PANDEMONIUM. In Conversation with Ami Clarke

Felix Koberstein

Ami Clarke is an artist working within the emergent behaviors that come about through human engagement with technology. Their research is concerned with the complex protocols regarding surveillance capitalism as it meets disaster capitalism in everyday assemblages, such as the contract-tracing apps during the Covid-19 pandemic. They work from a xenofeminist and post-human perspective that is interested in acknowledging and thinking through the complexities of the subject emerging in synthesis with their environment, from a critical intersectional position. There is an emphasis on grasping something of the complexity of the multi-temporalities and scales and the cross-species contaminations and alliances that are necessary to confront the environmental challenges ahead. They utilize various digital media, including data analytics and VR, often incorporating aspects of live programming to produce video, sound, or spoken-word performance.

The VR work *Pandemonium (do androids dream of?)* emerged from Clarke's residency at ZKM | Center for Art and Media Karlsruhe from June to July 2021. It includes a VR environment and live sound work with accompanying Twitter bot @trackntracer, deployed as a research assistant taking the temperature of public debate in England via sentiment and emotion analysis while rt'ing mentions of the NHS Covid-19 app, which had little to do with the UK's National Health Service (NHS), since November 2020.

Pandemonium nests like a bad-weather gift-shop snow-globe in the context of Clarke's body of work *The Underlying*, inviting participants to explore London's eerily decimated financial district, reclaimed by a virtual wilding, *way too lively by far*—pandemonium—where the kinds of animal spirits associated with markets get recalibrated to address the climate crisis.

An online dashboard provides an entry point for recalibrating concerns regarding the use of data; these are drawn from the Epidemic Preparedness Index by Metabiota, which takes a holistic approach in rating countries' or companies' preparedness for crisis, using criteria such as "trust in govt," and "govt comms" as well as "infrastructural development." It provides a stepping-off point to develop better practice that supports a rewilding of data to address user concerns regarding privacy, agency, and trust that crystallize around track-and-trace apps.

FELIX KOBERSTEIN Ami, you are an artist whose multifaceted work focuses on the social behaviors emerging in the age of so-called platform capitalism. A digital economic order in which tech corporations such as Google, Apple, Facebook, and Amazon have become leading economic actors, and alongside Twitter, Instagram, and TikTok constitute what has become the mediasphere; they gain their power by keeping users engaged through data analysis and algorithms—forms of digital surveillance. As part of the Beyond Matter residency you developed a project called *Pandemonium*, a VR environment modeled on the old financial district in London, shown

Fig. 1
Ami Clarke, *Pandemonium*, 2021. VR installation. Installation view Tallinn Art Hall, Lasnamae Pavilion, 2023.

empty of humans like during the pandemic, but populated by some very lively critters. Could you elaborate on where you see the intersections and parallels between surveillance capitalism and risk management?

AMI CLARKE The pandemic saw the 'return of the expert,' as news grounded in evidence became a vital necessity, as humans found themselves pitted against a killer virus sweeping through their midst. The mediasphere of social media had become a place where language was weaponized, with claims of "fake news" rendering the commons 'senseless' but not without *feeling*, as jouissance rippled through the networks. Come the pandemic, trust in the message was suddenly quite literally a matter of life and death, with a dire need to go beyond a medium beholden to a business model operating within an economy of attention driven by sensation and outrage.

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I'd come across sentiment and emotion analysis while working on *Breaking News – Flash Crash* (2014). Theoreticians Tero Karppi and Kate Crawford have drawn attention to *Dataminr* software, which "produces a sophisticated scoring of the relationships between words in play, to uncover grades of expressed 'emotions'—in order to 'predict the present' and thus transform social media signals into economic

information and value."[1] For many years my work has focused on the effects of the semiotic turn and equivalences found in the loss of the referent in both language and finance that Katherine Hayles describes in her book *Unthought: The Power of the Cognitive Nonconscious* (2017). A work I made in 2014 titled *Low Animal Spirits* deployed a high-frequency-trading algorithm trading in world news, while the Twitterbot @lowanimalspirit tweeted speculative headlines back into the twittersphere. In his book *Technic and Magic: The Reconstruction of Reality* (2018), Frederico Campagna wrote about the totalizing effect of language that is peculiar to this era, where "record-shattering investments in Big-Data systems and technology rest on the belief that there can't possibly be anything ontologically relevant that couldn't, at least potentially, be reduced (and reduced truthfully) to the serial units of the language of data." He made the case that "through substituting the terms 'information technology' with 'finance', we can understand the contemporary role played by financial capitalism, not merely as translator of the world into its own linguistic structure, but as the creator of a world that coincides exactly with such structure."[2]

