⁵ Indeed, this now normal immersive condition is also elaborated in terms of architectural and urban spaces that are in negotiation with images.¹⁶ However,

15 D. Kolesch, “Ästhetik der Immersion,” in G. W. Bertram, S. Deines, D. M. Feige, eds., *Die Kunst und die Künste: Ein Kompendium zur Kunsttheorie der Gegenwart* (Berlin: Suhrkamp, 2021): 422-441, 422 [my translation].

16 Cfr. L. Bieger, “Ästhetik der Immersion. Wenn Räume wollen. Immersives Erleben als Raumerleben,” in G. Lehnert, ed., *Raum und Gefühl. Der Spatial Turn und die neue Emotionsforschung* (Bielefeld: transcript-Verlag 2011): 75-95.

“immersion as factual state description,”¹⁷ may primarily end in a *World without Us*, as Inke Arns points out, where invisibly working smart technologies create non-delimited, post-visual environments. Does VR still play a significant part in such a ubiquitous immersion?

While on the one hand the selected artworks explore the “specific experience and mediality of the body-environment relationship”¹⁸ stressed by Kolesch, on the other hand, in unfolding a virtually walkable environment, they do not deny their rootedness in imagery and even expose their latent objecthood. They engage with environmental aesthetics by presenting themselves as an environment withholding any designated artwork or as a mere framework for other images. With the unstable references of their elements, they fully play out the role of virtual as epistemic objects and combine representation with operability. This approaches all the more the genre of knowledge exhibitions, as they invest in VR’s capacities of getting the user “immersed in reflection,”¹⁹ to quote Katja Kwastek’s term for reconciling the (inter)action-based mode of digital art with the traditionally contemplative aesthetic experience. Early installation art such as Lucio Fontana’s *Ambiente spaziale* already shows how physical spaces with the help of mirroring and lightning effects combine immersion with ontological speculation. Within VR-art, the latter is stimulated by oscillations between image and three-dimensionality. And it is intensified by virtual spatialities that similarly become a theoretical object of epistemic value, not only because of the heightened disorientation in spaces freed from physical regularity, but also as a result of more or less pure calculation. This affinity to abstraction mostly escapes the attention to hyperrealistic 3D-design and instead sometimes refers back to the sublime in art where natural phenomena fluidly transition into intangible abstract

17 I. Arns, “Qualityland, oder: Der Immersion begegnen,” Jahrbuch für Kulturpolitik, 2017/18: Welt. Kultur. Politik - Kulturpolitik in Zeiten der Globalisierung: 211-220, 212 [my translation].

18 D. Kolesch, “Ästhetik der Immersion:” 422.

19 K. Kwastek, “Immersed in Reflection? The Aesthetic Experience of Interactive Media Art,” in B. Dogramaci, F. Liptay, eds., *Immersion in the Visual Arts and Media* (Leiden, Boston: Brill Rodopi, 2016): 66-85.

emptiness. In 3D-environments, straight lines serve as generic framework of spaces, which, through texturing and mapping, also directly emerge from images.

Of particular interest is whether this linear abstractness is at the same time getting practicable in the course of the (manual) navigation through Polyviou's and Menkman's synthetic environments, enabled by the HMD with its tracking systems and hand-held controllers and by the maneuvers on the keyboard in the desktop-based versions. This passing through as the prevalent mode of VR-experience²⁰ can be further clarified by (queer-)phenomenological concepts of inhabiting space by taking directions and following lines, especially non-geometric entangled lines, giving high value to disorientation and turning toward objects as Sara Ahmed states.²¹ Insofar that this includes "lining ourselves up with the features of the grounds we inhabit, the sky that surrounds us, or the imaginary lines that cut through maps,"²² it already assumes a connection between physical, expressly natural and virtual spaces which extends up to technically-based environments. In a similar vein, Tim Ingold explicitly considers lines as basic element of immersion responsible for an embedding into the life-world. For him, coming to life results from being "immersed in those generative currents"²³ such as wind, for example, which also alters the state of man-made tools and technical objects transcending a purely transitive use. Thereby Ingold's concept of lines gains a potential for change and implies passages between the actual and the virtual.²⁴ With their help, he problematizes objects understood as "discrete, finished entities" which he judges as a mere obstacle for drawing and "designing environmental relations."²⁵ Lines,

20 I use the terms VR-experience, VR-environments and VR-works as broad concepts also including desktop-based virtual environments which have an immersive character on their own.

21 S. Ahmed, *Queer Phenomenology*: 1-2.

22 Ibid.: 6.

23 T. Ingold, "Drawing Together:" 305.

24 Ingold's repeated recourse to Deleuze/Guattari's concept of the line of flight (*ligne de fuite*) remains beyond the scope of this article, but is worth following in M. De Landa, *Intensive Science and Virtual Philosophy* (London: Bloomsbury Academic, 2005).

25 T. Ingold, M. Anusas, "Designing Environmental Relations: From Opacity to Textility," *Design Issues* 29, no. 4 (2013): 58-69, 58.

in contrast, as exemplified by the inseparable correlation of a river and its banks, are emblematic of correspondences and engender a different kind of thinking: “to correspond with [the waters] is to join this awareness with the flow.”²⁶ They privilege an intransitive mode of “joining with” rather than “joining of.”

