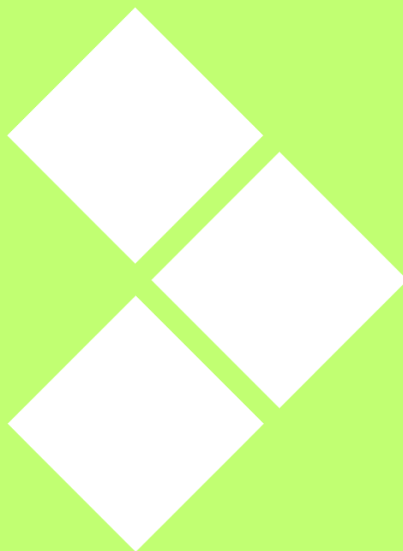


Critical Curating in the Digital Age



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Critical Curating in the Digital Age

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Terms and Introduction

part I

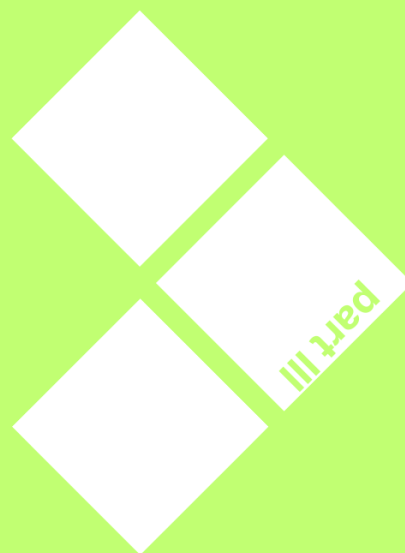
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My research involves interviews with cultural workers, researchers, and activists, literature research, various lecture performances, and a visit of the panel hosted by Belvedere 21 in Vienna, The Art Museum in the Digital Age, in 2023 as well as attending the course at the Node Centre on Curating and Designing Virtual Exhibitions held by Bika Rebek.

During the research process, I was thankfully given the opportunity to exchange views with cultural workers, programmers, and activists. I encountered an enormous willingness to talk about topics and to share important issues with me. In the following, I attempt to make a small contribution and collect what I consider to be essential attitudes and inputs. Dear readers, please see the following work as a process and an invitation to continue the collection.

I would like to thank my master's thesis supervisor Martina Griesser for her time, feedback and support. I would also like to thank everyone who has taken the time to meet me for an interview. Your openness and sharing of strategies and aspects have given me a very promising picture of the future.

Abstract

„[J]ede Form von Macht provoziert eigene Widerstandsformen.“ (Stalder 2021, S.242) Based on Felix Stalder's quote, in my master's thesis I develop possible blueprints for achieving critical curating in the digital age. The focus here is on queer-feminist theories and artistic-research strategies, as well as hacktivist tactics to enable participation. I am interested in how resistant methods impact and overwrite definitions of space, infrastructure, narratives, curating. When museums collaborate with big tech companies to generate new audiences and make archives virtually “accessible”, there is a lack of awareness and potential blueprints for a possible ethical and sustainable use of technology and tech “gimmicks”. Looking at the history of violence of museums in connection with tech corporations, a continuation of this emerges in digital spaces. Bot represent spheres that should be accessible to the public and encourage popular participation but are modelled by actors into closed, exclusive meeting places.

This thesis thus also focuses on different strategies and aspects of resistance provoked by the consequences of the digital age. More precisely, it explores the question of which resistant strategies can be incorporated into curating in the digital age.

To this end, I first present terms which need to be considered when cultural workers decide to work with digitization in exhibitions or museological contexts such as archival work. A critical look at the past reveals not only a repetition but also an expanded level of power. Here, I attempt to show the given power structures that arise with data and knowledge and how this affects institutions and their actions.

In the second part, I examine applied resistance strategies of cultural workers. The focus lies on a personal selection and does not attempt to make a holistic claim to resistant solutions. In this part, I conclude that a redefinition of concepts, narratives, and infrastructure is required.

The third part can be read as an attempt to incorporate the concepts from the first part into individual curatorial action, and then to create possible blueprints for critical curating in the digital age based on the strategies identified in the second part. Here, too, there is no claim to completeness, but my personal preferences on how to act in resistance. These stem from queer theory and hacktivist approaches.

Disclaimer: I have tried to create an orientation with three colors, as there are many overlaps, references, or additions throughout the text.

Terms and Introduction

part I

1 Terms and Introduction

“Jede Form von Macht provoziert eigene Widerstandsformen.”¹ - **Felix Stalder**

Based on this quote, I will focus my master’s thesis on different strategies and aspects of resistance provoked by the consequences of the digital age. This inspired the research question for the thesis presented:

Which resistant strategies can be incorporated into curating in the digital age?

In the first part, I will detail the current state of affairs, revealing the topics that dominate the virtual space from a motivation of awareness creation. During my research, I noticed that activist artists and researchers have to work against cultural narratives created by large corporations which offer large institutions or artists the opportunity to collaborate, however, with unpleasant entanglements that perpetuate their narrative. These entanglements harbor colonialities and discriminatory strategies. The second chapter of this work deals with the subsequent redefinition of curating itself and examples of activist strategies applied to achieve this end.

Due to the privatization that occur in the virtual space, the conditions for democratic strategies become more challenging. It is noticeable that topics are processed as illusory discourses by corporations in order to maintain a contemporary open discourse; in the end, the emphasis is on illusory discourse. The power of big technology corporations lies above all in the narrative that they convey to society, which is why in chapter 3 I will detail how this leads to enormous restrictions in perspectives, with the consequence that the majority of society no longer perceives the shrinking of democratic possibilities. The most important areas hereby are the aspects of agency, infrastructure, and the reclaiming of cultural narratives themselves. I emphasize that, while the digital is commonly understood to be a space with possibilities, when taking a closer look into this sphere there are thresholds, data traits, discrimination, and clearly biased and excluding algorithms. The thesis ends with a conclusion summarizing the most important aspects mentioned.

In the following, I will present important terms that serve as starting points for the thesis, which are essential for a critical view of the question of democratic potentials of virtual spaces.

¹Stalder 2021, p.242.

1.1 Data and Power

Following the question of democratic potential, equality of voices, and inclusive participation, it becomes apparent, as **Legacy Russell** aptly describes it, that “[a]ll technology reflects the society that produces it, including its power structures and prejudices.”²

Not only are the power structures of the real world reflected in the virtual world, but new hierarchies are also emerging because of data collection and data trading.³ Big tech companies continue to be strengthened and “errors and biases can flood the system”⁴ due to countless data streams that are almost impossible to keep track of.⁵

Important to mention in this context are the concerns about the instrumentalization of knowledge as articulated by **Jean Paul Lyotard**, **David Berry** and **Michael Dieter** in their respective work⁶ as well as Felix Stalder’s observation of the resurgence of two tendencies: On the one hand, he points to a direction that works with the expansion of post-democracy according to Crouch

and Stalder with a subliminal and gradual curtailment of participation, on the other hand these barely noticeable interventions leave lasting traces in the understanding of “normality” and “everydayness”⁷.

Finally, as **Lukas Fuchsgruber** urges in “Dead End or Way Out?” the focus on the influence on public spaces such as cultural spaces and institutions cannot be ignored. Working in the digital field of cultural places demands to scrutinize the “existing power alliance between museums and the digital industry.”⁸

1.2 Digital Colonialism

The expansion of power inequality, exclusion, and exploitation of colonialism interweaves with the consequences of neoliberal results in so-called digital colonialism. The origin of the term electronic colonialism goes back to Herbert Schiller and his publication *Communication and Cultural Domination* (1976). Here, **Mark Hudson** emphasizes the importance of Schiller’s contribution to understanding the power with which corporations and the media exude neutrality and utility.⁹

Colonial violence such as “ownership and control of territory and infrastructure, the

²Russell 2020, p.23.

³Cf. Stalder 2021, p.218.

⁴Broussard 2023, p.22.

⁵Cf. *ibid.*, p.22.

⁶Cf. Dewdney/Sluis 2023, p.7.

⁷Stalder 2021, p.209.

⁸Thiel/Bernhardt 2024, p.71.

⁹Cf. Hudson, *Understanding Information Media in the Age of Neoliberalism: The Contributions of Herbert Schiller*, in: *Progressive Librarian* #16 (1999), p.32f. Available at: <http://www.progressivelibrariansguild.org/PL/PL16/026.pdf>

exploitation of labor, knowledge and raw materials”¹⁰ is expanded into digital colonialism with electronic innovations such as “undersea cables facilitating telegraphic communication in the service of the British Empire.”¹⁰

Nowadays, big tech companies rely on the extraction of raw materials from former colonized areas and data evaluation which they outsource to Africa, South America, and Asia, resulting in underpayment and forced labor.¹¹

“Digital colonialism is about entrenching an unequal division of labor, where the dominant powers have used their ownership of digital infrastructure, knowledge, and their control of the means of computation to keep the South in a situation of permanent dependency,”¹² Kwet summarizes. Also, he refers to a shift: “[M]anufacturing has moved down the hierarchy of value, displaced by an advanced high-tech economy in which the Big Tech firms are firmly in charge.”¹¹

The infrastructure of *Digital Colonialism* must be read as a chain reaction of market behavior, as the main players reproduce these structures by profiting from them: Starting with Big Tech companies providing

tools for collecting data and continuing with advertising companies, political or local companies, organizations paying for the tools and data. This is then followed by using people “who knowingly and unknowingly act as data sources for [tech companies] and as target groups”¹³ for companies.

1.3 Technochauvinism

The term *Technochauvinism* was coined by **Meredith Broussard**, which she locates in the problematic need of specifications, such as the hierarchical emergence of humans, animals and plants based on Linnaeus.¹⁴ This urge leads to the insistence on the accuracy of stored data as scientifically correct combined with the desire for the latest technological achievements¹⁵, which is another alarming characteristic and consequence for Broussard¹⁶. *Technochauvinism* exists due to a lack of ethical education in technical and programming training and by maintaining societal clichés, for example the narrative that programmers are cleverer and therefore better than the average person.¹⁷

¹⁰Kwet, Digital colonialism. The evolution of US empire, in: [Digital colonialism: The evolution of US empire - Longreads \(tni.org\)](#) (10.05.2024).

¹¹Cf. Ibid.

¹²Ibid.

¹³Coleman, Digital Colonialism: The 21st Century Scramble for Africa through the Extraction and Control of User Data and the Limitations of Data

Protection Laws, 24 MICH. J. RACE & L. 417 (2019), p. 423. Available at: <https://repository.law.umich.edu/mjrl/vol24/iss2/6>

¹⁴Cf. Broussard 2023, p.26.

¹⁵Cf. Ibid, p.61.

¹⁶Cf. Ibid., p.63f.

¹⁷Cf. Ibid., p.99.

Technological systems are inherently biased. Even when programmers create “without the intent to be racist or sexist or ableist [they] may still build a system that is biased, perhaps because of the builder’s unconscious bias or because the system is built on top of a problematic social structure.”¹⁸ To Broussard, it is crucial to implement ethical questions into the training to achieve an inclusive approach.¹⁹ Further, she points out that one has not only to be aware but also cautious, for example, while using technical equipment as an activist’s tool.²⁰

1.4 IRL

The concepts presented in the following sections are intended to provide a critical look at the democratic possibilities of virtual space. Examples from art and technology will show the reality of virtual gimmicks in cultural institutions, the sets of problems artists and programmers are confronted with, and how cultural workers can deal responsibly and consciously with technological spaces of possibility. It is vital for me to emphasize that the digital era is leaving its imprint on the art and cultural landscape, especially in areas of inclusion and participation or archiving, where responsible use can lead to steps in a

democratic future. However, it is important to consider how the history and potential data trades affect artists, institutions, and the public.

1.4.1 Google Arts and Culture

This subchapter deals with an example combining the terms discussed above: Google Arts and Culture, the platform formerly known as The Google Culture Institute which was silently renamed in 2016.²¹

Geraldine Juárez points to a factor of *techno colonialism* in the way Google Arts and Culture operates and draws a comparison with “the colonial impulses embedded in the scientific and economic desires [...] to collect, organise and manage information in the 19th century”²² Juárez “situate[s] contemporary accumulation and management of information and data within a technoscientific landscape driven by ‘profit above else’ as a ‘logical extension of the surplus value accumulated through colonialism and slavery’.”²²

Therefore, it doesn’t matter with which religion or gender people identify or where they are culturally rooted in as long as the majority accepts the superiority of the technological, and therefore companies

¹⁸Ibid., p.28.

¹⁹Cf. Ibid., p.99.

²⁰Cf. Ibid., p.26f.

²¹Cf. Juárez 2016, p.192.

²²Ibid., p.183f.

can use this believe to reach their goal of “turn[ing] it into data, rank it, produce content from it and create experiences that can be monetized.”²² The strategy to cooperate with cultural Institutions where past and future narratives were shaped and created “in order to elevate a certain culture and way of seeing the world above others”²² seems absurd, but is nevertheless profitable for Google. By tapping into and obtaining data from institutions that are clearly colonially biased²³ it is not surprising to see approaches such as favoring large institutions based in Europe or North America and the introduction of the “The Museum of the World.”²⁴

1.4.1.1 Conditions

With incentives such as equipment for the documentation of the collection as well as employees for the scanning and digital embedding, Google Arts and Culture offers cooperating cultural institutions an interesting platform.²⁵ Especially with Google’s effort of ongoing adaptations of tools and gimmicks, introduced after collecting and analyzing user behavior data. But these changes are often not communicated transparently to cooperating museums, as **T. Leo Cao** observes. Even when fundamental changes occur, such as the updated statement on the website –

“Google Arts & Culture is a non-commercial initiative” – Cao points out that non-profit has been quietly replaced by non-commercial.

Cao analyzed numerous interviews with cooperating museums, where the lack of communication, credits, and captions, due to automatically generated image descriptions, were large concerns, as was the loss of control in administration due to unclear insight into contracts or no exit options. Another concern is the handling and presentation of the looted indigenous artifacts.²⁶

1.4.2 Digital Preservation

In general, the search for democratic potential raises the problem of the Western definition of museums and what their characteristics should be. This narrative continues to be spun by companies such as Google for profit. The consequences for cultural spaces that according to these “norms” are not considered as “museums”²⁷ must face the repetition and continuation of “existing power structures, replicated colonial knowledge formation, and even amplified capitalist-colonialist data systems

²³Cf. Ibid., p.183f.

²⁴Cf. Dekker/Giannachi 2023, p.98.

²⁵Cf. Ibid., p.82.

²⁶Cao, T. L. (2024, January 15), Skulls, Wings, and a Sky. AI Gamification and Institutional Autonomy on

Google Arts & Culture. The Art Museum in the Digital Age – 2024. International Online Conference. <https://www.belvedere.at/en/digitalmuseum2024#Program>

²⁷Dekker/Giannachi 2023, p.90.

by a new ruling class of information capitalism”²⁸ which are also significant.

One example of this is the National Museum of Brazil, which burned down in 2018. The “value” of a museum in the eyes of the company can be seen in its documentation. Digitization, according to Google’s standards, is seen as the task of museums. Google offers “storage and access”²⁸ but expects a digitized end product. In the case of the National Museum of Brazil, this could not be realized due to time and budget constraints before the fire, therefore the collaboration was limited to a virtual tour with Streetview through the rooms with the “main highlights”²⁹ of the museum.