The pandemic made visible all kinds of poor practice regarding the handling of biomedia/health data management and analysis, and the behavioral analysis that runs alongside it, which was necessary for the functioning of the Covid-19 app used in England by the NHS. This raised security and privacy concerns about the handling of data, with worries about mission creep made possible by the financial underpinnings of the app, and the expectations of those investing in its development, such as Palantir, Serco, Sitel, Deloitte, GS4, and so on.[3] It is no exaggeration to say that the NHS Covid-19 app in England was a very expensive disaster. Many urgent concerns to do with data crystallized regarding privacy, trust, and agency. In the void of guidance, education, or government know-how regarding safe data-handling practices, many grievances, imagined and real, flourished (and still do), in the highly volatile feed of the Twitterbot @trackntracer that I set up to retweet mentions of "track and trace" since November 2020.

FK One starting point for the Beyond Matter residency program was the question of how artists who use XR technology in their practice can make meaningful contributions to political and social discourses. Apart from the immersive connection with one's own body that virtual spaces make possible and the sensory experiences of the users linked to it, the status of virtual objects is particularly interesting. The relationship between virtuality and materiality plays a major role here. What role does it play for *Pandemonium*?

1 Tero Karppi and Kate Crawford. "Social Media, Financial Algorithms and the Hack Crash," *Theory, Culture & Society* 33 (2015): 73–92. See also Ami Clarke, "Language in a meme economy," *International Journal of Creative Media Research*, no. 5 (October 2020), https://www.creativemediaresearch.org/post/language-in-a-meme-economy.

2 Federico Campagna, *Technic and Magic: The Reconstruction of Reality* (London: Bloomsbury Publishing, 2018), 42.

3 Ami Clarke, "On Pandemonium," *Radar,* https://radar.lboro.ac.uk/contexts/on-pandemonium-a-new-work-by-ami-clarke/.

Fig. 2
Ami Clarke, *Pandemonium*, 2021. VR installation. Screenshot.

AC Anyone I spoke to who was not working in frontline activities had a very odd experience of time during lockdown where often they couldn't remember what day it was. Something to do with not being able to move around much, perhaps revealing to what extent memory is spatial, which makes me think of the mind palaces people use to remember things.

The shimmering in the VR work *Pandemonium* hints at this strange compression—as if time is condensed. My mother died suddenly weeks before the first lockdown and I had this intense feeling of time slowing down and distorting around me, almost as if looking through the bottom of a thick glass. Held numb in the stillness of grief while the entire planet learnt new protocols that in turn vastly restricted movement. Which then, even more strangely, combined with a growing awareness of just how lively the air around us had become, as questions about whether the virus was airborne or lingered on surfaces for any length of time were debated daily. Later on, the frightening rate of mutation in the virus seemed entirely unnatural, but perhaps that speaks more about how distanced everyday life is from just how lively things really are. In the early mid-twentieth century, British surrealist artist and occultist Ithell Colquhoun proposed that the Earth was alive, which was radical for the time and place—now it's science. We have ways of seeing and sensing at increasingly small scales, as well as a hugely extended reach into space; technology adds extraordinary insights into the complexity of things.

Partly due to being a child of the 1970s and 1980s (although I also blame Netflix's reboot of that era), I kept thinking of body horror movies that

Fig. 3
Ami Clarke,
Pandemonium, 2021. VR
installation. Screenshot.

speak to permeable boundaries and slippery categories. The horror depicted often took disembodied flesh to a new level, with critters slithering out of taps that were alive in an extra sense, reminiscent of the "lamella," an often-evoked depiction of an alien force related to the death drive in Lacanian thought. Apt perhaps in terms of the virus's lack of any reason but to replicate at all costs.