Putting VR-Art on Exhibition

When contemporary art today is testing the potentials of VR as an artistic medium, its borrowings from installation art are not exclusively motivated by the pragmatics of exhibiting in art museums. Many artists use this necessity for initiating ontological speculations on the continuum between virtual reality and the shared here and now in the museum. They intertwine the setting up of the interior pictorial world with the installative anchoring of the VR-experience in the exhibition space, thus producing their own form of potentiated environmentality connected to quite different strands of installative and site-related art. Here, only a brief comparison can point to how, in Banz & Bowinkel’s work *Mercury* (2017) (Fig. 1) for example, the filigree pavilion architecture that creates a second artificial habitat high above Planet Earth in the VR, extends into a metallic display for the processor and the second screen in the exhibition. And to another German VR-artist, Florian Meisenberg who chooses an illusionistic backdrop, as known from photo and film studios, to illusionistically embed the gesticulating wearer of the HMD into the abstract grid landscape of Superstudio’s 70s planetary architectural utopia. In both examples, the environments also serve to house other artworks. But instead of activating the institutional or archival concerns of installation art, they extend the artificially generated, often fictionalized world within the VR into the exhibition context which is more in line with the staging of illusionistic worlds by means of props in

26 T. Ingold, *Knowing from the Inside: Correspondences*, (Aberdeen: University of Aberdeen, 2017): 41.

cinema and cinematographic installation art. The VR-works by Polyviou and Menkman pursue the reverse path and thus tend to the originally anti-immersive institution-reflexive branch: Their freely designable VR-worlds conversely borrow from physical exhibition spaces and their conventions of presenting items of cultural value which is worth questioning as another symptom of immersive normality and life worldly virtuality.²⁷

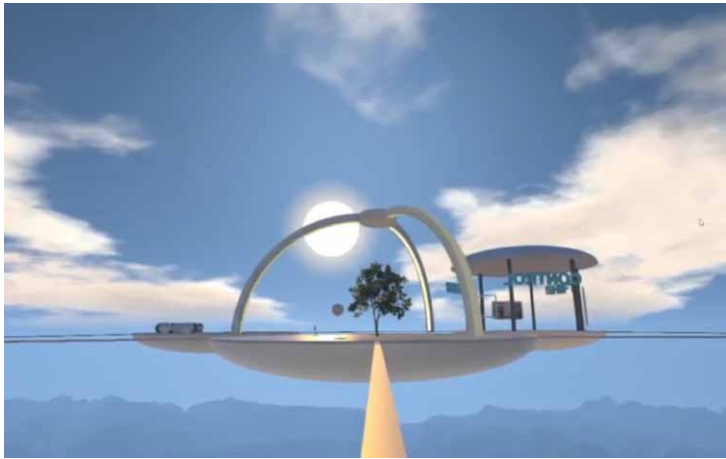


Fig. 1a



Fig. 1b

Fig. 1a and 1b. Banz & Bowinkel, *Mercury*, 2016. VR installation, screen capture and installation shot, DAM Gallery, Berlin, 2017. Courtesy of the artists.

Theodoulos Polyviou: *Drifting, Browsing, Cruising* (2021)

Besides the issues of art presentation in the pandemic, that influenced both selected artworks, I ask more generally about the role of environmental virtuality in Polyviou's and Menkman's action-based and visual-spatial strategies²⁸ of getting the recipient immersed in their work and thereupon re-perspectivize the question of institutional embedding. The first striking feature of *Drifting, Browsing, Cruising* created by Theodoulos Polyviou together with Eleni Diana Elia at the Centre for Art and Media, ZKM at Karlsruhe/Germany, is certainly the ground plan true modeling of a computer-generated world based on a specific location

27 Cfr. S. Rieger, A. Schäfer, A. Tuschling, eds., *Virtuelle Lebenswelten: Körper - Räume - Affekte* (Berlin-Boston: De Gruyter, 2021).

28 Kwastek stresses that the action-based experience not necessarily needs visual-spatial illusion (Cfr. "Immersed in Reflection?:" 69), but both aspects are closely united here.

within the museum. In summer 2021, visitors wearing HMD moved in situ through this doubled environment (Fig. 2-3). Since then, the work can be visited as only desktop-based VR on the online exhibition site *fantastic confabulations*, that reuses the digital replica of the space for further exhibitions.

Contrary to enabling “spatiotemporal transposition,” Polyviou uses VR for evoking a “hyper-awareness of the viewer as to where they are, and what they are doing.”²⁹ That’s why he is re-situating VR-technology by establishing site-related connections to architecturally and historically distinct places. But how is this intended sense of presence, which implies situatedness and agency, created in the site-specific VR-installation at the ZKM? In contrast to many other of his works,³⁰ any direct citation of a third auratic place and its cultural heritage is missing here. Polyviou obviously aims at the recognizability of the original museum space in 3D – the alignment of pillars typical of the former industrial building, the balustrade and the staircase leading to the open atrium as well as the glass partitions to the adjacent spaces are all faithfully reproduced. This makes the absence of the expected distinct artworks all the more noticeable. What one encounters inside, first of all appears as extensions of the serving architecture. The replicated pillars with spotlights are complemented by semicircular, half-height partitions as known from exhibition design. While these virtual supplements turn the clear cubic exhibition space into a cluttered and mysterious site, their freely curving floor plan lines reappear as vinyl stripes on the ground of the physical space.

29 Th. Polyviou in A. Urban, “Virtual Spaces for Transformative Encounters and Vast Reciprocity - An Interview with Theodoulos Polyviou and Jazmina Figueroa,” in L. Nolasco-Rózsás, ed., *Beyond Matter, Within Space: Curatorial and Art Mediation Techniques on the Verge of Virtual Reality* (Berlin: Hatje Cantz Verlag, 2023): 429-443, 432.

30 See for example the installation *Transmundane Economies* (2022) at Künstlerhaus Bethanien in Berlin, with references to the ruins of the Bellapais monastery in the north of Cyprus.



Fig. 2a



Fig. 2c



Fig. 2b



Fig. 2d

Fig. 2a, 2b, 2c and 2d T. Polyviou, *Drifting, Browsing, Cruising*, 2021. Site-specific VR installation, in cooperation with Eleni Diana Elia, installations shots and VR captures (details), ZKM, Karlsruhe 2021. Courtesy of the artists. © Eleni Diana Elia and Theodoulos Polyviou © Center for Art and Media Karlsruhe (ZKM), photo by Tanja Meissner. Produced in the framework of the Beyond Matter Residency Program at ZKM | Karlsruhe.