After the fire, a community-based call to collect all the pictures and videos taken in the museum showcases a second insight of documentation. This “digital residue”, as **Ofri Cnaani** puts it, shows the perspective of the public and how the space was approached. These contributions to collect digital remains are “a portal to other data they have been slowly aggregating” such as “other images they saw, texts they read, locations they checked in at, a personal library organised by geolocation or facial recognition software, social networks, and other data points.”³⁰

While thinking about democratic potentials, Cnaani shifts the focus onto a redefining possibility happening when “(institutional) ‘collection’ no longer needs to be understood as a closed system that can be indexed but rather as a set of interfaces between many collected artifacts that are forming a new set of relations, often activated by the visitor/user.”³¹

Another inequality due to Western ideas about the concept of the museum and the associated requirements of Google are visible in the listing of Google partners. In 2021, out of 1200 participating museums only 169 partners were located in the Global South.²⁸ For an up-to-date view of the status of participants, the Arts and Culture Map shows a clear focus on Western museums.³¹

1.4.2.1 Heritage Preservation

Rekrei is “a crowdsourced project to collect photographs of monuments, museums, and artefacts damaged by natural disasters or human intervention, and to use said data to create 3D representations”³², founded by two students after the release of a video which depicted the brutal actions of ISIS.

²⁸Dekker/Giannachi 2023, p.93.

²⁹URL:

<https://artsandculture.google.com/story/eAVhSV60QmrWlw> (Retrieved: May 10, 2024).

³⁰Dekker/Giannachi 2023, p.88.

³¹URL:

<https://artsandculture.google.com/partner?tab=map> (Retrieved: May 10, 2024).

³²URL: <https://rekrei.org/about> (Retrieved: May 10, 2024).

In contrast, CyArk is probably better known because of its collaboration with Google Arts & Culture or its mission “Creating Equitable Access to Cultural Heritage”³³, for example through 3D modelling courses or open access.

The cooperation between CyArk and Google Arts & Culture results in the release of Open Heritage 3D in 2018, “a dedicated portal for sharing 3D cultural heritage data and results with everyone,”³⁴ says John Ristevski.

Both are linked by the approach of reconstructing cultural sites worldwide as digital twins. **Nour A. Munawar** emphasizes the importance of documentation, which can help those affected to deal with the grief and the trauma³⁵ but stresses the importance of not losing sight of historical interferences “of Western political, economic and cultural interventions in the MENA region, particularly the Arab region.”³⁶

Munawar expresses concerns of neutrality and the colonial past entangled in the contemporary motivation of “helping” to save digital versions of important places. In fact, the concerns of Munawar are showing themselves in the debates and ideas of academics based in the western regions

instead of working with the peers who are affected.

On the CyArk website, the words exploration and storytelling are used frequently and the visual aids of the narrative, mostly images with groups of children and technology with the CyArk logo in front of a building worthy of protection, are presumably intended to refer to successful projects; in the end, these images are reminiscent of documents from the colonial era. The disturbing pictorial language and words used on the website by a company with a mission “to make the world’s cultural heritage accessible to new audiences and future generations”³⁷ shows the problematic embeddedness of the colonial past into the future as a narrative of the white saviour.

1.4.2.2 Collective collections of memories

Munawar emphasizes to stretch the term documentation to “a cultural process that preserves a society’s collective memory” which is “not limited to museum collections, archaeological sites, monumental buildings or other tangible heritage, but also extends to include memories and heritage and remnants of violence that are produced by or due to armed conflicts”³⁸. By this, the use

³³URL: <https://cyark.org/whoweare/mission/> (Retrieved: May 10, 2024).

³⁴URL: <https://blog.google/outreach-initiatives/arts-culture/world-heritage-day-explore-historic-sites-3d/> (Retrieved: May 10, 2024).

³⁵Dekker/Giannachi 2023, p.100.

³⁶Ibid., p.101.

³⁷URL: <https://www.cyark.org/whoweare/> (Retrieved: May 10, 2024).

³⁸Dekker/Giannachi 2023, p.102f.

of virtual channels as “an open-access and crowd-sourced tool” and also as documenting the resistant evidence and remains of time for warning generations of the future can also be seen, he states, as a critic of the failure and lack of preserving “memories of Syria’s last uprising in the 1980s”³⁸ as well as the political regime’s ban of sharing the traumatic past.

Ofri Cnaani adds an important addition to the conflicting topic: the privileged hyper-documenting of the Western past, the need to document everything compared to cultures already being exploited and erased from a memory of the past, describes “technical practices of saving and deleting [which] are still entangled by the geopolitical biases and cultural struggle for the right to be remembered.”³⁹

1.5 Coded Gaze

After **Dr. Joy Buolamwini** was forced to discover, in a harmful way, that the system does not read her face and skin tone correctly when creating software using facial recognition, even while programming she was forced by algorithms to use a white mask to make it function properly⁴⁰. With

these disturbing realizations she coined the term coded gaze “as a reflection of the priorities, preferences, and prejudices of those who have the power to shape technology”⁴¹ and uses the term to refer to a hegemonial construct of discrimination.

In **Niloofar Yazdkhasti’s** Research “Iranian Cultural Heritage and Artificial Intelligence: Narration, Innovation, and Creation” she analyses stereotypes and biases in context of algorithms and museum archives. While investigating, she discovers besides non-applicable terms and keywords in archives and metadata, an oversimplifying algorithm, that was lacking information about the complexity of colour range, composition, and narratives. In Yazdkhasti’s research, the part of the “Sentiment Analysis” reveals further unpleasant stereotypes of the algorithms. For example, in analysing a scene that shows the moment after the Sufi ritual, Sama, with positive emotions of Contentedness and Satisfaction, the software instead depicts emotions such as pain and helplessness in the faces.⁴²

To come back to the beginning, Google Arts and Culture also operates with a coded gaze, which can be seen in the 2018 launch

³⁹Ibid., p.78.

⁴⁰Cf. Hamilton, 2020, The Coded Gaze. Unpacking Biases in Algorithms That Perpetuate Inequity, in: The Coded Gaze: Unpacking Biases in Algorithms That Perpetuate Inequity (rockefellerfoundation.org) (2024, May 10).

⁴¹Buolamwini, 2018, Fighting the “coded gaze”; in: Fighting the “coded gaze” – Ford Foundation (10.05.2024).

⁴²Yazdkhasti, N. (2024, January 17), Iranian Cultural Heritage and Artificial Intelligence: Narration, Innovation, and Creation. The Art Museum in the Digital Age – 2024. International Online Conference. <https://www.belvedere.at/en/digitalmuseum2024#Program>

of Art Selfie – described by Google as “a playful way to discover art”⁴³ – an app that fails to overcome harmful colonial, patriarchal gazes entangled with images of Western art history⁴⁴. Thus, Art Selfie reproduces “the structural inequality inherent to the creation of these tools themselves, with such algorithms created for and by whiteness, and so echo the exclusionary and violent art historical canon”⁴⁵.

⁴³URL: <https://artsandculture.google.com/>
(Retrieved: May 10, 2024).

⁴⁴Cf. Dekker/Giannachi 2023, p.94.

⁴⁵Russell 2020, p.25f.

Redefining curating



2 Redefining curating

“The suggested ‘democratic potential’ of technology stands in sharp contrast with widespread institutional angst about their declining relevance, and their threatened status as gatekeepers of legitimate interpretation (Deutungshoheit) and representation. You are right to be afraid. Yeah, you’d better be afraid—because the digital is no slave to the original! And, believe it or not, many people do not even require ‘the real thing’ anymore.”⁴⁶ – **Nora Al-Badri**

As already discussed in the Chapter “Data and Power” (Chapter 1.1), the relationship between the actors must be critically scrutinized. This includes incorporating and examining the power structures that museums gain or strengthen in cooperation with companies. Furthermore, as a cultural worker, it requires a critical view of one’s own position and activities in the digital field.

This subsequently leads to the processing of job classifications such as the term curator. The structures and narratives of this position should be considered.

⁴⁶Al-Badri, 2021, The Post-truth Museum, in: <https://opensecret.kw-berlin.de/essays/the-post-truth-museum/> (Retrieved: May 10, 2024).

⁴⁷Cf. Burr, S. A., Leung, Y.L., Definition “curare” in *Encyclopedia of Toxicology (Third Edition)*, 2014, in: <https://www.sciencedirect.com/topics/neuroscience/curare#:~:text=Curare%20is%20a%20plant%20alkaloid,Current%20Opinion%20in%20Pharmacology%2C%202005> (Retrieved: May 10, 2024).

The urgency to rewrite the outdated concept of curating is not new. The origin of the word as caring activity comes from the Latin “curare”. Since colonial times, curare has also described a category of poisonous plants used by indigenous people for weapons⁴⁷. The word thus sports a history of violence on several levels.

With the following examples, I will illustrate how artistic activist practice clarifies democratic potential, how self-empowerment happens in virtual spaces and through disruptive moments, or how reappropriation and rewriting attacks, problematizes, and processes outdated concepts. The selection I offer will highlight possible blueprints of exhibition-making that work with resistant strategies to overcome narratives and infrastructures while reclaiming agency⁴⁸.

2.1 Examples of activist practices

As discussed at the beginning, I will focus on the quote by Felix Stalder, who points out that every form of domination provokes contradictions. I examine exhibitions that deal with the above-mentioned difficulties.

⁴⁸Author’s note: My aim here is to offer a critical examination without any claim to completeness or a clear guideline on how the curatorial can be redefined. Furthermore, I would like to refer to my positioning: The geographical area where I grew up and where I received my education has racisms, stereotypes, and categorical blinders that are certainly woven into my thought structures, with this I want to emphasize that as a white, cis but queer person I am speaking – about – sets of problems.

The primary focus lies on the exclusion of the public in terms of participation and the success of tech companies that are enchanting audiences with inclusive narratives which deliberately conceal actions that reflect stereotypes and racism and are therefore violent in character.

The investigation will thus examine measures that are applied curatorially in exhibitions in order to integrate the public. This practice manifests itself in a range of possibilities. By analysing these, I would like to highlight possible blueprints for future exhibitions that work with the potential of virtuality.

My selection of the examples below is based on three categories relevant to the research process:

- Infrastructure: Who or what is involved? Which spaces are being used or created?
- Narrative: Which approach did the curators choose to address the virtual?
- Strategies to reclaim agency: How did the curators intend to tackle the problematic aspects mentioned above?

With this approach, I intend to highlight resistant strategies and counter-narratives.

2.1.1 Utopias/dystopias as a strategy

The exhibition “/imagine: A journey into the New Virtual”, curated by **Bika Rebek** and **Marlies Wirth**, was shown in the MAK Vienna in 2023. To me, it reveals a unifying narrative through the impact of Bika Rebek and the **Some Place Studio**: The space-occupying aspect of the exhibition is characterized by the focus on architecture in the selection of artistic positions. I therefore see the exhibition as a starting point for my personal selection of shows that serve as an example of agency represented through reclaiming space. Furthermore, I want to highlight a resistant strategy of constructing places with narratives and visuals as counterparts of being embedded in a disturbing surrounding.

The show is sectioned into four parts: Speculative Narratives and Worldbuilding, Research Investigations, Dreamscapes and AI and Algorithmic Variation⁴⁹. Instead of an analog version of an exhibition catalogue there is a website that focuses on preserving the exhibition online. This approach contains installation views and texts from the show as well as animations of the exhibition design created by Some Place Studio. Additionally, the website offers a glossary (a collaborative work between editors and ChatGPT) and colour codes used in the installation design to give

⁴⁹URL: <https://www.thenewvirtual.org/#sections> / (Retrieved: May 10, 2024).

an overview into which section the artworks can be sorted. Hereby, it is important to show that multiple categories are possible.

The spatial expansion in the virtual allows a place for the expression of needs and desires as well as criticism of IRL lifestyles. The show represents a range of community building and alternative construction methods that lead to artificially generated solutions to the climate crisis and the consequences of racism, sexism, and queerphobia.

The title and prompt “/imagine” is reflected in the exhibition architecture through aesthetic features such as lighting moods and abstract spatial forms, turning a visit to the exhibition into an experience that combines real life with the virtual. It seems to me that the immersive and atmospheric exhibition design puts visitors in the role of an avatar who moves through portals into worlds that at first glance are convincing with sensory stimulation from their surface.

But by actively entering a portal, the urgent concerns of artists and collectives are revealed. In addition to the distinct focus on the utopian, the accompanying texts and four sections provide the audience with critical food for thought. A coherent picture emerges of the potential but also of the set of problems that is inherent in the virtual. It

is an exhibition that reaches a wide range of target groups, which is respected as a form of accessibility and thresholdlessness.

To me, a very important contribution to artistic research concerning the problematic areas we discussed in the beginning will be presented at the MAK: by showing **Morehshin Allahyari's** series “Material Speculation: ISIS” from 2015. This series is accompanied by a lecture performance “Physical Tactics for Digital Colonialism”⁵⁰. Allahyari's artistic practice tackles the terroristic destruction of cultural heritage as well as the symptoms of *technocolonialism*.

Additionally, the video work by Kordae **Jatafa Henry** “Earth Mother, Sky Father”⁵¹ from 2019 narrates an ending of exploitation of natural resources and affected communities. Embedded on a rich blue surface is a screen on a pile of dark rocks. Henry's video is embedded in a surrounding that allows to enter this portal with a clear headspace. The artist depicts reclaiming space “through dance – a ceremony for the God of Rare Earth”⁵² in 2030. The performer **Storyboard P** interacts with, in an in-between state of utopian setting and ruins of reality, the environment and the left-over vehicles.

⁵⁰The performance lecture can be viewed here: <https://morehshin.com/tag/physical-tactics/> / (Retrieved: May 10, 2024).

⁵¹The video can be viewed here: <https://www.nowness.com/story/afrofuturist-sci-fi->

[dance-performance-utopia-kordae-henry](https://www.nowness.com/story/afrofuturist-sci-fi-dance-performance-utopia-kordae-henry) (Retrieved: May 10, 2024).

⁵²URL: <https://jatafa.com/EARTH-MOTHER-SKY-FATHER-PROJECT/> (Retrieved: May 10, 2024).

Henry describes a shift of “processes and infrastructure of mining have been revalued and ritualized as an important aspect of local culture.”⁵²

To my mind, Wirth and Rebek display a variety of technical opportunities to create utopic spheres in a dystopic IRL setting. On the one hand it allows spectators to enter synthetic landscapes, becoming acquainted with perceptions and angles while letting their senses be stimulated. On the other, the curators manage clearly to point onto the problematics of the relationship between user and tech companies. In my opinion, Wirth’s, Rebek’s, and Some Place Studio’s conception of the exhibition summarizes a snapshot of the situation we find ourselves in: an in-between-ness of potential and persistence in aesthetics.