For decades I've been fascinated by the difficulty of showing form evolving from one mass to another in cartoons and anime—the billowing clouds in the explosions in Katsuhiro Otomo's 1988 animation *Akira* as they swallow the screen, the elasticity of bodies in cartoons—and I really wanted to capture something of that in the plasticity of the gloop in this work. After a few false starts I found a great programmer, Luke Weston, and we worked very closely together on what seemed like an infinite series of tests, experimenting with what was possible in VR (at the stage of development that VR software was then at), and managed to conjure something quite close to what I wanted to see. The animals are the creations of Junnichi Suko, who very kindly let me play with them a while ago—they can be purchased on the Unreal Engine marketplace and I like that this means they populate other VR environments too. The overall liveliness of the scene is underpinned by the experimental sound work, which is spatially localized around the work, so you hear a different version every time. It's compiled from all the analog synth and digital sounds I've collected over the years, which segue into the synchronized dance routine with the deer.

I think everyone must be pretty traumatized by the pandemic and quite possibly still in recovery, and perhaps it will take a while to even realize

this. It was a strange experience making the VR environment during lockdown, and I'd not really had the distance to understand it properly when the artist and writer Emily Rosamond came over for a studio visit. We always have great conversations, but in this case our mutual interest in finance and probability had an unexpected layer to it, in that she had previously been a synchronized swimmer, lending an extremely serendipitous reading to the work! She picked up on the wrongness of the VR work immediately, the jankiness of it in contrast to how a corporate game-ready version might be. She described it as "leaning into the weirdness of the VR medium in a good way."

She mentioned Lacan's take on Freud's idea of the symptom, redefined as the "sinthome," which she described as when "artists produce something so particular, so unique, so strange, that it's like they are producing their own symptom." And that the work encapsulated for her "something that is precisely the right sort of shape to unlock a particular set of problems that are at once in the world: viral, ecological, political, pragmatic, temporal, financial, and of course subjective, all at once." Bringing together ideas "around virality, around the pandemic, around the too-muchness of the connectivity of datified life, about the too-abundancy of life, about the liveliness of the digital, there's multiple things going on." She told me: "you're producing a sinthome with the preciseness, the weirdness of the deer conglomerate, and the multiple-layered rhythms that come together in the scene" which "are generating a *sinthome*, that can hold all of that complexity somehow."

Serendipitously, her being a former synchronised swimmer herself meant she could not help but see the deer as "choreo-political in an André Lepecki sense—a choreo-politics" that asks "what does it mean to move politically?" She described the "apocalyptic imagery; a slight horror vibe" but also "a really gentle vibe to the whole thing" with a "celebratory angle" where "via their synchronization they are almost a logical extension of Siegfried Kracauer's girl clusters,[4] the Tiller Girls that were expressions of mathematics. There's a kind of genuine communal spirit and it makes me rethink what I always kind of desired out of synchronized swimming. The idea of being in sync." She said: " A post-species conglomerate digitality. The herd consciousness in the synchronized tweaks of the ears. As if they're all playing to the same program. It's really using the medium of synchronized movement. A techno species communism."

FK Finally, I would like to ask a question about the beginning: in reference to Donna Haraway's concept of string figures, which she presents in her 2016 book *Staying with the Trouble*, residency applicants were asked what else VR could stand for. Ami, you responded with the variant "vital realism." What potentials for VR spaces were you addressing with this?

4 See Siegfried Kracauer, *The Mass Ornament: Weimar Essays*, ed. and trans. Thomas Y. Levin (Cambridge, MA: Harvard University Press, 1995).

Fig. 4
Ami Clarke, *Pandemonium*, 2021. VR installation. Screenshot.

AC With a slightly different but not entirely dissimilar emphasis, the economist John Maynard Keynes' concept of "low animal spirits" captures a moment during the European Enlightenment when questions were being asked about the emergent properties that animate otherwise inert tissue matter. Everyone remembers the experiment where electrical nodes were attached to a pair of dismembered frogs' legs, making them jump and twitch, during an enquiry into what the elusive spirit was that made things come alive. The idea of animal spirits also became imbricated with the self-mythologizing of the financial markets, used to describe an "inexpressible" drive as the market's heroic "life source." But while Keynes' animal spirits drive the market through bullish opportunistic behaviors, the critters in *Pandemonium* that roam the deserted financial district speak of the zoonotic spillover—viral jumps between animal and human—that exemplifies the interdependencies revealed by the pandemic. They evade categorization by almost becoming their own species, living as kin with their humanoid siblings, pointing to a nature that is naturally queer and to a synchronized desire to do things differently—in a way that takes account of contingency to develop fluid data practices that are consensual and oscillate between being visible and invisible, as necessary.