This interplay between paradoxical emptiness and spatial density not only subverts the usual aesthetic experience in art museums with its orientation towards a singled-out art object. The directionality of the space image as an action image, theorized by Stephan Günzel in the context of gaming, where only objects centered in the field of vision can become the object of action,³¹ also remains unexploited. Instead, the environment privileges spatial exploration and confronts with the paradox physicality of its virtual architecture that, like the impermeable built world, diverts the users' bodies. Without any avatarial

31 Cfr. S. Günzel, "Vor dem Affekt: die Aktion - Emotion und Raumbild," in G. Lehnert, ed., *Raum und Gefühl: Der Spatial Turn und die neue Emotionsforschung* (Bielefeld: transcript-Verlag, 2014): 63-74, 67-68.

representation, their self-perception entirely depends on bodily correlations with the labyrinthine environment, that additionally applies sensory stimuli and atmospheric immersion³² including artificial billowing fog on the floor, a sound backdrop and hall lights converted into dramatic illuminations. Thus, the functional architecture that subliminally remains perceptible through its calibration with the virtual space, shifts to a fictionalized, suspenseful backdrop that awaits its narration. Priority has the increased intensity of experience typical for spatial-immersive installations and one-sided de-distancing. But the artificial environment here also requires an action- and reflection-based attitude thanks to the latency of its speculative and operable objects and thus enacts a highly sensuous, performative form of site-related institutional critique. This comes into action when the foggy atmosphere transforms the built-in walls into jagged rock formations, thereby unifying different materialities in one unstable image-object, or when the flashing spotlights and the variable angle of view instantly turn a black surface into a three-dimensional hide-away (Fig. 3).

In addition, the windows that in fact only separate the next exhibition space, virtually open onto an equally artificial purple exterior, imitating a dramatic skylight. Its emptiness suspends the virtual exhibition space with its balustrades and staircase in an indefinite void, so that the emphasized inside-outside difference gives this VR-topos of floatation an institution-critical side. While Polyviou's environment is housed/hosted by the museum, it also nests there as an invisible counter-place that virtually undermines the physicality of the institution.³³ And by penetrating the interior of the virtual environment, the shadows of the grid windows cite the linear structure of computed space. But this space loses the evenness secured by optical projection when the grid lines synthesize the floor with the pillars to one continuous surface. It thus foreshadows a virtual

32 Cfr. also R. Eugeni, G. Raciti, eds., "Atmosfere mediali," *VCS Visual Culture Studies. Rivista semestrale di cultura visuale*, no. 1 (November 2020).

33 Cfr. Th. Polyviou in A. Urban, "Virtual Spaces for Transformative Encounters and Vast Reciprocity:" 430.

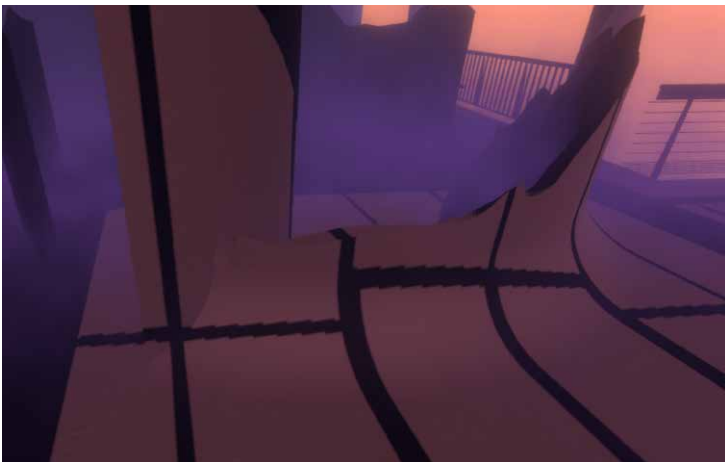


Fig. 3a

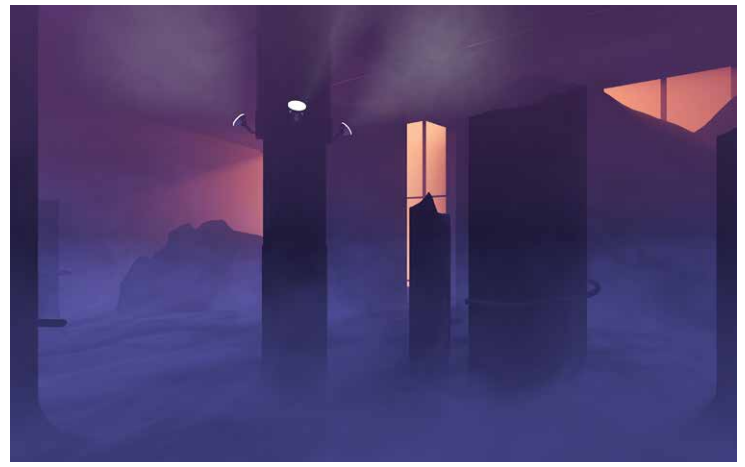


Fig. 3c



Fig. 3b

Fig. 3a, 3b and 3c T. Polyviou, *Drifting, Browsing, Cruising*, 2021. Site-specific VR installation, in cooperation with Eleni Diana Elia, VR captures (details), ZKM, Karlsruhe 2021. Courtesy of the artists. © Eleni Diana Elia and Theodoulos Polyviou © Center for Art and Media Karlsruhe (ZKM), Produced in the framework of the Beyond Matter Residency Program at ZKM | Karlsruhe.

substantiality beyond the clear differentiation of distinct things and deprived of the stability of usual grounds.