2.1.2 Disclosure as agency

I firmly believe that there is potential for resistance in disclosure through artistic practice, therefore, I would like to introduce the aim of “Latent Spaces – Ambiguous Data” at the **ZHDK Zurich**, which focuses on reclaiming agency through observing the methods of utilizing, the influence of critical art concepts, as well as the influence of creating visual habits to examine “the

ambiguity of data as a precondition for agency”⁵³. Part of the leadership team are **Alexandre Puttnick, Cornelia Sollfrank, Felix Stalder, Gordan Savičić, Shusha Niederberger** and **!Mediengruppe Bitnik**.

Based on the “Latent Spaces – Performing Ambiguous Data” process and results, a collaboration with the offspace/exhibition space **We are AIA / Awareness in Art Zurich**, was initiated in 2022 with the exhibition “Can you see me now?”⁵⁴ curated by **!Mediengruppe Bitnik** and **Martina Huber**. We are AIA can be described as an offspace with a focus on interdisciplinary strategies to shed light on contemporary public concerns⁵⁵.

The exhibition “Can you see me now? – Practices of Tracking, Control, and Resistance” shows works by **Jeremy Bailey, Adam Harvey, Vladan Joler, Lauren Lee McCarthy, Joana Moll, RYBN.ORG, Gordan Savičić, Felix Stalder, Simon Wecker**.

The show reveals monitoring in public as well as in private areas. In particular, the traces that people leave behind in the virtual world and are revealed through user-oriented services and content is a form of surveillance and exploitation of information that happens in the background. The artistic positions negotiate the problems of optimization narratives such as security

⁵³Cf. URL: <https://latentspaces.zhdk.ch/about-us/about-more> (Retrieved: May 10, 2024).

⁵⁴URL: <https://www.weareaia.ch/can-you-see-me-now/> (Retrieved: May 10, 2024).

⁵⁵Cf. URL: <https://www.kunstbulletin.ch/institution/we-are-aia-i-awareness-art> (Retrieved: May 10, 2024).

and individuality in public areas, including virtual spaces. Furthermore they “explore [and shed light on] the shift from surveillance as technology to surveillance as infrastructure”⁵⁴ while strategically developing unconventional usage of data.

To illustrate that I would like to refer to the “Offshore Tour Operator” – a commissioned work by the art collective **RYBN.org**, which invites the public during the show to visit addresses of tax evasive companies. While offering instructions to use the app or to create their own customized designs of their “situationist GPS prototype”⁵⁶ the collective also invites the public to share the accomplished routes on their platform.

The artistic practice of **Adam Harvey** is another example of disclosing information as agency. As part of the exhibition at AIA Zurich, Harvey’s “Parallel Artifact Luf Boat” references another important discussion of the digital possibilities related to the topic of restitution. With the series “Parallel Artifacts”, Harvey experiments with “virtually relocat[ing] illicit museum artifacts to their original location by exploiting wireless geolocation signals on smartphone devices.”⁵⁷ During the show in Zurich, Harvey puts to the test whether the signals work at the Humboldt Forum Berlin (this is where the stolen artifact is located nowadays). Parallel Artifacts will

subsequently be installed at its original location, the Papua New Guinean island, Luf, and will mess with the geo-location of visitors to the Humboldt Forum.

I have decided to present the project because the space of interpretation of data is being questioned. The research project of the ZHDK Zurich and the exhibition curated by !Mediengruppe Bitnik opens up questions about scope and counter-narratives of data. For me, the questioning of data interpretability as a resistant strategy is an opportunity worth mentioning to reclaim agency. There is no point of comparison with the exhibition at the MAK, as for me it is about two different target groups and different infrastructural approaches. To me, both projects are important cornerstones that deal with democratic potential in so-called “public spaces”. Furthermore, both show different resistant approaches to address and tackle problems such as privatization and data mining as well as internalized racisms, sexism, and biases in algorithms and data sets.

Important for me are the questions surrounding the (re-)definition of space and the resulting creation of spaces of possibility for the public, which will be discussed in detail below.

⁵⁶URL: https://rybn.org/thegreatoffshore/index.php?ln=en&=3.OFFSHORE_TOUR_OPERATOR (Retrieved: May 10, 2024).

⁵⁷URL: <https://adam.harvey.studio/parallel-artifacts/> (Retrieved: May 10, 2024).

2.1.3 Redefining space

While thinking about the terms such as “space” or “spatiality”, the focus lies on the architectural consistence and features describing a closed sphere. This showcases a problematic area of exclusion and thus also tempts us into categorizing and establishing hierarchies. To me, it seems necessary to rethink and redefine these terms instead of dividing into dichotomies such as reality versus virtual sphere. Furthermore, it seems urgent to overcome traditional thinking of space. Especially in the digital age, space means a coming together of relations and circumstances, actors and actants, and should therefore no longer be read as closed places. Here, the dissolution of geographical and materialistic concepts of space can help to see the actual factors that define space.

Continuing and expanding the topic around (re-)defining space, I would like to introduce the **BEYOND MATTERS** project which dealt with and worked on this topic from 2019 to 2023 with exhibitions, discourses, and research. A collaboration of diverse cultural spaces in Europe like the Aalto University, School of Arts, Design and Architecture, Finland, Centre Pompidou France, Hertz Lab, ZKM Karlsruhe, Ludwig

Múzeum, Hungary, Tallinn Art Hall, Estonia, as well as Tirana Art Lab, Albania.

The various outcomes of the BEYOND MATTERS project shows strategies for preserving past exhibition in the virtual space and providing these concepts to cultural spaces and cultural workers through classes, discourses and the summarized analogue version called “Beyond Matter, Within Space”, among that, the project offers a variety of approaches to overcome the dichotomy of real and virtual space, while executing strategies in exhibitions and projects.⁵⁸

A core element of the project is the decomposition of the dichotomy of virtual and real, leading to an organic symbiosis. This can be seen in the exhibition “Spatial Affairs” curated by **Lívía Nolasco-Rózsás** and **Guilia Bini** at the **Ludwig Museum, Budapest**, which opened on April 21, 2021. In the documented curatorial tour, Nolasco-Rózsás and Bini explain how questions about space are answered through artistic positions.

The exhibition catalogue also offers an organic coexistence with seven different markings behind which art is translated into augmented reality.⁵⁹

Parts of the series from **Hans Hollein** “Nonphysical Environmental Control Kit” from 1967 at the beginning of the exhibition presupposes the questioning of space.

⁵⁸URL: <https://beyondmatter.eu/about> (Retrieved: May 10, 2024).

⁵⁹Cf. Nolasco-Rózsás/Schädler 2023, p.33.

Space is not only reduced to architectural features but also prompts discussion of the imaginative potential and the concept of the “third space”. This additional space roots in an accumulation of different theories such as **Karl Popper’s** “Three Worlds”, **Homi Bhabha’s** “third space”, as well as **Edward Soja’s** approach. While the concepts mentioned above are important starting points, the theory of **Gilles Fauconnier** and **Mark Turner** of the “mental or blended space” offers a more adequate blueprint for integrating a broader perception of space into the virtual sphere. This integration could potentially establish new understandings on relationships between users, technical devices, and spheres. Additionally, it helps to overcome the dichotomy of reality and virality, which is often simply linked with the term “hybrid”, viewing those realms “as conjoined twins and speaks of a new interactive space that is formed in the user’s mind”⁶⁰.

For example, when ingested, Hollein’s Pills enable hallucinations of spaces. Branscome highlights that Hollein’s “architecture pill” emerged at a time when research focused on drugs to treat anxiety disorders. This lead Hollein to examine the

aspect of imaginary space to explore after ingesting a specific pill.⁶¹

The exhibition “Spatial Affairs” shows early attempts to create new spatial levels through mirroring and reflection follow from the spatial imagination of individuals and appears almost screenless. Many of the artistic works are accompanied by a manifesto about space. *Dialectic Triangulation*, an illustration series by **Agnes Denes** reflecting on the “method of space” and the “unlearning”⁶², was one of the key works for this exhibition, according to the curators.

Another position in the show is from **Rosa Menkman**, who published the “Glitch Studies Manifesto” which describes experiment and disrupting outcomes as an aim. Menkman states the “utiliz[ing of] glitches to bring any medium in a critical state of hypertrophy, to (subsequently) criticize its inherent politics.”⁶³ For Menkman, the aim is to enable people to understand that technological instruments provide rules and principles to which people adapt. These need to be tackled until cracks appear “within politics and social and economical conventions, the audience

⁶⁰Kosari, Masoud, Amoori, Abbas, 2018, Thirdspace. The Trialectics of the Real, Virtual and Blended Spaces, in: https://www.researchgate.net/publication/327098478_Thirdspace_The_Trialectics_of_the_Real_Virtual_and_Blended_Spaces_Original_Article (Retrieved: May 10, 2024).

⁶¹Cf. <https://www.philipsteadman.com/blog/the-architecture-pill-by-eva-branscome/>. (Retrieved: May 10, 2024).

⁶²Curatorial walkthrough in the Spatial Affairs exhibition by Ludwig Museum Budapest, URL: <https://www.youtube.com/watch?v=-nae830jEeg> (Retrieved: May 10, 2024).

⁶³<https://beyondresolution.info/Glitch-Studies-Manifesto> (Retrieved: May 10, 2024).

may become aware of the preprogrammed patterns.”⁶⁴

The curated positions thus introduce a complex discussion about space-building as well as unlearning and redefining structures and behaviours. The resistant motives and energy can also be read in the displayed manifestos, especially the above-mentioned “**Glitch Studies Manifesto**”.

2.1.3.1 Spatial Affairs. Worlding

There is a virtual addition to the on-site exhibition called *Spatial Matters. Worlding*⁶⁵. Visitors can enter the additional online space with an avatar. In contrast to the white museum walls of the Ludwig Museum, visitors can expect a floating, openly designed area in a seemingly infinite sphere. The open area is home to abstract forms that are fixed to positions while others float through the section. Clicking on the floating forms reveals digitally born works of art.

Behind “Spatial Affairs. Worlding” stands the design collective **The Rodina, Tereza** and **Vit Rueller**. Their focus and aim while constructing online spaces are to avoid “commercial and industrial companies and platforms that offer tools for designers to

create virtual worlds”⁶⁶ – therefore they create independent spheres with the same or even better capacities. The collective stresses the urgency “to reclaim the agency of the individual online”⁶⁶ and refer to the limitation of companies that determine clear assessments and parameters about target audiences and patterns of interaction based on collected data.⁶⁷

The Rodina also emphasize building with open source, share their codes on Github and participate actively in discourses online, not only in the technical realm⁶⁸.

In my opinion, the democratic values in the handling of The Rodina must be emphasized, particularly since it describes an effective strategy for reclaiming individual agency in virtual space. Furthermore, the collective describes an expansion of agency for all, meaning the recognition and expansion of other participants, such as artistic works and technical actors, and their participation and relation to each other.⁶⁹

The Rodina describes “Spatial Affairs. Worlding” as a form of “virtual ecosystem” or as “a techno-scientific continuum of never-ending or infinite ends.”⁶⁹ The Rodina refer to another resistant strategy: to think of space not as a constant

⁶⁴Connor, Michael, 2023, SEED. Stories of Rhizome and Generative Art, in: <https://rhizome.org/editorial/2023/jul/28/seed-stories-of-rhizome-and-generative-art/> (Retrieved: May 10, 2024).

⁶⁵URL: <https://spatialaffairs.beyondmatter.eu/en> (Retrieved: May 10, 2024).

⁶⁶Nolasco-Rózsás/Schädler 2023, p.46f.

⁶⁷Cf. Ibid., p.46f.

⁶⁸Cf. Ibid., p.298.

⁶⁹Cf. Ibid., p.48f.

placement of walls for example, but as a place for togetherness and interaction. In order to generate agencies for participating beings, virtual spaces are deliberately not constructed according to the human architectural understanding.

2.1.4 Reclaiming the hidden

As another example of the abstract potential of space, I would like to introduce the project “Poetics of Encryption” at **KW Berlin**. The exhibition opened in February 2023 and is based on the structure and approaches of the book of the same title written by curator **Nadim Samman**.

In July 2021, Nadim Samman and **Katja Zeidler**, who is responsible for mediation at KW Berlin, address the supposed openness of our timeline with the online project “Open Secrets”. The curator’s interest in the internal structure of technology and its impact on society is already evident there. In this project, the paradox of supposedly technical support in society leading to “a new dark age of black boxes, projections and paranoia”⁷⁰ is being addressed.

In 2023, the curator’s attention is deepened. The final result of his research is showcased in his publication “Poetics of Encryption – Art and the Technocene” and

the exhibition with the same title. With the publication as base, the book chapters find their visualization in the exhibition taking place at the KW Berlin, accompanied by a panel and an online extension with commissioned works. Visitors of the website and extension are asked at the beginning whether the website is allowed access to the camera and data.

At the beginning of the publication, Samman disclaims the intention to “counter [...] Big Tech’s erroneous claims regarding a new culture of transparency and openness—showcasing, instead, a poetics of encryption.”⁷¹ This is accomplished, amongst other aspects, by contextualizing the “information asymmetries”⁷¹ as well as the closed nature of data and algorithms in so-called black boxes. Samman encounters with integrating dimensional potential of a “crypt” and “poiesis”⁷¹, this leads to rather dark places, such as the concept of the tartaros of Greek Mythology. Samman refers to the origin of the word infrastructure and compares the “cave system” of the construct’s “underworld” with today’s “infrastructural complex”⁷².

Nadim Samman deduces this as follows: “[e]tymologically, the Latin *infra* (below) begets *infernalis*, and there upon the hellish ‘infernal’ and its associated fire through the Christian tradition.”⁷²

⁷⁰URL: <https://www.kw-berlin.de/en/open-secret/> (Retrieved: May 10, 2024).

⁷¹Samman 2023, p.7.

⁷²Ibid, p.25.

This leads to a key essential reference of **Jussi Parikka**, who stresses the awareness that resources are extracted from the earth to enable technology to function.⁷³

Another crucial point in the publication examines the localization of corporeality in spaces. This confrontation opens up physical experiences that resemble rituals such as GPS data tracking or changing into virtual characters and figures. Furthermore, the connotated ease and within this physical state of weightlessness in descriptions, such as “data stored in clouds and shares float along”⁷⁴, are addressed and analyzed.

Nadim Samman focuses on the illusory ease with which companies use technological innovations to make customers believe. In doing so, he localizes the “Technocene” in a “deeply encrypted”⁷⁵ environment. This stresses a summoning of artistic research and positions, which “expose[...] the subject while at the same time muddying the waters with respect to the boundaries between personhood and a technical phenomenon to be managed.”⁷⁶

The dilemma has its root, according to Samman, in the human creation of the untouchability of Black Boxes. This intangibility of the Black Box nourishes an inequality “of access and exclusion from

engineered systems”⁷⁷ and harbours within this the containment of individual capacity to act – “the possibility of free agency”⁷⁸.

The displayed “The Post-Truth Museum” from 2021–2023 is a video by Al-Badri working with deepfakes. In this work, the artist presents three speeches of directors of famous European museums. In the deepfake version by Al-Badri, the three characters appear almost reconciling with inserted apologetic and critically reflective words about the museum’s history and refer to the colonial past.⁷⁹

Overall, the importance of Nora Al-Badri’s artistic practice is also highlighted in the publication of Samman. Al-Badri’s practice uses the strategy of the so-called “jailbreak” for her projects, for example, the series “Babylonian Vision” from 2020 where the artist focuses on five huge collections from museum worldwide with “Mesopotamian, Neo-Sumerian, and Assyrian art”⁸⁰.