And this, really, is the nub of the work. It circles around questions regarding how concepts of the individual relate to the community around them. This was my first question and it is epitomized in the issues of agency, privacy, and trust that crystallize in the app. A question, to a certain extent, between the bounded notion of the neoliberal individual and the communal agency of the deer, say. What is needed

is a shift in perspective able to comprehend the complex interdependencies that influence a syndemic, and how these converge in climate disaster. It tends to only be in crisis that the complexity of these multiple temporalities and scales can be briefly grasped.

Of course, the cartoon animation, the plasticity of the gloop, and the VR environment give me the opportunity to take the vitalist angle to an absurd degree, but instead of wishful thinking this could suggest grasping something of the "vital realism" of the circumstances we find ourselves entangled within, as we emerge in synthesis with the environment around us. In an era where advances in technology allow for increasingly sensitive degrees of sensing the world around us, making the world ever more complex. Other so-called advances in tech draw out existing biases and discriminations, through the absurd claim of tech neutrality. What these do in combination is allow us to address things with real insight into how inequalities are formed via an intersectional way of understanding, at a molecular level.

The alienation inherent in being a cyborg, as *a machine aware of being a machine* (as described by Paul B. Preciado), produces an understanding of the constructed nature of things, foregrounding how technologies such as synthetic hormones (BPA in *The Underlying*, for example) can lead to a *writing* technology of choice. All of this matters, deeply, if we are to mutate from what we currently know to forge a future engineered differently to the past, with the spark of imagination necessary to reboot the future, collectively and inventively, with care and deliberation.

BEYOND MATTER, WITHIN SPACE

Curatorial and Art Mediation Techniques on the Verge of Virtual Reality

Edited by Lívia Nolasco-Rózsás
with Marianne Schädler

HATJE CANTZ

BEYOND MATTER, WITHIN SPACE

For Peter Weibel (1944–2023)

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HATJE CANTZ

INTRODUCTION. Beyond Matter Residency Program

Felix Koberstein

How can virtual reality tools and digitization contribute to developing artistic practices that question materiality and offer possible ways to shift the discourse into other dimensions like experience, visualization, imagination, sensory perception, atmosphere, or spirituality? How can artistic practices using virtual reality contribute to current political and social discourses? What is the potential of virtual reality within the art field? And how can virtual reality serve as a media basis for overcoming physicality and temporality in order to create something new based on today's possibilities? What can VR stand for? Virtual Reality, Variable Relations, Vertical Radiation, Valid Readings, Vaporous Restoration, Visible Revision? Applicants are invited to consider not only the multivalent applications of the latest representational systems, but also how they can be expanded. The projects must be conceived as versatile as their fields of application are constituted. That is why the search is not for one answer, but for many solutions.

— extract from the open call announcement for the Beyond Matter residencies

On the basis of the thematic outline above, three partnering institutions—ZKM | Center for Art and Media Karlsruhe, Tallinn Art Hall, and Tirana Art Lab—invited applicants from the fields of art and theory to submit project proposals. Between 2020 and 2023, a total of fourteen residency fellowships were awarded to artists and researchers, each of whom had two months to develop their projects. The framework of the residency program enabled artists and researchers to delve into novel digital approaches to exhibition ↘ revival, documentation, and dissemination, while encouraging them to explore the artistic and curatorial opportunities provided by virtual systems of representation. The overarching aim of the fellowship program was to identify the different potentials of virtual reality tools. With their local and professional networks of expertise, the participating partner institutions could assist the fellows in this task by offering practical solutions and equipment, such as workshops, seminar rooms, and exhibition opportunities, as well as professional support. Due to the varying degrees of difficulty posed by Covid-19 restrictions in Germany, Estonia, and Albania, applicants could alternatively submit a purely digital project.

The interviews and transcripts in this final chapter of the Beyond Matter publication report on the projects developed over the course of the residency program and explore their rich potential. They also highlight the obstacles encountered and adjustments made due to the pandemic. The contributions follow the chronological sequence of the residencies at the partnering institutions in Karlsruhe, Tallinn, and Tirana.