This exacerbates the insecurity of the orientation-seeking users who navigate their invisible body through the confusing narrowness of fixtures, pseudo-functional handrails and hall lights. However, this staged reduction of distance is not simply overwhelming. The ambiguous virtual objects also ensure that, by “gather[ing] on the ground,” – as Sara Ahmed has noted – “they create a ground upon which we can gather.”³⁴ Indeed, the mixed environment unites online as well as HMD users whose actions in the physical terrain marked with stripes are simultaneously observed by the museum visitors. Even without direct references to sacred architecture, Polyviou thus links the

³⁴ S. Ahmed, *Queer Phenomenology*: 1.

VR-typical passing through with a quasi-ritualized use of space. Alison Griffith has already tied back a counter-history of immersive spectatorship in the museum not only to the panorama, science museum, and planetarium, but also to the cathedral.³⁵ In *Drifting, Browsing, Cruising*, mnemonic mental images ensure the combination of action-based with cognitive immersion, because the disoriented wandering takes place through the comparison of constantly shifting, remembered spaces. When Polyviou decisively theorizes this ritualization as base for a “queer togetherness,”³⁶ this reconnects to the lines printed on the floor. Through their interference with the dense environment inside the VR, they emancipate themselves from the clear legibility as object contour and ground plan. They thus contribute to the crucial entanglement that, according to Ingold, gets the “living being [...] as a bundle of [the] lines”³⁷ of its movement immersed in its lifeworld. Polyviou therefore stimulates bodily practices of losing oneself in artificially induced passions. The choreographed searching movements inside give the museum space an improvisational openness, while the calibration with the physical pillars and ground makes the VR-experience literally tangible. Environmental immersion here goes hand in hand with a reduction of difference that de-differentiates virtual and physical spaces, bodies and objects.

Rosa Menkman: *The BLOB of Im/Possible Images* (2021)

Rosa Menkman’s VR-experience also brings the categories of artwork and exhibition nearly into congruence. But, instead of eliminating distinct artworks, Menkman, for this purpose, departs from a veritable collection assembled under the title of *Im/Possible Images* (Fig. 4). She stores

35 Cfr. A. Griffiths, *Shivers Down Your Spine: Cinema, Museums, and the Immersive View* (New York: Columbia University Press, 2008).

36 “Drifting, Browsing, Cruising,” *Fantastic Confabulations*, <https://fantastic-confabulations.beyondmatter.eu/driftng-browsing-cruising/index.html>, accessed December 29, 2022.

37 T. Ingold, “Drawing Together:” 300.

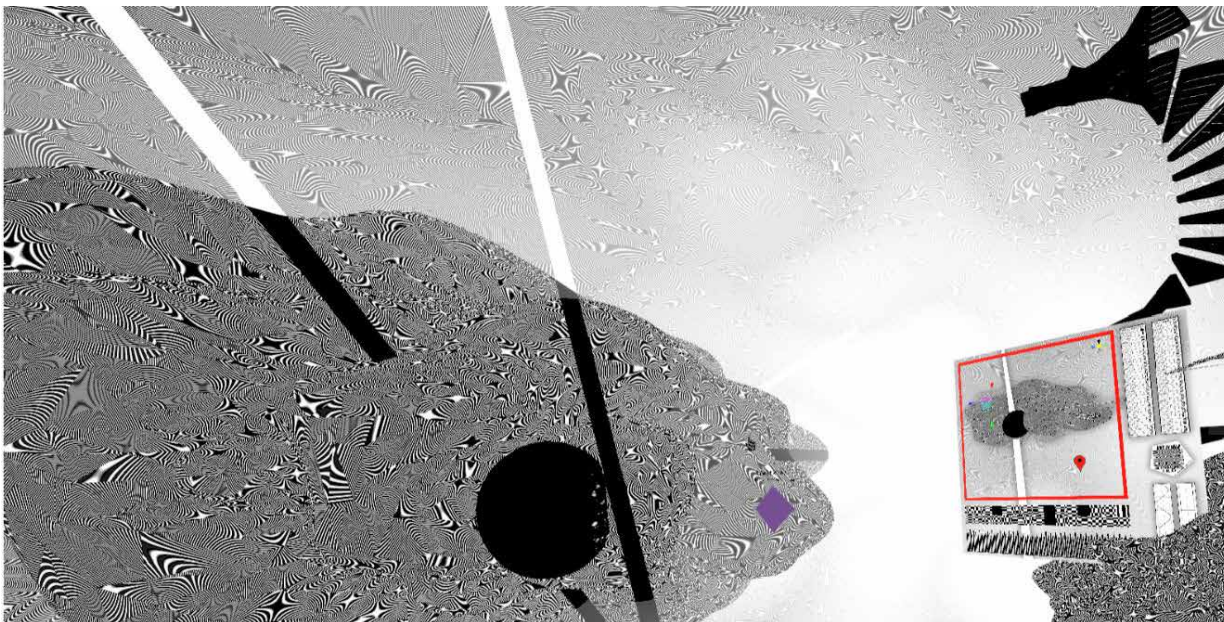


Fig. 4

Fig. 4. R. Menkman, *The BLOB of Im/possible Images*, 2021. Desktop-based virtual environment, accessible on the platform *New Art City*. Courtesy of the artist.

this collection on the widely used VR-art platform *New Art City* where she designed a complex desktop-based virtual environment that shows an enclosed grayish scenery with a staircase, a huge resolution-chart, a humanoid figure and a second free-floating structure pierced by diagonals. Initially hidden from view, the collected images are sheltered inside this amorphous cloud, revealing themselves when one navigates through the permeable sheathing. The nested structure alludes to the titular BLOB with its polysemy of digital blob architecture, the single-celled, ‘intelligent’ super-organism and Binary Large Objects as a technical term for databased image processing. And the exhibits that visitors have to deal with in this environment are mainly objects of knowledge accessible only through representation, so a reference to their theorizations by Hans-Jörg Rheinberger and Susan Leigh Star/John Griesemer is suggested.³⁸ Menkman thus borrows from the realm of scientific images, which has been a central field of debate and self-definition for digital art from the very beginning. She delegates the act of imagining and selecting them by realizing a survey during her Arts at Cern/Collide Barcelona-Residency, asking the researchers what image of a relevant object or