The artist refers to the difficulty of accessing images and data from those collections. This is why she uses the tactic of “jailbreaking”, a term that has its origins in the deletion of software settings from

⁷³Cf. Ibid, p.27.

⁷⁴Ibid, p.29f.

⁷⁵Ibid, p.54.

⁷⁶Ibid, p.76.

⁷⁷Ibid, p.139.

⁷⁸Ibid, p.55.

⁷⁹Cf. URL: <https://poeticsofencryption.kw-berlin.de/src/html/Exhibition.html> (Retrieved: May 10, 2024).

⁸⁰Samman 2023, p.132.

companies such as Apple or iOs so that personal settings can be granted.⁸¹

Al-Badri trains the GAN software from parts of the collections that were possible without major thresholds, as well as images and data online. The artist thus points to the legal paradox that AI training is a concealed process, which allows the materials used to hide in the non-traceability. From this, she emphasizes the resistant side of AI.⁸² In her practice of creating “techno heritage”, she demonstrates “a way of practicing resistance: taking back and re-possessing cultural data and its built-in narratives.”⁸³ This strategy is based on the observation of the increase of the so-called “digital assets” or “digital artefacts”⁸³ in institutional possession. Nora Al-Badri urges the “museums and colonial nations of the Global North” to reflect on the “data [...] haunting [and those] Demons are waiting”⁸⁴ and thus refers to the additional level of ownership that institutions acquire here.

To me, Nora Al-Badri’s artistic practice by reclaiming processes from companies and institutions through creating “techno heritage” epitomizes the curatorial approach set out by Nadim Samman on the one hand, on the other it clearly resembles the exhibition at the AIA Zurich and the

research of the multilayered usage of data behind the show.

The concept of the exhibition illustrates current dominant positions, their scope for action, and the strategies they use to maintain this imbalance. Both the book and the exhibition “Poetics of Encryption” succeed in revealing this cynical dilemma of human-made technology and its inherent weaknesses. I truly enjoy and consider it particularly worth emphasizing that Nadim Samman manages to focus on the imaginative space and mood by bringing together technological aspects with mythologies and mythical creatures in a poetic and fever dream-like manner.

2.2 Resistant strategies in the selected exhibitions

The above-mentioned and described exhibitions all pursue the aim to critically examine human-made technology. All of them succeed by referring to current and future problems, focusing on critical artistic research, and allowing a broader infrastructure within the projects. Most importantly, all of them indicate resistive strategies to share, expose, and involve the public.

⁸¹Cf. Rouse, Margaret, 2016, “Jailbreak” definition, in: <https://www.techopedia.com/definition/25207/jailbreak> (Retrieved: May 10, 2024).

⁸²Samman 2023, p.133.

⁸³Al-Badri, Nora, 2021, “Technoheritage” definition in: <https://opensecret.kw-berlin.de/glossary/#letterT> (Retrieved: May 10, 2024).

⁸⁴Al-Badri, Nora, 2021, The Post-truth-museum, in: <https://opensecret.kw-berlin.de/essays/the-post-truth-museum/> (Retrieved: May 10, 2024).

In the beginning, I introduced “/imagine: A journey into The New Virtual” curated by Marlies Wirth and Bika Rebek. The show presents four chapters with an installation design created by Some Place Studio. This partition as well as the info texts, the glossary, and the exhibition design allow the spectators to be easily involved. The set of topics tackles the potential of virtuality as a critical tool for escapism as well as showing strategies and ways of living in alternate ways with an architectural focus. In my opinion, this is a low threshold exhibition, which offers an optimistic view without being unaware of difficulties and problem areas. Nevertheless, I would like to emphasize that it is very clear about the spatial aspect, which is clearly architectural or resemble landscapes.

Contrary to this, the show at the AIA Zurich “Can you see me now?” curated by !Mediengruppe Bitnik and Martina Huber introduces a range of conceptual positions tackling the topic of spatial potential through data. Concerning the infrastructural aspect, it is significant to mention the research program “Latent Spaces – Performing Ambiguous Data” at the ZHDK Zurich in the background. The narrative of the show reveals layers of space in data followed by examples of resistant strategies exposing privatization, discriminating misuse, and neocolonial structures. Especially the activist approach of the public program to join “Offshore Tour Operator” by RYBN.org

creates the possibility to engage and investigate as an individual in Zurich.

“Spatial Affairs”, curated by Lívía Nolasco-Rózsás and Guilia Bini at the Ludwig Museum, Budapest, as well as “Spatial Affairs. Worlding”, designed by The Rodina, clearly stand out to me because of the involvement of thinking of spaces in an elevated way, leading the way to the concept of third spaces. Additional experimenting with different levels of display as well as explicitly working with open data and access as well as sharing research results with cultural workers. Besides, it is crucial to also mention that it is a part of the research program BEYOND MATTERS, a project initiated by the ZKM Karlsruhe taking place at various spaces and in different forms.

Lastly, I wish to come back to the “Poetics of Encryption” at the KW Berlin, based on the publication by the same name, written by exhibition curator Nadim Samman. The narrative summons and exposes hidden structures and interweaves them poetically with Greek mythology and creatures of darkness symbolizing the dystopian reality of the “Technocene”. The physical show is accompanied by an online extension with commissioned works and a panel.

Concerning infrastructure, I choose to highlight exhibitions with either a collective curatorial approach or an accompanying research program or both. To provoke potential resistant strategies, it seems crucial to me to involve researchers,

activists, and artists who are motivated to collaborate during a project.

Furthermore, the virtual realm harbours possibilities to expand from just one space. Therefore, I am invested to examine different approaches of using this specific potential. While exhibition venues are spaces for the public, companies that collect data also suggest this for virtual locations. Hereby, I aim to determine how the projects discussed deal with this set of problems. I consider the approach taken by The Rodina to be particularly convincing. “Spatial Affairs. Worlding” is built open source and the codes from this project can be found on Github. The Rodina collective stresses the urgency of reclaiming agency through strategies like this. Likewise, I want to highlight the “Offshore tour” at AIA which involved the contemporary public. Or every approach to include the concept of third spaces, imaginative, and speculative storytelling.

This leads me to the second question of this exhibition analysis – what narrative did the curators choose for the show?

In “/imagine”, Wirth and Rebek choose to focus on worldbuilding. At first glance, this probably touches on an aesthetic level, especially in the chapter “Dreamscapes”. The urgent need to create places to fulfill desires and needs or spaces that evoke a

feeling of safety is a consequence of escapism due to a lack of opportunities IRL and environmental crisis. In the meantime, “futurist thinking and ‘imagineering’ has been taken over by international corporations (Big Tech)” which is why artists need to “(re)present their critical, provocative and evocative visions of what the future could hold.”⁸⁵

In “Can you see me now?” !Mediengruppe Bitnik and Martina Huber decide to discuss “surveillance culture”⁸⁶. By moving in an environment in which personal data is collected non-stop in order to guarantee security and optimal lifestyles, it is required to be aware of how this will affect one’s life as well as who actually benefits. The show at AIA curates artistic research and positions in order to clarify this power structure that infiltrates everyday behaviour and quality of life.

Meanwhile, “Spatial Affairs” examines the starting points of thinking spatially and moves into these mental spaces, through manifestos and conceptual positions, highlighting the dimensions of space. The online extension “Spatial Affairs. Worlding” is inspired **by Konrad Zuse’s** concept of “Calculating Space”⁸⁷. The exhibition space enables equal agency for all participants, which includes works of art and spatial

⁸⁵URL: <https://www.thenewvirtual.org/#sections> (Retrieved: May 10, 2024).

⁸⁶URL: <https://www.weareaia.ch/can-you-see-me-now/> (Retrieved: May 10, 2024).

⁸⁷Cf. URL: <https://www.ludwigmuseum.hu/en/exhibition/spatial-affairs> (Retrieved: May 10, 2024).

forms – creating a version of Zuse’s “ecosystem.”⁸⁸

At KW Berlin “Poetics of Encryption” curated by Nadim Samman, the storyline aligns with the book title and chapters of defined spaces like the Crypt, Black Holes, Black Boxes, and Black Sites – in addition to the dark rituals and the secretive, Samman focuses on the concepts of being “locked in”, “locked out”, and “locked down.”⁸⁹ The narration of this exhibition examines the echoing and infiltrating of human-made technologies on everyday life.

In conclusion, I would like to address the question of how resistant strategies are established in the selected exhibitions. Hereby, it is particularly important for me to emphasize that the potential of resistance is already evident in the infrastructure and the narrative.

Any form of disclosure can be described as a resistant strategy. All of the above examples intend to highlight power imbalances and expose the associated currency of big tech companies: personal data. Furthermore, a large part thematizes and questions the fading possibilities to act as individuals. This refers to the agency of each individual, which is increasingly in danger of disappearing due to large

companies. The alarming aspect is the fact that the narrative of tech companies manages to conceal this critical situation for their own good.

I see a preparatory measure in the compilation and development of collective curating. The end result of collective work is characterized by a multiplicity of voices, actions, and involvement perspectives, reflecting on the one hand the potential of democratic access for the public and on the other hand realizing the set goals in the form of open-source possibilities, e.g. the “Spatial Affairs. Worlding” developed by The Rodina or the “Offshore Tour Operator” created by RYBN.org. The opportunity to share projects and codes openly, even when they are already open source based, on platforms such as Slack or Github is being increasingly used. This kind of “communal sharing culture” has its origins in the history of programming and hacking – details on this will be presented in a later chapter.

Many of the projects are the result of research-based work. I stress the significance of artistic research which plays one of the most vital roles in raising public awareness of the power imbalance. This is already evident with the exhibition “/imagine: A Journey to the New Virtual” at

⁸⁸URL: <https://www.therodina.com/project/spatial-affairs-worlding> (Retrieved: May 10, 2024).

⁸⁹Samman, Nadim, & Franken, Linda, 2024, Curatorial Text, Poetics of Encryption, 17 February –

26 May 2024, in: <https://www.kw-berlin.de/en/poetics-of-encryption-curatorial-text/> (Retrieved: May 10, 2024).

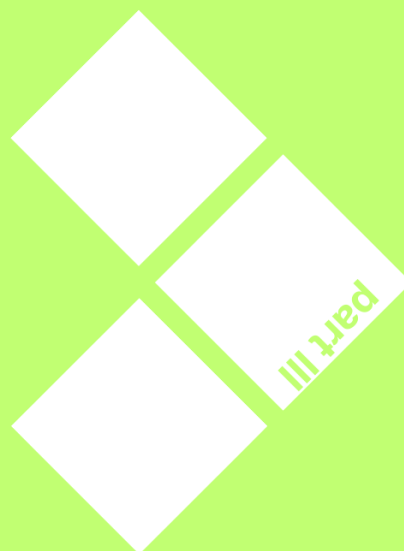
the MAK, where Morehshin Allahyari's series "Material Speculation: ISIS, 2015/16" is accompanied by a performance lecture by the artist called "Physical Tactics for Digital Colonialism." Both "Spatial Affairs" at the Ludwig Museum as well as "Can you see me now?" at AIA Zurich are already embedded in research projects, nevertheless, both shows operate successfully independently as well as an extension of the thinking process.

Another important factor is the motivation to deal with space-giving structures and to experiment with them. Here I would like to highlight the analogue exhibition catalogue of "Spatial Affairs", in which an additional level was considered through inserting seven additional AR elements.⁹⁰

What seems particularly important to me, however, is the consistent experimental examination of the redefinition of space as well as the rewriting or reclaiming of established narratives. These aspects will be discussed in the following section, which explores the possibilities of spatiality and the rewriting of narratives.

⁹⁰Cf. Nolasco-Rózsás/ Schädler 2023, p.33.

Possible Blueprints



3 Possible Blueprints: Redefining space and rewriting the narrative

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Due to a lack of blueprints, it seems the majority of curatorial effort aggravate in the flood of technological possibilities.

In this section, I will deepen the strategies to expose and encounter the power imbalance already discussed in chapter 2. At first, the focus will be on the accessibility which is an accomplice to agency. The second part, infrastructure, addresses the preparative measures to enable a critical curatorial study, regarding possibilities to form a togetherness. In the third part, narrative, I will discuss the expansion of concepts, such as counter-narratives and reclaiming space, as a strategy for creating opportunities to enable agency.

3.1 Agency at stake

The power imbalance in the data sector is reflected in an imbalance of knowledge. This form of hegemonic control is already evident in the violent history of colonialism.⁹¹ It appears in a privatization that not only affects individuals but also the understanding of democracy.⁹² This leads to a hardening of “Western” normative

thinking and further exclusionary division. Ofri Cnaani’s reference to the withdrawal of cultural establishments that do not meet these “standards” is important here. In the history of museums, these places have been denied their authority and equality⁹³. An imbalance of power has emerged that persists to this day and has gained a further level of power through the increase in digitality in the museum sector. Due to the thread of “legitimate interpretation (Deutungshoheit) and representation”⁹⁴, Western institutions collaborate with big tech companies to create an all-encompassing digital archive as another layer of power.

Additionally, it should not be forgotten what function is ascribed to museums. Lívia Nolasco-Rózsás explains that “exhibition spaces are physical locations of knowledge production and exchange, where spatial qualities play an important role in the contextualization of information.”⁹⁵

Participation, the ability to act, and transparent processes are desirable goals, but they are at stake due to the currency of personal data. The question of how a form of democratic accessibility can be maintained in publicly accessible cultural spaces must therefore be addressed.

⁹¹Ct. Kwet 2021.

⁹²Ct. Stalder, p.209, p.279.

⁹³Ct. Dekker/Giannachi 2023, p.93.

⁹⁴URL: <https://www.kw-berlin.de/en/open-secret/> (Retrieved: May 10, 2024).

⁹⁵Nolasco-Rózsás/Schädler 2023, p.36.

3.2 Infrastructure

During the process of this research, it became evident that the following concepts are niche, however, all of them are trying to create an accessible space or trying to limit the power of Big Tech companies. Nevertheless, the urge and the solidarity to collaborate, mostly voluntarily together, mostly unpaid in large groups, for achieving a utilitarian good keeps on thriving. In the following, I will discuss the origin of this motivation and why it is essential for democratic participation.

3.2.1 Common-based practice

Vit Rueller, part of The Rodina “a post-critical design studio with an experimental practice drenched in strategies of performance art, play and subversion”⁹⁶, expresses the potential and importance of open source. The origin of open source can be traced back to the programming scene and symbolizes a community that welcomes participation and improvement.

The common-based practice describes a form of organization based on the voluntary association of people who pursue a

common goal; according to Stalder, the fundamental part is the attitude of the individuals participating in order to achieve this goal⁹⁷. The aim is to create a „langfristige[r] Nutzwert von Gütern.“⁹⁸

Commons can be found in many cultures and go back a long time⁹⁹, the connecting element is the organizational structure, which is based on “Selbstorganisation” and the “freiwillige[n] Akzeptanz der ausgehandelten Regeln.”¹⁰⁰

Stalder describes a history of connection points from different communities that embedded commons structures in the virtual space. His narrative begins with the earlier media forms such as radio and TV, which tried to inscribe themselves into everyday programming with self-organized programs¹⁰¹. The first attempts of inscription take place with an understanding for critical and political transformations and show in strategies of resistance such as the live transmission of protest actions or actions organized by cultural workers and tech-savvy people, such as events of the **collective Electronic Disturbance Theater**¹⁰². In the 1960s, the movement craves an extension of „Handlungsraum“ seen as the „Gegenöffentlichkeit“¹⁰³ in the working infrastructure.¹⁰⁴

⁹⁶Cf. URL: <https://www.therodina.com/studio> (Retrieved: May 10, 2024).