BEYOND MATTER. CULTURAL HERITAGE ON THE VERGE OF VIRTUAL REALITY
Project Members

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Research assistant: Moritz Konrad (ZKM | Hertz-Lab)

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IT support: Christian Lölkes, Volker Sommerfeld, Christoph Wetzel (ZKM | IT)

PR, communication, and marketing: Felix Brenner, Svenja Liebig, Anne Thomé, Anouk Widman (ZKM | Communication and Marketing)

Publications coordination: Jens Lutz (ZKM | Publications)

Art education and mediation: Janine Burger, Alexandra Hermann, Regine Frisch (ZKM | Museum Communication)

Online mediation program, *Spatial Affairs. Worlding:* Beatrix Szörényi

Webinar series moderator: Barbara Kiolbassa (ZKM | Museum Communication)

Aalto University MA fellows: Jennifer Greb, Tim Moesgen, Mirka Sulander

Research fellows: Constança Babo, Esteban Gutiérrez-Jiménez, Amanda Tristão Parra, Natassa Philimonos

Technical project management: Thomas Schwab (ZKM | Museum and Exhibition Technical Services)

UI/UX design and motion design, *Iconoclash as a Digital Experience* and *Les Immatériaux: A Virtual Exhibition*: Matthias Heckel

3D modeling, *Iconoclash as a Digital Experience:* Matthias Clostermann, Imad El Khechen, Mikail Kolbasar, Matthias Leipholz, Sebastian Schlattmann, Dario Schmid, Nico Trautwein

Software development for *Iconoclash as a Digital Experience* and *Les Immatériaux: A Virtual Exhibition*: Netzbewegung GmbH

Exhibition architecture for *Iconoclash as a Digital Experience*: Manfred Wolff-Plottegg

Scenographic advisors for *Iconoclash as a Digital Experience*: Nicolas Rauch, Mira Schröder

Audiodesign for *Iconoclash as a Digital Experience*: Nagy Ágoston

Archival team, *Iconoclash as a Digital Experience*: Proiti Seal Acharya, Jiaxuan Cai, Danica Detelic, Theo Ferreira Gomes, Moritz Konrad, Felix Mittelberger, Amanda Tristão Parra, Eva Scholl, Mirka Sulander, Aline Weber, Luka Zimmer, Masha Zolotova

Design, *The Immaterial Display*: Commonplace Studio

Technical support, *The Immaterial Display*: Martin Häberle (ZKM | Museum and Exhibition Technical Services)

Scenography, *Matter. Non-Matter. Anti-Matter* – ZKM | Karlsruhe: Matthias Gommel (ZKM | Hertz-Lab)

Technical team, *Matter. Non-Matter. Anti-Matter* – ZKM | Karlsruhe: Martin Mangold, Volker Becker, Claudius Böhm, Natascha Daher, Mirco Frass, Leonard Fries, Rainer Gabler, Gregor Gaissmaier, Julian Günther, Ronald Haas, Daniel Heiss, Christof Hierholzer, Werner Hutzenlaub, Alexandra Kempf, Gisbert Laaber, Regina Linder, Christian Naingollan, Marco Preitschopf, Richfelder, Martin Schläfke, Marc Schütze, Nico Trautwein, Niklas Wallbaum (ZKM | Museum and Exhibition Technical Services); Henrike Mall, Leonie Roek (ZKM | Conservation Team); Florian Draheim, Christian Draheim

Photo documentation: Esteban Gutiérrez-Jiménez

Residency project *Call Signs*, sound support and mastering: Tobias Maria Koch

Residency project *Call Signs*, digital consultant: Andrew Madden, David Kaskel

Residency project *Drifting, Browsing, Cruising*, sound design: Andreas Yakovlev Michaelides

Residency project *Pandemonium*, programming: Luke Weston

Special thanks to: Christiane Riedel

Aalto University, Espoo, Finland

President: Ilkka Niemelä

Dean of the School of Arts, Design and Architecture: Thomas Auvinen

Project coordinators: Lily Díaz-Kommonen (head), Cvijeta Miljak

Concept development and implementation of Performance Oriented Research (PORe) workshops: Lily Díaz-Kommonen, Cvijeta Miljak

Concept design, *Les Immatériaux: A Virtual Exhibition*: Aalto University, Espoo, Finland

Aalto University MA Fellows: Niklas Alenius, Punit Hiremath, Edoardo Piroddi, Jiaxin Tao under the supervision of Lily Díaz-Kommonen and Cvijeta Miljak

Development and implementation of *The Immaterial Display* exhibition program: Cvijeta Miljak, Lily Díaz-Kommonen in collaboration with "Systems of Representation" research group and students at Aalto University

Development and implementation of the exhibition *Heritage as a Source of Knowledge in Art and Design Education* exhibition (June 10–18 2022 at Espronceda – Institute of Art and Culture, Barcelona): Lily Díaz-Kommonen, Cvijeta Miljak.