38 Cfr. G. Roßler, *Der Anteil der Dinge an der Gesellschaft* (Bielefeld: transcript-Verlag, 2015): 19-58.

phenomenon they would capture if “limits of spatial, temporal, energy, signal/noise or cost resolutions”³⁹ were irrelevant. In other words, this variability of resolution results in products of imagineering and touches on phenomena that are decoupled from humans’ experience, escaping their commonly perceived environmentalities. But these phenomena can be mediated by virtual body-environment relations, which conversely force a changed understanding of (aesthetic) experience, as discussed by Roberto Diodato with reference to John Dewey.⁴⁰ The choice of the nuclear physicists as experts in im/possible images endow the virtual as epistemic objects with a specific latency and scientificity. The referents of their proposed images mostly elude the objecthood familiar to mankind and have nothing in common with the medium-sized “things of the earth’s surface” as characterized by the Gestalt psychologist Fritz Heider.⁴¹

Two important aspects shared with Polyviou’s example promise additional insights into the workings of environmental immersion. Firstly, this concerns the embedding into abstractness, which goes along with a space that loses its conventional categories and thus favors immersion through the withdrawal of the usual parameters of orientation. This not only stems from the arbitrary laws of physicality in VR, but also from a different kind of world reference in ‘virtual bodies environments’, which Diodato emphasizes: “In this intermediary world space itself is the result of interactivity.”⁴² In Menkman’s case, the intensified experience is generated not so much by a condensed, labyrinthine spatiality as by the enhanced self-reflexivity of navigation itself. Both, the VR-environment *The BLOB of Im/Possible Images* and the related video-work *Whiteout* showing a tour in Harz mountains in heavy snow, deal with the experience in a markerless space tending to exceed human

39 R. Menkman, “The BLOB of Im/possible Images”

<https://newart.city/show/menkman-blob-of-im-possibilities>, accessed December 30, 2022.

40 Cfr. R. Diodato, *Image, Art and Virtuality: Towards an Aesthetics of Relations* (Cham: Springer, 2021): 56.

41 Cited after G. Roßler, *Der Anteil der Dinge an der Gesellschaft*: 38.

42 R. Diodato, *Image, Art and Virtuality*: 61.

senses and erase most thingness. Second, the comparison with *Drifting, Browsing, Cruising* is based on the re-physicalization of the VR-works in the exhibition format. Rosa Menkman conceived a carefully designed exhibition display for a 2021 group show at Munich where she reconnected the VR-experience to the physical space with the help of lines. While in Polyviou's example the plotting of isomorphic virtual and physical elements onto a planimetric floor plan retains a relative object character, Menkman starts from abstract lines as axes of graphs and coordinate systems. They guide the exploration of the virtual world inside and also mark the thresholds of iconic representation. Touching on signal spectra, digital states and im/material energetic flows, they bring forth what Ingold sees otherwise negated by the regime of solidified things.

Within the VR, the resolution chart erected next to the figurine is particularly telling of how Menkman translates resolution into space, taking advantage of the orthogonality of digital as "rasterized [...] images" based on a "grid of picture elements or pixels,"⁴³ that, according to Francesco Casetti and Antonio Somaini, also possess a specific plasticity. By mapping the gray structure of the internal blob with the diagonals and its one black anchor point, the resolution chart pretends to guide the VR-user searching to enter this enclosure. Yet, despite the lines piercing the amorphous volume, the chart does not reveal any information about the interior. The charted scales and frequency ranges unmistakably mark this second blob as an image-object of the same digital fabric as the abstractly textured body of the figurine besides, Menkman's *Angelus Novus* emblematic for the reversal of gaze regimes. This co-presence of image-objects and -subjects made of distorted black-white stripes strongly signals the de-differentiation of most diverse entities. The appearance of the things is flexibilized to such a degree that their self-identity

43 F. Casetti, A. Somaini, "Resolution: Digital Materialities, Thresholds of Visibility," *NECSUS. European Journal of Media Studies* 7, no. 1 (2018): 87-103.

is disposable and their recognition depends on the user's bodily action (Fig. 5).