⁹⁷Cf. Stalder 2021, p.269.

⁹⁸Ibid., p.246.

⁹⁹Cf. Ibid., p.264.

¹⁰⁰Ibid., p.248.

¹⁰¹Cf. Ibid., p.76f.

¹⁰²Cf. Ibid., p.78f.

¹⁰³Ibid., p.78f.

¹⁰⁴Cf. Ibid., p.84.

In the 1970s, the trade in software starts, which creates a copyright matter that limits the ideology of collective distribution and further developing of programs. In the 1980s, common-based structures evolve¹⁰⁵ and **Richard Stallman** counteracts commercial activity with the General Public License. The GNU project still enables collaborative work today. In the 1990s, **Linus Torvalds** continues Stallman's work.¹⁰⁶ In publishing his efforts as a "unabgeschlossene[r] Prozess,"¹⁰⁷ Torvalds highlights the key marker of the programming society: open source. With the possibility of participating in further rewrites and extensions, many programmers volunteer, allowing for a common-based infrastructure, without any prioritization in terms of working infrastructure, corrections, or additions.¹⁰⁸

A newer form of power can be seen in the ownership of personal data as a result of data mining. To preserve participation or democratic potential, the need for common-based infrastructures and the need for open data are growing. Especially under the aspect of an embeddedness of *technochauvinist* and *technocolonialist* "values", it is necessary to maintain a multi-perspective observation, control, and care – offered by active common-based collectives.¹⁰⁹

¹⁰⁵Cf. Ibid., p.252.

¹⁰⁶Cf. Ibid., p.88ff.

¹⁰⁷Ibid., p.91.

¹⁰⁸Cf. Ibid., p.91.

However, the criticisms levelled at the concept of the commons open clear exclusions from participation and reproduction of those and are lacking in critical reflection. As a result, the current commons research advises to use the "Verbform Commoning" which allows "bedürfnisorientierte[s] und selbstorganisierte[s] Produzieren, Reproduzieren und Nutzen (Euler 2018)."¹¹⁰ Researchers in this field refer to non-Western concepts which help to understand the complexity and entanglement of actors and actants; the inclusion of queer theories in this context is useful as well.¹¹¹ To sum up, this shows the importance of overcoming dichotomies while building common-based structures, meeting on a mutual, supportive togetherness, creating low thresholds and prevent togetherness.¹¹²

3.2.2 Supportive measurements

For the purpose of redefining the public and democratic potential, there are some helpful additions to be made, especially thinking of New Materialism as a supporting possibility to increase perception and one's own entanglement, which **Cornelia Sollfrank** defines as, besides the necessity of queer destruction, a crucial element for

¹⁰⁹Cf. Ibid., p.270.

¹¹⁰Hofmann/Euler (et al.) 2022, p.26f.

¹¹¹Cf. Ibid., p.28f.

¹¹²Cf. Ibid., p.30f.

understanding “the influential effects of material that, though existing outside of language and independent of human volition and behaviour, encompasses human beings as material reality – and not the other way round.”¹¹³ Queer destruction allows the rethinking of embedded “norms”¹¹³ – this enables critical reevaluating and the inclusion of marginalized groups.

3.2.2.1 Redefining public

In the research of the democratic potential in virtual space and its translation into the curatorial, the addition of “The Curatorial Condition” written by **Beatrice von Bismarck** should not be missed. Describing the “condition” as a constellation of “the pre-conditioning and sociopolitical circumstances in which the curatorial situation takes place.”¹¹⁴ For von Bismarck, this includes a change in “coming-together in public”, caused by redefinitions of “the meaning, function, and status of all those participating “and by adding “non-humans” and the “relations”¹¹⁴ as actants to the public. Here, von Bismarck emphasizes the key roles of flexibility in the modification (e.g. of relations) as well as keeping an overview of the overall constellations and the careful division and analysis of the whole.¹¹⁵

¹¹³Sollfrank 2020, p.6.

¹¹⁴Nolasco-Rózsás/Schädler 2023, p.63f.

¹¹⁵Cf. Ibid, p.63f.

Subsequently, **Hito Steyerl** defines “circulation” as a collective effort and experience of “image sharing and distribution”, and with “circulationism” she describes the process after sharing and distributing – seen as the potential itself in the process after, such as the pace, the recreation, or the reaction of the distribution. Steyerl believes that “circulationism” has the potential to reorganize existing structures and consequently establish as an art form “of recoding or rewiring the system by exposing.”¹¹⁶

3.2.2.2 Redefining togetherness in public

Furthermore, I would like to share the concept from the (feminist) hacktivist sphere, which, in addition to voluntary common-based cooperation towards an end result, can enable values and behavior to be cultivated during cooperation: The Code of Conduct.

The history of the Code of Conduct begins in the 1990s when associations of workers and voluntary groups urge companies to adopt it in order to provide a respectful surrounding for employees. Over time, two other important factors, the so-called “netiquette” and the concept of safe spaces, are added.¹¹⁷

¹¹⁶Dewdney/Sluis 2023, p.138.

¹¹⁷Sollfrank 2020, p.61.

The concept of the Code of Conduct operates in a similar way as programming works – by communicating directions.¹¹⁸

Femke Snelting stresses that Codes of Conduct are “part of a feminist project that confronts systemic oppression through the work of articulation.”¹¹⁹

According to Sollfrank, this tool is a practical communication strategy urging the conditions of togetherness, while function as well as an “invitation for diversity”¹²⁰ – for a virtual space where the minority is non-white, queer, female, or non-binary.

In reality, according to Snelting, the Codes of Conduct can be seen in three variations: Either as a sort of declaration of the values of the participants and the end result, as a document that declares the course of action in cases of disagreements, or as “anti-harassment policies.”¹²¹

Snelting suggests critically reviewing Codes of Conducts, as many groups and spaces utilize buzzwords such as “diversity” without complying with the associated values¹²², furthermore, the lack of consequences for violations is a major issue.¹²³

Instead of “outsource[ing]” values, especially inclusiveness, “to the document”, Snelting refers to the work with

constant attentiveness and motivation for flexible and creative approaches while aiming at “communities of conduct.”¹²⁴

These communities are characterized by their ability to endure conflicts and solve problems collectively.

3.2.3 Data solidarity

The entanglement of technology and science with discriminatory practices must not be ignored. **Donna Haraway** refers to exposing and “deconstructing” these interconnections of “capitalism, militarism, colonialism, and racism.”¹²⁵ The resistant response against the ever-increasing loss of agency urgently requires a comprehensive change in infrastructure. **Sophie Toupin** envisions the possible transformation of the infrastructure in the “new feminist hacking culture”, whose ultimate purpose is a transformation through “the idea of solidarity and co-production of knowledge.”¹²⁶

Continuing with the keyword solidarity, I would like to introduce the practice of “data as a public good.”¹²⁷ As a resistant response to the increase in “data analytics by technology companies such as Google or Palantir,”¹²⁷ activists and researchers are demanding data solidarity. By consciously making absences visible, it is possible to address social issues, especially

¹¹⁸Cf. *Ibid.*, p.12f.

¹¹⁹*Ibid.*, p.58.

¹²⁰*Ibid.*, p.12f.

¹²¹*Ibid.*, p.60.

¹²²Cf. *Ibid.*, p.64.

¹²³Cf. *Ibid.*, p.66.

¹²⁴*Ibid.*, p.71.

¹²⁵*Ibid.*, p.3.

¹²⁶*Ibid.*, p.25.

¹²⁷Fillimowicz 2022, p.5.

concerning ethical standards such as fairness, transparency, and accountability.¹²⁸ **Mercedes Bunz** and **Photini Vrikki** discuss the intensification of the imbalance due to the black box behaviour of the data. Consequently, data that relies on inequality and continues to produce it in hidden ways are a threat to already marginalized groups. The hidden process of the black box simultaneously makes marginalized groups disappear into the background, according to **John W. Roberts**, the “invisibility is not just created systemically and structurally”¹²⁹, it is also produced “through an often unknowing complicity” which is displayed in situations when “the invisible participate in their invisibility by acting as if they are visible, accepting other definitions of who they are, and, in essence, playing by the rules of a game in which they are not viewed as meaningful participants.”¹³⁰

As Bunz and Vrikki make clear by referencing Robert’s statement, there is an urgent need for some form of reconstructing this dilemma with the “data solidarity.”¹³¹ It is suggested to use data for the common good to create optimizations in sectors that serve the public.¹³² The democratization of data enables transparency, disclosure of discriminatory

malfunctions as well as the highlighting of shortcomings and urgently needed concerns “that have been consistently ignored due to lack of corporate or government interest.”¹³³

With the intention of living in a “data commons”, the public also needs to be open to sharing this data¹³⁴, which in my opinion will lead to scepticism in view of the current data trade. The authors are very aware of “fear about surveillance through the extraction of data,”¹³⁵ in fact this only reinforces the need to shift into a common-based conception of data usage.

3.2.4 DAO

“What is a DAO? No one really knows. One reason is that most possible answers lie in the future.”¹³⁶ – Hito Steyerl

In the context of the data solidarity discussed so far, I would like to address the concept of Decentralized Autonomous Organizations, or DAOs for short. This form of organization has existed for some time, but an increase and popularity due to the Covid pandemic and the development of digital currency, such as Bitcoin, is strongly evident.¹³⁷

¹²⁸Cf. Ibid., p.5.

¹²⁹Ibid., p.6.

¹³⁰Roberts, John W., ... Hidden Right out in the Open. The Field of Folklore and the Problem of Invisibility, in: The Journal of American Folklore, 1999 Spring, p.121.

¹³¹Filimowicz 2022, p.6.

¹³²Ibid., p.5.

¹³³Ibid., p.9.

¹³⁴Cf. Ibid., p.10.

¹³⁵Ibid., p.12.

¹³⁶Catlow/Rafferty 2022, p.127.

¹³⁷Cf. Flamingo, J., 2023, What are DAOs and what can they bring to the art world?, in:

Ruth Catlow and **Penny Rafferty** see DAOs as an opportunity to build global experimental networks that learn from and support each other while “ensuring genuine accountability and transparency.”¹³⁸

On the one hand, I understand the potential behind it, especially with a DAO like **Black Swan** (details will be discussed at a later point in this chapter), but some points must be added for consideration:

First, I would like to discuss Hito Steyerl’s perspective on the subject. In “Walk the Walk – Beyond Blockchain Orientalism” the author addresses the uncertainty of how formations such as DAOs will and can develop. Steyerl’s concerns include the keywords in detail: decentralization, autonomy and organizational structure – the last one in particular can lead to “Ponzi schemes.”¹³⁹

Referring to current public demonstrations and resistance due to “power failures and grid problems in places like Kosovo, Georgia/Abkhazia and Kazakhstan,”¹⁴⁰ Steyerl points to the consequences of cryptocurrencies. Hito Steyerl emphasizes that “any web-based decentralized project lacks a reliable foundation as long as both

electrical and governmental power are not decentralized.”¹⁴⁰

Another concern relates to “mimicking the corporate structure,”¹⁴¹ as Legacy Russell elaborates. In order to be able to swim in the current waters of the art scene, Russell sees a tendency of collectives that are motivated solely “to collectivize, and then to commercialize as a move towards sustainability.”¹⁴² This form of appropriation opens up a difficult entanglement that “compromises the integrity of the collective politics.”¹⁴³

With an awareness of the complexity of problems, I still would like to approach a DAO that has developed a resistant strategy: Black Swan. The organization develops a form of support for “local artists and cultural practitioners, who often fall between the cracks of existing art structures”¹⁴⁴ through the municipal decisions on the operating budget and its distribution. A guarantee of financing and thus of “assign[ed] responsibility or to signal appreciation”¹⁴⁵ is provided by the crypto payment, which is put on hold, during processes.

Although DAOs offer resistant strategies for public participation and support through redistribution, the concepts should be

<https://blog.artcuratorgrid.com/what-can-daos-bring-to-the-art-world/> (Retrieved: May 10, 2024).

¹³⁸Interview with Ruth Catlow and Penny Rafferty, DAOS IN THE ART WORLD, in: <https://www.rightclicksave.com/article/daos-in-the-art-world> (Retrieved: May 10, 2024).

¹³⁹Catlow/Rafferty 2022, p.127.

¹⁴⁰ibid., p.131f.

¹⁴¹ibid., p.149.

¹⁴²ibid., p.143.

¹⁴³ibid., p.149.

¹⁴⁴ibid., p.150f.

¹⁴⁵ibid., p.152.

treated with caution. As Hito Steyerl points out on various levels, it is quite realistic for certain organizations to oppose principles of decentralization and autonomy. With regard to cryptocurrency and its extraction through mining, alternative means should generally be sought.¹⁴⁶

Despite the precarious initial situation, I would like to refer to some points of the blueprint “A Method Kit of Practices and Prototypes – The Five Gateways” of the **Omsk Social Club**. This construction plan suggests, amongst other ideas, to arrange an overall audit¹⁴⁷ as well as enough time for communicating a collective’s “embodied knowledge.”¹⁴⁸

3.3 Narratives

“Storytelling is our most powerful way of understanding the world on a deep level, and stories play a major role in mathematics even if mathematicians and computer scientists like to pretend that their work is entirely quantitative.”¹⁴⁹ – Meredith Broussard

Another reoccurring strategy is the reclaiming of narratives. While some stories were left out in history, others grew and

manifested themselves in our society. As **Oumaima Hajri** highlights in “The Hidden Costs of AI – Decolonization from Practice back to Theory”, it must be scrutinized which parts of the public will profit and which parts will face further exclusion by technological optimization, especially considering the circumstances that companies construct a “positive narrative” while concealing racist, sexist, and biased opinions as well as extractivism and data exploitation.¹⁵⁰ Hajri addressed crucial aspects to tackle “the language surrounding AI” and the inherited “imaginaries we associate with it” for archiving critical aims such as “decolonization of AI concretely.”¹⁵¹ The impact of language in the past shows the hegemonial dominance and a history of violence.¹⁵² As preparatory measures, Hajri suggests “using clear language around AI” and refers to **Ben Shneiderman’s** “Guidelines for Journalists and Editors about Reporting on Robots, AI and computers”¹⁵³ from 2022. Those guidelines recommend to “avoid the using of human verbs” and focus on the machine aspect of MLS, which do not “act independently.”¹⁵⁴ Additionally, Hajri stresses the limitation of the linked images, which are clearly identified as Western gaze, and refers to

¹⁴⁶Cf. Ibid., p.132.

¹⁴⁷Cf. Ibid., p.298f.

¹⁴⁸Cf. Ibid., p.303.

¹⁴⁹Broussard 2023, p.16.