Development and organization of Aalto MA Fellowship Program: Lily Díaz-Kommonen, Hanna Karkku

Coordinator Aalto MA Fellowship Program: Cvijeta Miljak

Administration: Hanna Karkku

Financial controllers: Elena Igonen, Esther Saraste

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Director of Musée National d'Art Moderne/Centre de création industrielle: Xavier Rey, Bernard Blistène (until December 2021)

Project coordinator: Julie Champion Lagadec

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Concept, *Les Immatériaux: A Virtual Exhibition:* Philippe Bettinelli, Julie Champion Lagadec, Marcella Lista

Intern: Rossella Cillani

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3D modeling, *Les Immatériaux: A Virtual Exhibition*: Jean-Philippe Bonilli, Jean Charlier, Sonia Descamps, Mica Gherghescu, Arnold Jeanville, Nicolas Liucci-Goutnikov, Laetitia Poissonnier, Sylvain Wolf

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Graphic design, *Spatial Affairs*: Zoltán Szmolka, Dessin Design

Technical staff, *Spatial Affairs*: Béla Bodor, Béla Benjamin Bodor Jr., Zoltán Ináncsi, Ernő Porubszki, György Takács, Márton Walch, Albert Zelena

Design and programming, guided tour software, *Spatial Affairs. Worlding*: The Rodina (Tereza and Vit Ruller)

Soundscape, *Spatial Affairs. Worlding – Á ter világlasa*: Enrico Boccioletti

Concept and project management, "HyMEx – Hybrid Museum Experience 2021" symposium: Borbála Kálmán

Aalto University MA fellows: Selina Oakes, Pekko Vasantola

Tallinn Art Hall, Estonia

Director: Paul Aguraiuja, Taaniel Raudsepp (until May 2020)

Project coordinators: Karolin Nummert, Hanna-Antheia Stern

Curator Beyond Matter, residency program and *Immerse!*: Corina L. Apostol

Graphic design, *Immerse!*: Henri Kutsar

Exhibition design, *Immerse!*: Päär-Joonap Keedus, Valge Kuup

Technical team, *Immerse!*: Johan Huimerind, Henri Piiroja, Keiu Maasik

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Graphic design, *Matter. Non-Matter. Anti-Matter*: Paul Voggenreiter

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Design, *Tirana Floating Archive*: Denislav Golemanov

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Design, *Tirana Floating Tours*: Studio Parallel Tirana

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Aalto University MA fellow: Lisa Rein

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EPFL Pavilions, Lausanne, Switzerland

Director: Sarah Kenderdine
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Beyond Matter

Centre Pompidou

Tallinna Kunstihoone
Tallinn Art Hall

Tirana Art Lab

Ludwig Múzeum — Museum of Contemporary Art

Associated Partners

EPFL Pavilions

GIM | Gesellschaft für Innovative Marktforschung

Bio Design Lab

HAWK Fakultät Gestaltung Hildesheim

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Founders of ZKM

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Ministerium für Wissenschaft, Forschung und Kunst

Karlsruhe

Premium partner of ZKM

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Exhibitions are sites of knowledge production and exchange, and their spatial qualities are central to contextualizing the information harbored within the artworks they present. In virtual emulations of exhibitions, immersion is not bound to geographical location but to the interplay between materiality and representation. Bringing together partners from around and beyond Europe, the research project Beyond Matter (2019–23) aimed to make sense of the interdependence between physical and virtual and to decipher the impact of that interdependence on the spatial aspects of producing, curating, and mediating art. In exploring the so-called virtual condition, the project proposed new modes for preserving cultural heritage while probing the potentials of digital world-making.

This publication, *Beyond Matter, Within Space. Curatorial and Art Mediation Techniques on the Verge of Virtual Reality*, offers a comprehensive overview of the multifaceted research activities conducted by the Beyond Matter partners and takes a deeper look at the enfoldments of virtual reality. In interviews, scholarly essays, and other texts, the authors document the project outcomes and expand on its theoretical foundations.

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