Fig. 5a

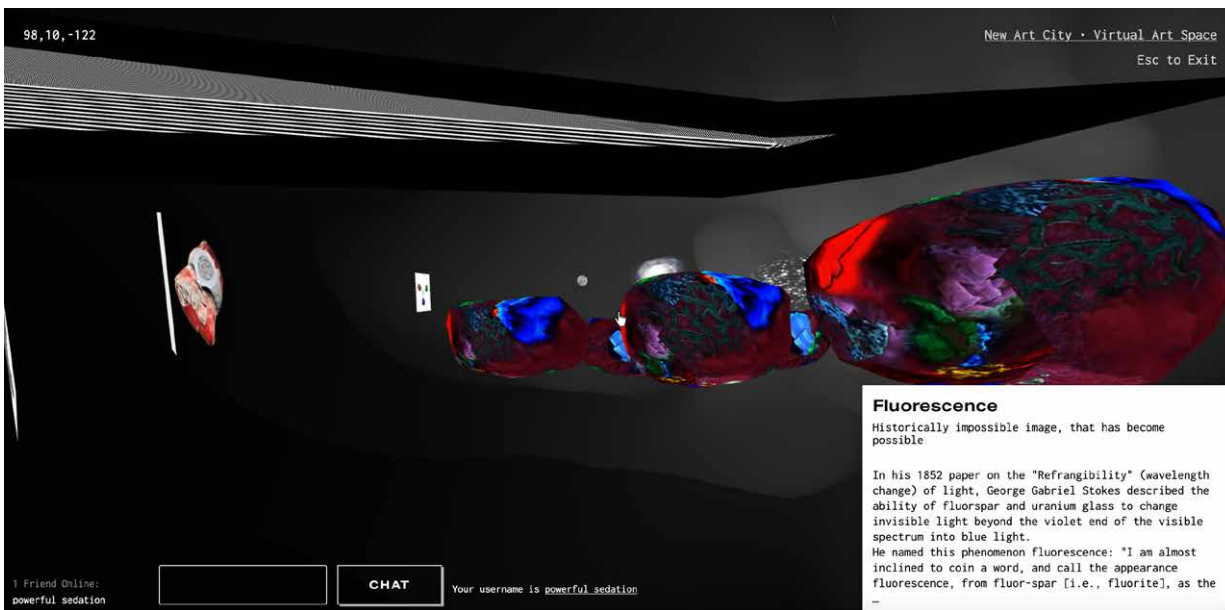


Fig. 5b

Fig. 5a and Fig. 5b .R. Menkman, *The BLOB of Im/possible Images*, 2021, Desktop-based virtual environment, accessible on the platform *New Art City*, screenshots by the author. Courtesy of the artist.

As soon as the user has traversed the opaque but permeable grayish membrane of the blob, the environment transforms into a dark sphere with mystic sound where the im/possible images are scattered in an unmeasurable distance. When the wandering user is attracted by small luminous dots that, up close, turn out to represent the *Pale Blue Dot* aka Planet Earth, taken by Voyager 1 in 1990 for example, or a *Quantum Vacuum*, quarks inside of a proton, a shadow of a black hole and a body scan of the interior of a wrist, she/he is once again less guided by the affordances of gaming. To remind Günzel, its “fixed-paranoid perspective” turns objects into action carriers by shifting them to the center of the image; but here, only the paranoid dimension of permanent searching seems to endure “through which the objects in the virtual off must be transferred into actualization.”⁴⁴ As Roberto Diodato notes with reference to Bernard Stiegler and Richard Grusin, in view of the prevailing premediation techniques and an already thoroughly hypermediated world, it is necessary for the techno-artistic creation of virtual spacetime environments to break the merely adaptive behavior pattern of supposedly active cognitive agents.⁴⁵ Beyond the gaming attitude running into the void, it is the habits of museum spectators that help surprisingly well – right down to the work texts that pop up on approach. But, of course, the concept of the mimetic image is challenged here by the assembled nuclear- and astrophysical phenomena at the limits of what can still be captured by light or other wavelengths. Menkman succeeds in staging the uncertain status of such objects of knowledge, which only move into the rank of the existent through new technologies of detection, by making use of the peculiarities of virtual objecthood. This starts with the all-round perspectivability and resulting form variance of the virtual exhibits already known from sculpture, joined here by their free scalability and permeability

44 S. Günzel, “Vor dem Affekt:” 68.

45 Cfr. R. Diodato, *Image, Art and Virtuality*: 64-65.

in direct interaction with the user navigating their invisible bodies through space. The skinned wrist, for example, hits the viewer in powerful plasticity or just hangs in space as flatware, depending on the point of entry into the enclosure of the im/possible images, the viewing angle and proximity to the item. This form of distance reduction self-reflexively combines seeing and (inter-)acting. The less complete immersion of desktop-based VR is compensated for by the tactility of maneuvering with arrow keys or touchpad, which transfers its sensation of handling to the virtual objects. Menkman experiments here with re-introducing into art the more immersive displays of the natural history museum,⁴⁶ whose never-broken connection to science is recalled by Christiane Voss' reflections on the medium of exhibition,⁴⁷ and appropriates the knowledge exhibition format. In this setting, barely tangible phenomena such as black holes, dark matter and other galaxies become manageable as in a laboratory that, in terms of Hans-Jörg Rheinberger, only brings epistemic things into existence.⁴⁸

The nested spatial structure of the BLOB increases this epistemic valence because it invites for repeating those transformative immersive crossings from one internal sphere to the next. Outside the encapsulated image collection, the latency of objects is provided by the polygon meshes patterned with black/whites lines reminiscent of military dazzle camouflage⁴⁹ that acts as de-distancing tool precisely by preventing its correct estimation. Instead of simulating natural light conditions, as it often serves to catalyze the atmospheric immersion of a perfected VR, the moiré reveals another form of apparitional fluidity. Constantly changing with the user's movement, the texture shows a pulsating im/materiality that already withdraws at the surface. It seems close to Ingold's and Anusas's notion of infrastice that includes "all manner of electrical,

46 Cfr. A. Griffiths, *Shivers Down Your Spine*.

47 Cfr. C. Voss, "Das Museum als Medium der Kunst," in G. W. Bertram, S. Deines, D. M. Feige, eds., *Die Kunst und die Künste: Ein Kompendium zur Kunsttheorie der Gegenwart* (Berlin: Suhrkamp, 2021): 464-483, 474.