¹⁵⁰Cf. Thiel/Bernhardt 2024, p.57ff.

¹⁵¹Ibid., p.60f.

¹⁵²Cf. Ibid., p.61f.

¹⁵³Full text by Ben Shneiderman: <https://medium.com/@ben.shneiderman/guidelines-for-journalists-and-editors-about-reporting-on-robots-ai-and-computers-6a69c3b813cd> (Retrieved: May 10, 2024).

¹⁵⁴Thiel/Bernhardt 2024, p.62.

the project “Better Images of AI”, which has its origin in the desire to create a wider range of the AI spectra.¹⁵⁵

As already mentioned, one resistance form is communication in the form of codes of conduct. With this option, spaces that are defined through communication can be opened up. At this point, I would like to emphasize that pointing to narratives and deforming them is a technique of resistance that inscribes itself into spaces in verbal and written communication and thus appropriates them.

3.3.1 Reclaiming Stories and Space

In this section I will concentrate on reclaiming narratives and spaces, queering dichotomies, and glitches. The curator Livia Nolasco-Rózsás focuses in her research on how space changes through technical and virtual entanglement. The expansion of the concept of space and the associated emergence of a new ontology enables the development of a resistance tool that can be further shaped during this time.¹⁵⁶ On the linguistic level, I see the possibility of taking up space by recoding, insinuating, appropriating. To continue with this aspect, I would first like to refer to terms that have been borrowed (appropriated) and

reinterpreted from the technological or corporate world. In the following, we will concentrate on two of those, “glitching” and “auditing”.

The justification and dismissal of technical bias or inscribed discrimination from the perspective of companies can be dismissed as a glitch – an unpredictable inconvenience.¹⁵⁷ In the feminist and queer hacktivist field, the definition of glitch is “machinic anxiety, an indicator of something having gone wrong.”¹⁵⁸ The urge to disengage from “our current glitchy, biased situation”¹⁵⁹ shows in the resistant use of disruptive, almost eerie moments – “glitch[es are] celebrated as a vehicle[s] of refusal, a strategy of nonperformance.”¹⁶⁰

By the “embrace[ment of] malfunction,”¹⁶¹ the idea is to enter, create, envision spaces with different kinds of versions of “malfunctionality” leads to “a liberty.”¹⁶²

In **Martina Menegon’s** artistic practice, for example, the artists positioning and agency are reflected in the constant production of 3D scans of her own body. According to Menegon, the creation of countless “clones”¹⁶³ creates a liberating feeling. The end result is motivated by an experimental approach, with a focus on “error and misuse”¹⁶³ of technology. The disturbing aspects in the outcome act as a sensory

¹⁵⁵Cf. Ibid., p.62.

¹⁵⁶Cf. Nolasco-Rózsás/Schädler 2023, p.35.

¹⁵⁷Cf. Broussard 2023, p.23.

¹⁵⁸Russell 2020, p.7.

¹⁵⁹Broussard 2023, p.181.

¹⁶⁰Russell 2020, p.8.

¹⁶¹Ibid., p.17.

¹⁶²Ibid., p.18.

¹⁶³Menegon, M., personal interview, January 16, 2024.

stimulus in the viewer's nervous system, which evoke sensations of discomfort in the viewer.

The fact that this outcome attracts and triggers irritation is also evident in the series of self-portraits "me, myself and I"¹⁶⁴ from 2021/22 by **Claudia Larcher**. The visitors' reactions for the most part showed feelings of shock and provocation due to the lack of symmetry, which for many prompted the response of "abnormality."¹⁶⁵

For me, these conversations with visitors show a noticeable, rigidly determined search, a phenomenon called pareidolia.¹⁶⁶ In my opinion, the creation of these emotions illustrates a cross-section of the average view on displayed art and how this angle can be further emphasized through curatorial or mediating practice.

In the interview with Martina Menegon, we discuss the concept of dystopia. This association, according to Menegon, is not meant to be the first intention in her works, but can rather be seen as a mirror of the timeline we find ourselves in.

For me, these confrontations open up enormous potential for museums and cultural centers to create spaces (IRL, virtual, "hybrid") to carry out contemporary

concerns and debates as well as to involve the public. A focus on experimental and surprising glitches, which can also happen in a playful form of trying out technological gimmicks, but leading to a further level that offers the public space to deal with issues and to share and problematize their own exclusions.

3.3.1.1 Glitching

Continuing with the subject, the origin of the word "glitch" can be found in space travel, where it describes a dysfunction of the technology.¹⁶⁷ Legacy Russell points out in the "Glitch Feminism – A Manifesto" that the meaning of glitch lies in the embracement of "a mode of nonperformance."¹⁶⁸

Additionally, in the field of queer Digital Humanities, it describes the dissolution of canonical limitations, e.g. dissolving "performance art and academic research."¹⁶⁹ Glitching also means contradicting and editing a classic definition of research. This production of knowledge is characterized by the integration of personal experiences and processes, which is considered chaotic and untidy in

¹⁶⁴URL:

<https://www.claudialarcher.com/work/myselfandi> (Retrieved: May 10, 2024).

¹⁶⁵The Style-Gan 2 software used by Larcher is an outdated version.

¹⁶⁶Definition "pareidolia", URL: <https://www.merriam-webster.com/dictionary/pareidolia#:~:text=par%C2%B7%E2%80%8Bei%C2%B7%E2%80%8Bdo,make%20pictures%20out%20of%20randomness.>

[B7%E2%80%8Bei%C2%B7%E2%80%8Bdo,make%20pictures%20out%20of%20randomness.](https://www.merriam-webster.com/dictionary/pareidolia#:~:text=par%C2%B7%E2%80%8Bei%C2%B7%E2%80%8Bdo,make%20pictures%20out%20of%20randomness.)

(Retrieved: May 10, 2024).

¹⁶⁷Russell 2020, p. 29.

¹⁶⁸ibid., p. 29.

¹⁶⁹Losh/Wernimont 2018, p.122.

the history of Western knowledge production.¹⁷⁰

To me, a fitting example of glitching resembles the work of **Sumugan Sivanesan**, the initiator of fugitive radio, a project “to develop collectively realized modes of performative and participatory radio using free/libre and open source tools.”¹⁷¹ In the article “Queering and Quaring Virtual Space”, Sivanesan points to the queer concern of working on “realness”. The concept roots in the Ballroom scene, where the “not fitting into the normative picture expressed as a mockery of achieving “the real”. Therefore, the culture around “vogu[ing] has developed as a flamboyant expression of Black gay and trans-sexualities that appears to have abandoned and even be parodying earlier aspirations to pass as a straight person.”¹⁷² Furthermore, the author quotes **Jose Esteban Muñoz**, who argued “by exploding or glitching gender tropes altogether — drag performers [...] publicly ‘disidentify’ from these stereotypes to reveal the means by which gender is constructed as a category.”¹⁷²

Therefore, glitching is an essential strategy of reclaiming agency online. The author

supports his thesis with examples such as the project “Virtual Drag.”¹⁷³

The questioning of established mechanisms and categorization in society, which affects virtual spaces, requires queering by appropriating and mocking them through glitching. Furthermore, there are other substantial moments such as opening up spaces, usurping them, creating and expanding on new identities, as well as subsequently abandoning socially connoted forms or appropriating disruptive moments enable individuals to become effective.

3.3.1.2 Auditing

“Auditing” is an ethical approach to “jailbreak” algorithms in museums collection. As Mercedes Bunz states in “The Role of Culture in the Intelligence of AI” the “interconnected” link between “approaches to decolonize the archive” and “training data for ML systems”¹⁷⁴ is still missing. Additional to this, Bunz stresses the overall missed interaction of the public with technology, which happens in the in-between or enclosed space called “black box.”¹⁷⁴ Furthermore, the author questions the possible motivation of the public to explore this dilemma, especially when the

¹⁷⁰Cf. Losh/Wernimont 2018, p.122.

¹⁷¹URL: <https://fugitive-radio.net/about/> (Retrieved: May 10, 2024).

¹⁷²Sivanesan, Sumugan, 2017, “Queering and Quaring Virtual Space”, in: <https://runway.org.au/queering-and-quaring-virtual-space/> (Retrieved: May 10, 2024).

¹⁷³Virtual Drag - 360 VR Video <https://web.archive.org/web/20180305134648/https://www.youtube.com/watch?v=W3sTRVKZUyU&feature=youtu.be> (Retrieved: May 10, 2024).

¹⁷⁴Thiel/Bernhardt 2024, p.24f.

actual focus of technology points to optimization in companies. There are approaches “to democratize the ability to train models” such as LAION or Stability AI. Bunz appeals to the urgent participation of the public to co-create. To the author, this contains a critical redefinition of technology.¹⁷⁵

Ruha Benjamin¹⁷⁶ also urges “auditing.”¹⁷⁷ The term “auditing” comes from the economic sector and refers to a system for monitoring operational processes. One aim of “public interest technology” is “algorithmic auditing” which successfully allows a reduction of offensive and marginalizing algorithms while “fixing and preventing algorithmic harms.”¹⁷⁸ For example, the project “AI Fairness 360” invites individuals to “examine, report, and mitigate discrimination and bias in machine learning models throughout the AI application lifecycle.”¹⁷⁹

3.3.1.3 Blueprints for Museums

The previous result of this thesis so far makes it clear how the resistance which Felix Stalder refers to primarily depends on the responsibility of artists and actors in the research and curatorial field. Despite the

interweaving of activating public participation, the imbalance of power by large companies collaborating with museums remains a structural problem.

With the “Data Ethics Canvas”, the **Open Data Institute** designed a blueprint for cultural works as “a multidepartmental strategic planning tool”¹⁸⁰ for conscious and critical use. “AI: A Museum Planning Toolkit” combines in their work the “Data Ethics Canvas” and the so-called “Consequence Scanning” an insightful blueprint for art and cultural institution.¹⁸¹

The project “Museums + AI Network” is founded by **Oonagh Murphy** and **Elena Villaespesa** and offers collected experiences and approaches in examples in cultural institutions, answers conceptual questions and enables own attempts through working material.¹⁸² The “worksheets” offer open questions on specific points in the planning of AI projects. The sheet on “AI Capabilities” contains questions on data information, open source, and training of employees. “AI Ethics Workflow” takes a closer look at the constitution of the data sets used with questions concerning “input” such as which “data is not represented” and “output” regarding own internalized stereotypes and

¹⁷⁵ Cf. Ibid., p.25f.

¹⁷⁶Ruha Benjamin provides a selection of projects and publications on her website, which I highly recommend:

<https://www.ruhabenjamin.com/resources>

(Retrieved: May 10, 2024).

¹⁷⁷Ibid., p.69.

¹⁷⁸Broussard 2022, p.160f.

¹⁷⁹URL: <https://aif360.res.ibm.com/> (Retrieved: May 10, 2024).

¹⁸⁰Thiel/Bernhardt 2024, p.77f.

¹⁸¹Cf. Ibid., p.80.

¹⁸²URL: <https://themuseumsai.network/toolkit/> (Retrieved: May 10, 2024).

prejudices.¹⁸³ Furthermore, the influence and circumvention of the “black box” is indicated. In “Stakeholders Management”, the role of cooperation partners is analysed and the question of specific profits is addressed. It is emphasized that museums should be transparent about the programs, data sets and processes used.

As such, Oonagh Murphy urges in “Power, Data and Control” institutions should be open about projects as well as being open-minded towards reflection and extreme changes of direction in the field of technology.¹⁸⁴

3.3.1.3.1 CARE and FAIR Principles

Finally, I would like to refer to the CARE and FAIR principles. As early as 2016, an article by a collectively formed assembly including **Mark D. Wilkinson** referred to the FAIR principles as a possible blueprint for “those wishing to enhance the reusability of their data holdings.” This concept urges “research process[es] must be available to ensure transparency, reproducibility, and reusability.”¹⁸⁵

In 2019 the **Research Data Alliance International Indigenous Data**

Sovereignty Interest Group extends the FAIR principles with the CARE principles – Collective Benefit, Authority to Control, Responsibility, and Ethics.¹⁸⁶ This extension was necessary because it excludes “rights and interests”¹⁸⁷ of groups of people, and therefore excludes an equality of accessing and processing data. With the CARE principles, indigenous groups clarify “asserting greater control over the application and use of Indigenous data and Indigenous Knowledge for collective benefit.”¹⁸⁷

The two principles can be found in the “Museum Standards” section of the **Deutscher Museumsverband** (German Museums Association), where they are classified as “gute Orientierungshilfe” in terms of sustainability.¹⁸⁸ This information is also adopted by the **Österreichischer Museumsverband** (Austrian Museums Association).¹⁸⁹ None of this can be found in the **ICOM** manual (the guidelines have not been improved for some time). However, information can be found on the **NEMO** (Network of European Museum Organisation) platform that the project “H.E.L.P”, short for “Heritage Education New Web Formats And Free Licences

¹⁸³Oonagh/Villaespesa 2020 p.12.

¹⁸⁴Cf. Thiel/Bernhardt 2024, p.80.

¹⁸⁵Wilkinson, M. et al., 2016, The FAIR Guiding Principles for scientific data management and stewardship, in: <https://www.nature.com/articles/sdata201618#Abs1> (Retrieved: May 10, 2024).

¹⁸⁶Cf. URL: <https://www.gida-global.org/care> Wilkinson, M. et al., 2016, The FAIR Guiding Principles for scientific data management and

stewardship, in: <https://www.nature.com/articles/sdata201618#Abs1> (Retrieved: May 10, 2024).

¹⁸⁷Ibid.

¹⁸⁸URL: <https://www.museumsbund.de/leitfaden-standards-dokumentation/> (Retrieved: May 10, 2024).

¹⁸⁹URL: <https://www.museumsbund.at/leitfaeden-und-standards> (Retrieved: May 10, 2024).

Opportunities For Dissemination, Co-creation And Open Data” initiated by the Czech, Italian, Portuguese ICOM members as well as the ICOM Working Group on Sustainability. H.E.L.P enables data sustainability and expansion by opening up for further training, and they are also available to provide legal advice.¹⁹⁰ In collaboration with the German Museums Association, NEMO has also designed the publication “Practical Guide, Digital Basic Cataloguing, 10 Principles”¹⁹¹, which summarizes the guidelines, including the FAIR and CARE principles mentioned above.

The research shows a slow emergence of awareness of data sustainability and responsibility over data. In the area of guidelines, an increasing understanding of this “new task” can be seen, but I personally feel that there is a lack of consistent implementation. Surprisingly, a great amount of basic information on the topic of digitality can also be expected, in which is explained which platforms can be used, explanations of terms, and examples that have “successfully” integrated digital strategies into museum spaces.

4 Conclusion

Throughout the thesis, my focus has been on the quote from Felix Stalder, who points

out that a power imbalance always creates specific counter-movements.¹⁹² With these words in mind, I have tried to find these imbalances and their strategies transformed into a curatorial shape and to learn from them. It becomes apparent that the monopolization of virtual space, which companies skillfully sold with buzzwords and illusory discourses, requires a resistant response and containment.

It begins with the extraction of raw materials and the impact on infrastructure such as the electricity grid and stretches through the virtual space, an extension created by people. As it is created by humans, this also means that distortions are injected into the extension. Here it becomes clear how the past continues to leave its violent traces in potentially future-changing machines and allows them to manifest themselves in the virtual world.

In the beginning, I referred to various terms that clearly communicate the serious shortcomings of human-made technology in the digital age. For me, it is essential to know and understand these terms, especially when dealing with technology in everyday working life. The terms such as *digital colonialism* or *technochauvinism* refer to the continuation of exploitative, violent behavior towards (already) marginalized groups. Others, such as the *coded gaze*, explicitly refer to racism and

¹⁹⁰Cf. Barekryan/Peter 2023.

¹⁹¹Cf. Bergmeyer et al. 2022.

¹⁹²Cf. Stalder 2021, p.242.

exclusion in virtual space. Colonial approaches can also be seen in the archiving of artworks in the virtual world. The relationship between museums and large technology corporations is to be criticized because of museums' own history of violence.

For me, the research has shown that resistant processes are characterized by perseverance and intensive work while usually being treated as a niche topic. This may be attributed to the history of programmers and hacktivists. Additionally, I point out the lack of user-friendly blueprints for institutions or the time and labour-intensive involvement with issues as excuses. In fact, the lack of motivation to reappraise and expand the values and professional fields of cultural places such as museums leaves me stunned. It also seems incredibly paradoxical to me how responsibility is shifted to individuals in a reality where the understanding of democracy is at stake. I share feelings of tension, frustration, and impatience that run through this timeline. Nevertheless, these emotions prove to be an incentive for resistant measures and practices to which Stalder refers at the beginning.

Through the intervention of artists, collectives, hacktivists, and researchers, it becomes clear that public cultural spaces are changing. At a very slow pace, an awareness is manifesting that the mere use of technological gimmicks in places that

have responsibility over knowledge is not enough. Furthermore, the role and history of the institutions, as well as the entanglement with big tech companies, will also be examined in the setting as part of the complex problematics. During this ongoing process, however, the efforts of the public are only beginning to be understood by places that represent the public.

Fundamental changes in narratives and infrastructure are needed to enable democratic participation. Therefore, I would like to summarize tactics and strategies that cultural workers can integrate into their ways of working in order to engage in resistance and solidarity.

The first step probably sounds very banal up front: It is becoming aware of and grasping the complexity behind technological materiality. For me, this primarily means taking a critical look at the technologies used in relation to the workplace and my own position. This also means that the benefits and the associated resource consumption as well as the required data sets are weighed up. Using technical gadgets means making ethical considerations as to whether they are more likely to harm or restrict the public. There are toolkits for this, such as the "Data Ethics Canvas" or the continuation of this "AI: A Museum Planning Toolkit" (see p.46.f). When dealing with data, I recommend integrating the CARE and FAIR principles, which can also be found in the NEMO

toolkit “Practical Guide, Digital Basic Cataloguing, 10 Principles” (see p.47f.).

The expansion of working groups from different areas also seems helpful to me, especially when it comes to data and feed-in, it certainly needs a person who can help translate this process. Furthermore, I consider an expansion through ethical input and people who are at home in the sphere of open data and open source. As the possibilities of virtuality can quickly lead to excessive demands and stagnation, I see this addition as useful.

On the basis of my research, I believe that the importance of the preparation process is crucial for the outcome. Particularly in view of the fact that there is an urgent need for a change in the infrastructure of projects with regard to the problems that have been created by human hands, but this can only take place if the actors and actants, the environment and the influences are identified.

Even before the stage of conceptual work is reached, the question of how to work together and what arrangements and agreements will accompany the process and the project should be addressed. As a possible blueprint I refer to models such as *commoning* (see p.37) with communication agreements (such as Codes of Conduct, cf. p.38f.). By negotiating communal creations with jointly

developed rules, the institution's predetermined infrastructure is questioned. In addition, Beatrice von Bismarck's concept can be used here to gain an overview. In “The Curatorial Condition”, the author refers to a rewriting of relationship formations. Von Bismarck's concept prompts consideration of the circumstances prior to the executed process. Along with this, the constellation of contributors is redefined. That also includes the extension that dominates in the concepts of New Materialism, meaning that the inclusion of actants is essential. Hito Steyerl's concept of “circulationism” can be used to further analyse the constitution of the project. Questions are pursued that characterize the potential of the distribution – how does the distribution work and at what speed does it take place, for example.¹⁹³ In addition, I experience the concepts of DAOs and data solidarity as spaces of possibility.

In the area of creating exhibitions or expanding archives, consideration should be given to the role of the institution in the past and how these difficulties can be incorporated into the implementation.

Essentially, I see the priority of uncovering as a resistant strategy in the process of project development. Since it is generally organized in spaces that have been designated as sites of learning in the past, the presentation of curatorial and artistic

¹⁹³Cf. p.38f.

research seems essential to me in this context. Furthermore, these locations are understood to be publicly accessible and therefore public concerns. Hence, to me, there should be no reason to question why this form of resistance cannot be utilized in cultural spaces.

In addition to changing the infrastructure in the direction of solidarity and togetherness, I think we need to work on the narratives. Especially if, throughout this timeline, there is an insistence on illusory discourses on the topic of inclusion and diversity on the part of tech companies.

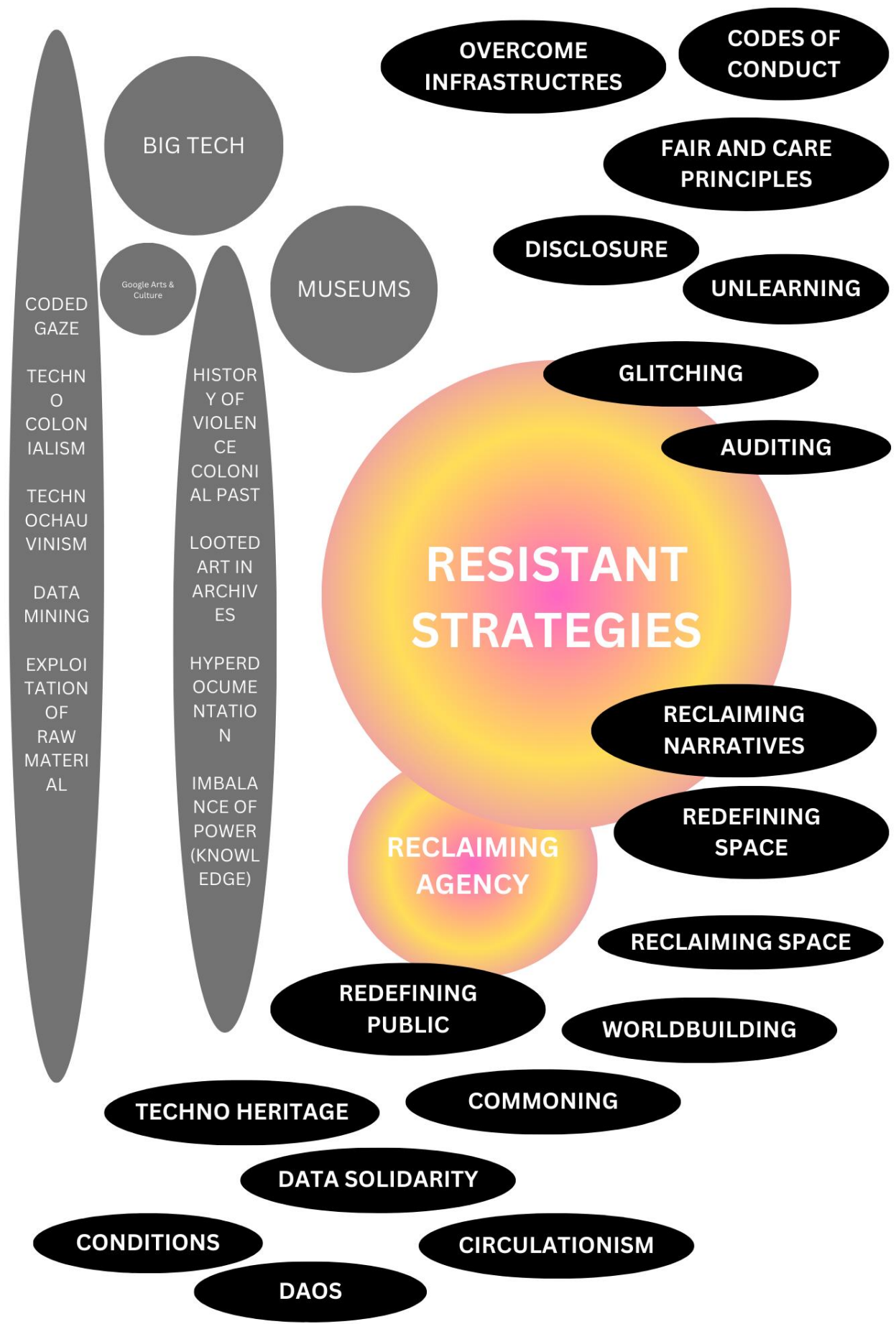
I believe that one resistant strategy that can be integrated into one's own theses on projects is to question learned thought patterns and accepted forms of behaviour. These internalized processes can be disrupted by relearning them. I feel that the curatorial concept of Lívía Nolasco-Rózsás and Giulia Bini with the exhibition "Spatial Affairs" and its extension "Spatial Affairs. Worlding" provides a successful model for this strategy. There is a common thread here in the approach to dissolving familiar definitions of space. I was impressed by the exhibition, which can be experienced as a human being and which continues to develop from imagined spaces in the mind until it ends up in the digital sphere. In addition, "Spatial Affairs. Worlding", created by The Rodina, opens up a spatiality that departs from the boundaries of the classic

architecture of museum spaces and forms works of art, avatars, and spatial elements into moving objects.

As a transition to this, it is useful to follow and integrate queer, feminist, and hacktivist resistance practices, to overcome binaries in definitions and thought patterns. In this context I have tried to show how liberating techniques such as glitching can be. Creating glitches also means working through negatively ascribed connotations such as "disruption" and appropriating them with experimental approaches.

The keyword *overwriting* leads me to further possibilities, the *jailbreak* and *audit*. Both of these terms were, for example, borrowed from the common linguistic usage of corporations and programmers. Nora Al-Badri's concept of *techno heritage* is also based on a resistant appropriation of hegemonically occupied terms and an associated link that places such as museums deal with knowledge in collaboration with tech companies.

In the end, the examination of resistant strategies led me to rethink and reconsider learned ways of thinking and patterns of action while illustrating a range of resistant artistic strategies and counter-narratives to gain a new understanding of "curating". For me, the focus lies on queering and glitching concepts and thought patterns. I am pleased if I can provide readers with new impulses and food for thought.



*Insights**Excerpts from the interview with Martina Menegon**Processes*

I consider myself an artist. So, all the curatorial projects, kind of became part of my practice, but not like the main thing. I do it as a something that I feel relevant, for my practice as an artist, but also as a teacher. You know, you are always searching and trying to update yourself, especially in the context of, like, digital art. And so curating was, for me, kind of an urgency that came from being in Vienna for actually 13 years now. And realizing there was a bit of a missing focus on digital art and being an artist myself, I kind of wanted to have a place. I started a series of pop up exhibitions, solo exhibitions. And then I kind of got involved with soundframe and CIVA festival.

My research is focused on this idea of our body being both physical and virtual, like there is no distinction anymore for me between a virtual space or I'm alone in space and then offline and physical. And it's all about the concept of avatars or digital selves and how we can understand these virtual bodies as bodies. All my works are kind of pointing out how to care about those bodies. How can we understand them as perceivable as something that actually has emotion or can feel things?

With the hope that we learn how to actually exist online and in the virtual without feeling it's just a game and it doesn't matter, and it does not have a reflection on the physical world, which it does. So that's kind of like the main core of all my works. And all of them [are] always connected with my personal self. I tend to really talk about these bigger topics through a kind of intimate and personal perspective. And also focus a lot on my perception of the limitations of physicality and how can I use the virtual bodies as a liberation or an unconstrained being, that kind of free myself from physicality, let's say. And the teaching part is for me in a way even more important than the curatorial. So, like, I always wanted to be a teacher since I was a kid. And I grew up in a kind of art environment. My mom, my Grandparents, were the kind of art artists themselves or were art related. And I started teaching actually very early, like just out of my first degree, a bachelor degree in Venice. I started teaching there, and then I moved to Vienna, studying here, but then also teaching here. And for me, as a way to kind of keep things connected. In a way, I'm learning always new things, always new experience, new tricks. And then the teaching is a way of giving back and to share things. I really see teaching as a sharing experience and it keeps me in the now somehow. And I realize a lot of times when I do

not teach, let's say in the summer, I also I'm very less productive in art - so they really go much together.

The main software I use is unity 3D, which is this game engine, which I use for all my interactive, real time works. And that's also software I do teach, here at the university [of Applied Arts, Vienna]. But I combine it with anything I find that is interesting.

I try to collect these kind of assets of tools. And this is something I also teach. So, I try to show students the same way that I use the for my art that you don't have to focus on like one thing that you can extrapolate from different tools and kind of put it together, in your own esthetic. And I, for me was also interesting. Like now, especially after all the hype around AI, I do use some AI tools in my art and in the teaching. But it's never like just a product of an AI tool is like it's just a part of a process. And I found this very interesting. Like, my way of doing art and teaching is always you get one tool, you try to learn a bit of the tool and then you find out how to misuse it. So don't use it as it should. So I am really embracing the old cliché esthetics and failure and mistakes, both in my art, especially my art and in the teaching. I really try to explain or try to show students that there is so much possibilities with the virtual that you do not, as per se, have to replicate reality or physical reality. So that's kind of always the goal, like constantly searching for new tools. And when I can learn them, when I cannot just find out if I can use them quickly or not.

I teach web AR with HTML and CSS and so on, and this is an online code that the student can access and change it for their work. And I'll use this glitch.com website rather than GitHub. Just I like the glitch.me URL the to get out of it which fits with what we create in class and for my work and I like that it's full of examples that you can just remix basically. So, I really like this concept of people creating code and then others taking that code and making something new out of it.

I tried on myself, and it was like a sort of selfie that I tried to do because I was alone and I just fell in love with this new me that came out which was in a way corrupted and missing body parts and totally glitched out. But I found it so beautiful and it was such a new experience for me of, you know, coming from creating avatars online for other purposes where I always was putting this idea of me. And suddenly this completely glitched out body becomes most beautiful thing I've seen. And I immediately found this connection and I didn't stop since then. So, it really started as an experiment. And maybe if you want an error or a misuse.

I think the eeriness, or maybe dystopian thing just comes out from this glitch movements and

glitch looks of those bodies, which for me feels very liberating.

And in my works, these all cloning is really about, cloning yourself in a way, or multiplying and duplicating yourself. And let's say the eeriness about these glitch movements for me were always a way to create a physical feedback for the user. So that was part of my thesis when I did diploma here at Angewandte, of things that are not naturally looking online cause a physical feedback as well. And virtual cause physical feedback. If you think of gaming, you get a punch, you might react. Also physically, there has been experiment of the rubber hands, for example, but in a theater context and people can really feel in their physical body. And I use all this is eerie, unnatural, uncanny movements to kind of trick these physical sensations so that you really get a very clear connection with this body. And in a way, this glitch bodies as well. Like they look fragile, but they are indestructible. They're beautiful. And I would like to play with this ambiguity always. And I think some of my work I do agree look dystopian. And one particularly, I guess more than others, but it's never really the first intent. I think, reality became dystopian is not anymore the future is actually it's here. The doom of everything.. So, I think, by just being in the reality it goes through your art. And a lot of time I've been asked if my work is feminist and I'm like, well, I am. Yeah, I do identify as a woman. I do navigate the world as a woman. I guess some of this also goes to my art. But it's never consciously like, I'm never saying I'm not going to do what dystopian work or feminist work. It just naturally comes through. And then I just take whatever I like, and most of the time is errors that were not planned, but somehow so beautiful for me.