48 Cfr. G. Roßler, *Der Anteil der Dinge an der Gesellschaft*: 35.

49 My thanks go to Manuel van der Veen for this reference and the exchange about the text.

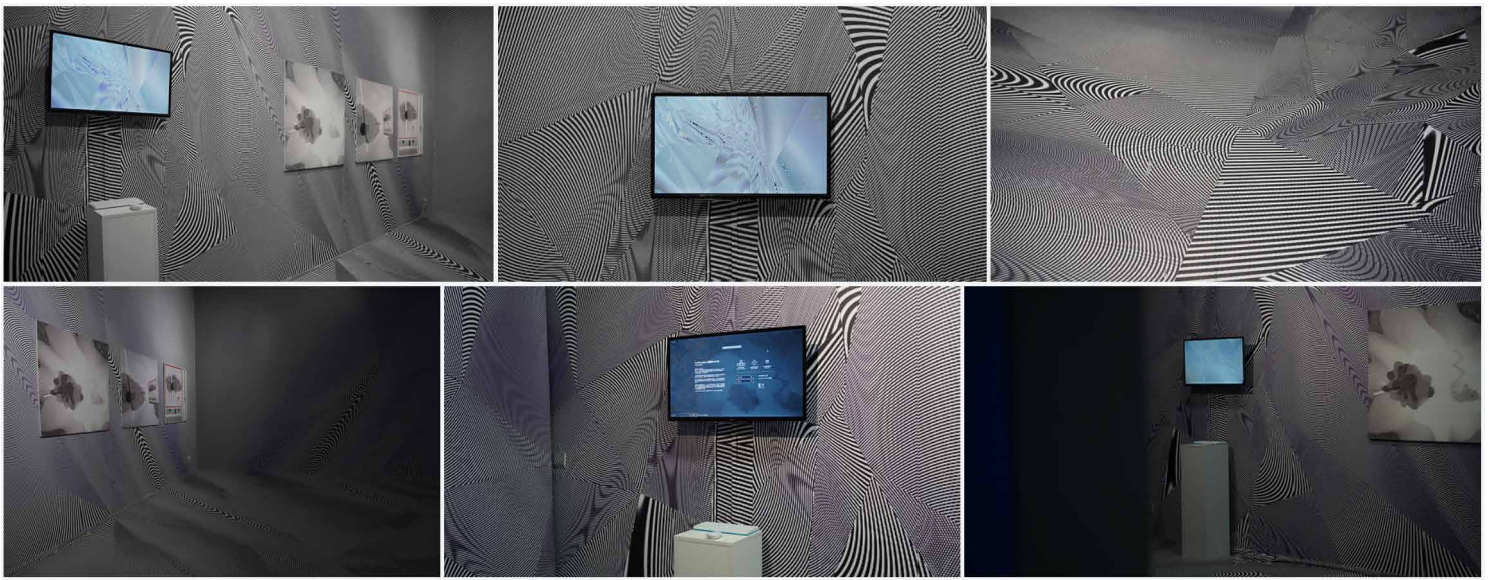


Fig. 6 R. Menkman, *The Im/possible BLOB*, 2021. Installed at Temporal Stack: the Deep Sensor in Guizhou, China, curated by Iris Long und HE Zike, 2021. Courtesy of the Artist.

chemical, and mechanical workings [...], energies, gases, and fluids”⁵⁰ and resists the useability of surfaces solely understood as interfaces.

Finally, the artist also uses these textures, as well as the abstract lines of graphs as vehicle for transferring the virtual into physical space. For a presentation of *The BLOB* at Gizhou/China (Fig. 6), the dynamic black/white pattern has been transformed into a wallpaper. This exhibition design attaches more to the cinematically inspired strategy of extending the fictional-scenic image space inside the VR into an overall immersive installation. But there, without the operability of latent virtual objects, it tends to unrealize the museum with its psychotic pattern. In contrast, for a group exhibition in Munich that combined the VR-experience and the video *Whiteout* with works by Memo Akten, Susan Schuppli and others, Menkman materialized the abstract lines from inside the BLOB (Fig. 7). They established a 3D-framework in physical space whose white, green, red, yellow and blue diagonals traversed the floor and walls of the exhibition hall,⁵¹ thus slightly removing it from orthogonality. As these lines are imagined to shift the

50 T. Ingold, M. Anusas, “Designing Environmental Relations:” 58.

51 Cfr. L. Gross, R. Menkman, *L 13: Reader NR 4 im/possible images* (München: Lothringer 13 Halle, 2022) https://beyondresolution.nyc3.digitaloceanspaces.com/Catalogues%2Fimpossible_L13_READER.pdf, accessed April 25, 2023.



Fig. 7b



Fig. 7d

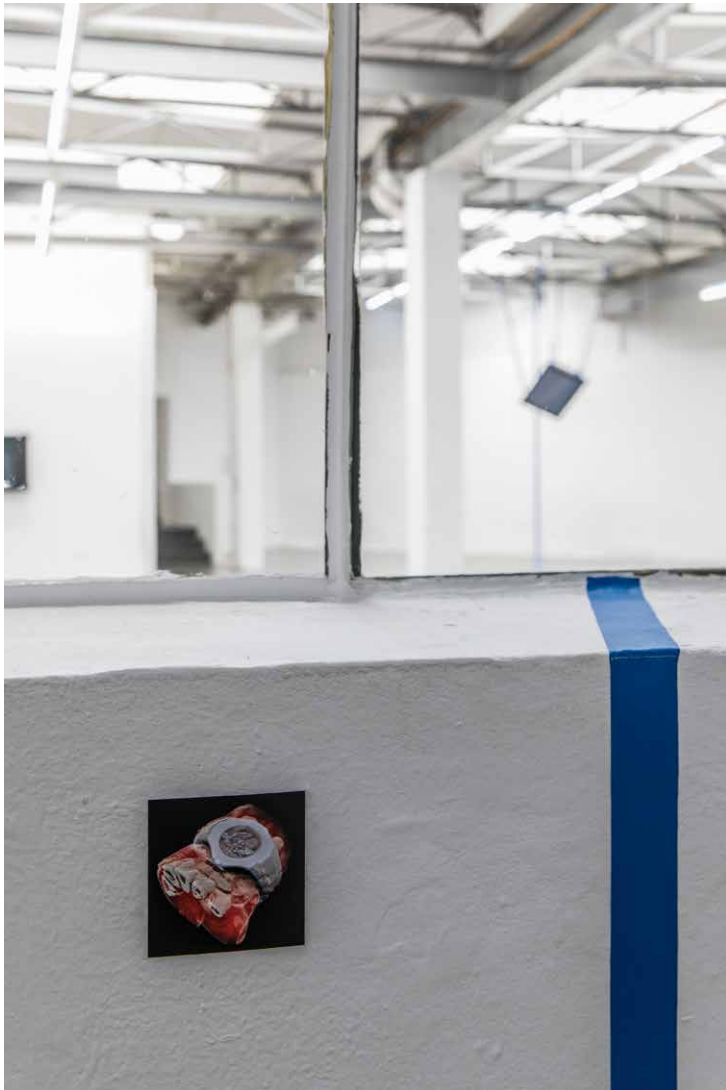


Fig. 7a



Fig. 7c

Fig. 7 a-d. Views of the Exhibition *Im/possible Images*, at the Lothringer 13 Halle, Munich, 2021, curated by Rosa Menkman. Photo by Dominik Gigler. Courtesy of the artist and of Lothringer 13 Halle.

spectra of resolution – a borderline to “low fidelity images” was inscribed on the floor –, the artist transformed the built into a “latent image space.”⁵² Similar to the VR, I would add, the solidity of its objects becomes doubtful, when variable parameters of the perceptible and representable always help other visualities and entities to emerge. With this kind of environmentalization, Menkman de-hierarchizes an ever-higher resolution, that regulates access to more and more details and therefore, according to Casetti and Somaini, raises the power question of control.⁵³ In the Munich exhibition, some of the im/possible images from the BLOB (re-)materialized as exhibits, among them a photo of the skinned hand scan or a newspaper clipping with an x-rayed hand from 1896. But, by placing them along the resolution lines, these factual images remain suspended in an abstract space of potentialities. In sum, the exhibition display was activated as an integral component not principally distinguished from what is constitutive for the ‘work.’

Potentiated Environmentalization

As shown so far, the multiplication of environments inherent in VR-art results from its genuine blurring of the differences between work and environment. This generative logic of further nesting necessarily brings the whole institutional and curatorial ecosystem of VR-art into view. And the extension of the internal installation aesthetics not only counteracts its technically-based encapsulation. It is also essential for not missing the togetherness⁵⁴ – to cite Mieke Bal – of an exhibition which, according to Christiane Voss, is the medium that establishes the works’ mode of existence as art in the first place.⁵⁵

The Blob of Im/Possible Images, commissioned by the HeK Basel, was produced with the infrastructure of newart.city.org that provides a “virtual exhibition toolkit”

52 Cfr. R. Menkman, “Im/possible Images@Lothringer 13, Munich” <https://beyondresolution.info/im-possible-images-1>, accessed December 29, 2022.

53 Cfr. F. Casetti, A. Somaini, “Resolution:” 89.

54 Cfr. M. Bal, *Exhibition-ism: Temporal Togetherness* (Berlin: Sternberg Press, 2020).

55 Cfr. Voss, “Das Museum als Medium der Kunst:” 464.

with “built-in tools to manage artworks and space layouts.”⁵⁶ Menkman takes up its claims for a non-hierarchical co-creation and invites the submission of further non-expert impossible images. Later on, the work has been embedded into a virtual, but spatial exhibition curated by Livia Nolasco-Rózsás and Giulia Bini for the ZKM in 2021, which pushes the tendencies towards nesting and de-differentiation even further: *Spatial Affairs*. *Worlding* is inhabited by artworks, an exhibition display and visitors sharing the same organic-abstract shape. One can only distinguish the non-humanoid avatars of other visitors from exhibits through distance-reduction and the object-related action of a mouse click. The latter then turn into pink and, via an info window and links, lead the web-user to the works stored on artists’ website or platforms. By interpreting environmentalization in terms of worlding, the curators participate in the posthumanist renewal of the phenomenological critique of the world as sum of objects. The multi-user online world with its identical, modular entities first hides the exhibition behind the supposed affordances of gaming and chats. However, the transitions between the environmental exhibition and environmental works are designed less immersively – like portals in gaming or falling down the rabbit-hole known from literature – than through paratextual framings operated by non-natural manual interfaces.

The online exhibition site *fantastic confabulations* that hosts *Drifting*, *Browsing*, *Cruising* was also conceived by Polyviou together with Jasmina Figueora as artists in residence of the same research project *Beyond Matter*. Instead of nesting spaces, it deals with the generic, serial tendency of self-continuation by inviting to reuse the initial 3D-reconstruction of the ZKM balcony for subsequent projects such as realized by Figueora who modeled her spoken words and sound scores by the visitors’ movements through the virtual site. Following Ahmed, this

56 Cfr. “About New Art City,” <https://info.newart.city/about>, accessed December 28, 2022.

implies not only a model for self-determined curation, but also a form of environmental co-habitation.

Lívia Nolasco-Rózsás argues for the museum in the virtual condition as a “cognitive system”⁵⁷ including non-human actors, thereby reaccentuating the pioneering thought exhibitions [*Gedankenausstellungen*] initiated by Peter Weibel and Bruno Latour. Polyviou’s example gets by without its strong archival underpinning. In the functional architecture, his staging of an atmospherically condensed counterworld aims at releasing a different bodily knowledge of possible encounters and envisions a counter-physicality for transcending the otherwise hard-to-move institution. The curved lines on the ground echoing the paths inside the VR offer their own transformative knowledge of entanglement that is experienced and produced environmentally. In comparison, Menkman directly invests into the potential of virtual as epistemic and aesthetic objects. Their *robustness* and simultaneously *plasticity* reminds the capability of Star’s and Griesemer’s boundary objects to make agents of different groupings,⁵⁸ in this case those of art and science, meet. What Doris Kolesch has in mind with a normalized immersion in not only technologically-enclosed but everyday spaces, can also be true for VR-based environmentalization. De-differentiation and de-distancing are then not contradictions to but catalysts of immersive reflection.

57 L. Nolasco-Rózsás, Y. Hofmann, “The Museum as a Cognitive System of Human and Non-Human Actors,” *The Garage Journal: Studies in Art, Museums & Culture*, no. 3 (2021): 1-15.

58 Cfr. G. Roßler, *Der Anteil der Dinge an der Gesellschaft*: 33-34.

AN-ICONOLOGY
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