Challenges

I think as an artist, the main challenge is always to make sure that you have a bit of control on, since most of the time you are not the one that will place the work in the virtual spaces, you kind of rely on the curator or the person that is designing the space. To make sure you understand about the tools that they are using and to make sure that you can have a bit of back and forth to make sure your work is in the right position, in the right size. A lot of time, you know, my sculpture will be placed very tiny. And I'm like, "No make it bigger - so people can fly around it". I think that's the main challenge is to understanding the tools as you would go in space and look at it and trying to figure it out, trying to do the same on the virtual, and for some works, like I have a few works that were really thought from the beginning for a web page or online. That I think are the most challenging for me because they are not so

easy to show offline as I can, but they are kind of out of context as they should be online.

The curator is kind of the biggest challenge in the sense of you are the one responsible of either creating the space or finding the good platform that is good for you is good for the artist, is good for the audience. And make it also challenging, like with CIVA and with soundframe and the visual art of this project we had to do in the lockdowns was really, what is the space looking like? What are the avatars, for example, or even just how you look in such spaces to not be, again, the main female binary that a lot of virtual spaces are still using. How are people going to understand how to navigate for the ones that are maybe not so commonly using virtual spaces? There were all these very, almost technical layers to go through or steps to go through. The design of the space even though it's virtual, you can be super free: You still have to figure out how to make it engaging, out of the norms, but also good for putting art. So, you have really a lot of discussions and thoughts and layers to go through. And then, of course, to figure out the artworks and how best to show it, in the context of an online exhibition. Actually, I think the most challenging was as a curator, and I was curating and also responsible for the all exhibition space I was designing with the team. But I was the one kind of having the vision of how it should look. So that where we did the most challenging moment for me of really figuring out the best environment, the best space for the artworks, and then think of the artworks and put them there.

I really would appreciate to see more virtual spaces that take care of the actual virtual bodies in there. To finally take the chance of being in the virtual, of using the virtual possibilities of freeing us from binaries. And I really would like to see more challenges of the notion of what is a body online or in the virtual. As in, this is kind of urgent, almost. This will help a lot of see the physical reality.

This attention on what are we sharing?

Why are we sharing if we are just visiting an open space in the physical, we are not gonna give them our names and emails and address etc. - we are just entering.

And I would like to see what works in the physical also in the virtual but then the virtual being this free open space, and environmental reality that can be and it's not because corporation, money, the usual thing. So that is kind of my wish.

I would like more technology to be more accessible. I think as artists, if you work with digital and technology in general, you need to rely on equipment and on technology. And one of the biggest challenges for me is working with what I can afford without compromising. I don't

like to make sponsoring with companies. I try to be as self-sufficient and independent as I can, but that also means I do not have access to cool things all the time. I rely on monitors and my VR headset that I could buy once and my phone and my laptop. So, I guess it would be nice to be able to access more ethical technology. Like, I know I can afford an Oculus Quest. I do not want it. I don't want to have to work for Meta you know, that's not my wish. My wish is better companies, more ethical companies that are more affordable for artists or for the public in general, and a more conscious use of virtual spaces. I think that's something we really need. To go away from corporations and have community based online spaces.

There are communities and there are projects within the internet and the online space that are looking to be democratic, are looking to be ethical. I think the problem is so much where the mass tends to mass. And, so we have social media and we have to as artists, curators, you know, cultural workers somehow rely on being networked and connected. We are kind of stuck in such places. We don't like them, but we are kind of stuck there. And there is always discussion I'm reading or seeing of, whereas can we go? And there are always these new companies coming up and you try to make an account there, but then the bigger discussion still remains. I'm still going to call it Twitter on Instagram, Facebook, maybe not so much, but. And there is the wish, there are places and there are communities that are really working towards that. But I think that the biggest challenge is how do you move the mass away from where you're losing your data, where you're losing money, where you're losing lots, actually, that the trade is actually not so fair. I think that's kind of my hope is to see the mass realizing it and starts moving. I think, where the mass is placed, it's not democratic. And the experience of the internet became stained by that. But then as an artist, I think I had the luck of being connected with other communities and other spaces where there was this vision that is this, you know, research on. And then there is a bit of hope.

I think at one point there will have to be a change. But at the moment it, it does not feel that nice. It doesn't feel you always have to kind of sneak through the, I think, Legacy Russell also said in the spaces in-between, the cracks in the system.

But that's again tainted because, people get censored, people get block. The good thing is you get to access much more information, but again, cost something and the price is very high at the moment.

As a cultural worker you take things on your shoulder. Companies are not going to change

because we want them to change things. They want money. They want more money. They want our data, to get more money and so on. So, it always flows back to kind of the cultural thing to figure it out for the other systems, hacking, resistance, we are online - but it's always this niche. And I also realized very much recently how for me, my bubble feels like it's their reality.

I think that's always the issue, especially with digital art, it's still considered as niche. And then within that niche you have the online activists and the hackers. And then it's like going smaller and smaller, but it's not small - it's huge! But like the narratives, it's not in the mass. Perceive like that. So, I always found interesting, for example, when I teach my students, like, some history of virtual reality: it just was so natural for me when I was researching myself for the first time. I didn't have to make an effort to find women's work. They were all women's work. I found that I love: they were actual conceptual, beautiful works from the 80s on. But then you always have this Narrative VR is such a male dominated technology and environment. No, it's not - There is this narrative within the mass, sometimes or a lot of times not factual. And it just serves again the corporations. During the lockdowns, calling this the first online virtual environment, the first virtual exhibition etc.

I think there is always this extra work you need to do. I think that's something that is still very much lacking. I think as cultural workers, we do tend to try to analyze and have critical thinking around tools we're using or I do hope so. This is not everyone. And I think that is where the issue with this lies on, is not having the awareness of how these tools we are relying on and we are using really works. What is the trade you are having with the tool for using the tool? It's okay to use it as long as you know what you're dealing with. And I think the issue relies on when you don't. And then you're getting exploited without knowing. And I think this is where I really would like to see a change of, like more awareness of how all these algorithm works, of what are the faults, what are the trades we are doing for using for being there?

I have one AI tool that was free, open source first, then Facebook bought it, kind of put it as, you know, their research. You can still use it. It's free. But you know, that's kind of a different trade than it was before. I still use it, but I am aware of that. And I think it's also when I teach it, that's the first thing I have to mention. And then students can say, I don't want to use it and it's totally fine. But I think that kind of awareness is what we need more, and it's not so much we shall not be there, we shall not use such tools. It's more. If you know and you're

okay with, then do it. But if you're not, then don't use it. This brings us back to a freedom, that we do not have, if we are not aware of. And I think that's what corporations are relying on, the terms of condition nobody reads and accept and so on. They are relying on us not fully understanding or not fully knowing that we are not really free, when we using such tools. There should be a switch of cards and we have the power; we have the data that they need. So, you should take these power back. Actually, I'm hoping that this would happen at some point. I think the best thing you can do is just not blindly go and accept everything that happens to you or that the tools give to you. I think especially in the times we're living right now and the old AI pipe and deepfakes, if we are not learning, if you're not eyes wide open, if you're not willing to double check, if you're not willing to discuss and to critical look at things, these will not go well. I think really as an individual, the best thing that you can do is as much as you can. I mean, we are still humans. We are going to make errors. We're going to make mistakes. But just read about look at it, questioning things is very important still. And yet be also open to discuss things a lot. Like, if you see someone writing. Talk about it, write about it and share, we should share awareness. I think it is really

Excerpts from the interview with Hugo Brument

I finished my Ph.D. two years ago in France and I was focusing on locomotion and movements in virtual space more in detail about what are the factors or what can influence the way that we proceed for the virtual space when we are navigating in them? And what could be the issue in particular, I was focusing.

So, my starting point of the thesis was like, okay, in real life, the move we know how we are able to walk to locomotion is something, but we have something different when we explore those virtual environments. And since there are some differences that we also influence the way that we behave or we interact, and in particular that you can makes me feel sick.

But now, as far as my post-doc, I try to extend concepts and I try to look about collaboration between people. If you have two persons who have to do something together like a joint action, what could be also the influence in terms of Avatar? Also, the way that you perceive it embody Avatar. Of course, it's hard to reproduce for like yourself version of your first base and there can be some issues, but you

important to feel as a community or like we are a community, whether we want it or not, especially on social media or virtual social spaces. We are a community and we have to share things. And, I think that's what artists and culture workers are doing - we share information with our work, so we not even just online. And I think that's important because a lot of people, maybe they don't realize. And then by just reading one thing or seeing an artwork, they might start thinking also, oh, maybe I should look at this or that. The sharing of awareness is a bit our responsibility as individuals to do. And take the time to learn. I mean, we had to learn how to exist in physical reality. We need to do the same online. It's a reality. We need to know how to walk, to talk, to touch and we'll touch in the virtual way. So, I think a lot of times you don't take that time, you just jump and go right away. And, it can be very spooky when you don't, you might stumble, you might fall.

So, I think share of awareness and take the time to really understand the tools that are using. And question, always question. Always be a bit suspicious with the tools that you using.

have to have an avatar that represents yourself or that you feel that this is yours, that you feel that you can move with. So those aren't new topics. I'm still a bit beginner on this. And the reason why I accepted this interview is because I was talking with Gerald Nessler and Silvia Ackermann. They want to prepare like a peak project. So, it's like science and art research. They want to investigate this topic of democratic space.

At first, I would say you're trying to be optimistic and try to make the world a better place in theory. And this is what you want to do. That's why I work in public and not in private. And the reality it's way harder. We still have like some constraints, but there are many, many possibilities and benefits about virtual environments. I think it's not like the Covid crisis that's not over now mostly, but I think that's where most everybody just realized that how virtual communication of actual interactions get to a place can also be beneficial or to a command that we have it in real in real life. I'm thinking for in terms of communication like more introverted people can also like express themselves better or even like embody or embody another type of person. And I think that can just put like a filter, a barrier to enable them to interact or do situations they wouldn't do in real life. One thing the second

thing that I wish that I'm even closer to is about training. I believe that the virtual reality can be a powerful tool for help in training people.

You have to remember that natural space is virtual, which means that you have all of the issues that you have also with virtual interaction, communication, like I think about harassments or cyber bullying in social media.

What is the concept behind the what happened but from the law or from the legislation and from even who is responsible? Is it the virtual company, the virtual space, or how can we punish like the aggressor and of this? So this is a problem that since you have like a filter and you also like behind, you don't see the same responsibility or the feel that you can interact differently. And I think this is even worse, like in when you are like in 3D space is then even like because like with social media it's only text, but it starts out like all of the interaction, you can just look at the person, you can virtually touch the person. You can just talk like so this is something that we have to be careful and especially I know that I grew out of my experience with adults, but we don't know so much like how dangerous or harmful could be the technology for young. So, this is a bit the same inconvenient or issues that you have with internet but now apply to virtual spaces that can be even more dangerous because you could see more like 3D explicit content. None of this. So, we have to be careful about this.

And from technological point of view was it doesn't feel so real yet. It's still like we're still very far to and you still have to take a lot of time or a training to be familiar with the technology. So, this is also a shortcoming. It we take time because. It doesn't reach the mass. It's still like for some people.

. I think that the person who is designing those virtual space must have like some moderation and all of this. But so far, the only thing that you can do is just like leave the virtual space. But there is no trigger button or like anything from what I know. And from our site, we only do like experience like with, of basic research. And so the only thing that we do is make it any moment. They can just stop if they don't feel comfortable or if they feel sick. So that's the only thing that I'm aware

about. So, you know, I'm thinking about a moderation bug, which is like way less than in which is already poor. Like in social media. You know, there are still a lot of work on this.

The city would be always late because compared to the technological advancements. Technology goes faster than the societies and the law can follow. That's one problem. And the second problem, as I was mentioning, it's like VR industries are mostly like the big companies Google, Microsoft, Amazon, they want to have like all of the cake. So, and most of the researcher, I know, don't want to have this. I would like to have like something more open, decentralized where everybody could just make their rule and say, save space by having and it's okay to have like some virtual spaces that are actually an artist, you know, in the same way that there are like some community is making a word with just try to be as close of what we have like from society patterns and respecting and also inclusivity and diversity. We are also very, very sorry when I was talking about those Avatar, Yeah, most of the libraries, you know, it's like cisgender, white, healthy. And we don't have a lot of variety in terms of heights, in terms of weight, in terms of gender and all of this. We are very we are so unlike the male avatar of the female avatar. And this is still quite in dark. And the dog. But we don't have all of this, I would say gender fluid panorama. So, it's a so, so it's so hard but this to make you would like to virtual space could be like safest place but so far, it's maybe even worse so far because where we are, they're a bit far from what could be idea. But yeah, that's also a disadvantage with the technology so far.

There is a community called openXR which try to build some standards and maybe in the future, I don't know, maybe a software. But I doubt about this, but they tried to make standards about how to make everything open that would be compatible. So, they tried to make like the link between all of those different platforms. This is promising. But once again, this is just like making the link between every private stuff. But at least this is an open initiative with different researcher and we use this now because we need sometimes to have like

applications that are compatible with different headsets because also the equipment is also more open source. Like the same with like all of the smartphones, they have all of their IP, intellectual property and all of this.

So this is what I said that this is a risk that at some point if we don't try to have more initiative or more companies or association that can try to make like some open access and transparent virtual space, that would be an issue because it means that would just be affected the slaves of one company that just like sucking all of the data, which is already an issue even with all the virtual space like including Google, Facebook or Twitter and all of this. So that's also a threat because it means they could gather way more and more type of data or even some data that we don't still understand, we are always afraid of but they have privacy for one reason because you never know what they could be aware to do from the future.

My hopes and wishes would be quite close to what are the benefits like in long term. I wish and I hope that virtual spaces could be really inclusive. I mean, in the same way that I hope and I wish that this could also become more like in real life. But if we talk to the virtual spaces like really inclusive, safe space for everybody and that it can be accessible, yeah, but the technology can be accessible to everybody because so far this is still like, I think, because let's say the cheapest that you need to be in the virtual space is a smartphone, a lot of people have smartphones. E.g. you have a smartphone and some cardboard. [Hugo puts a cardboard in front of his eyes next to his smartphone, creating a space] So you have but you don't have a lot of interaction but can still see in there for space. But if you want like real goggles, they cost like 300 - 500 € and not everybody can afford this. I also hope that the cost will decrease and the technology will enable something that can be used and accessible for everybody. And I hope that it will be also like the impact or the influence or the change or the benefits of virtual spaces will be more taught in schools. And

also, that we could do like some education about explaining about this. Like some people from VR and education to this will work and project to warn or raise awareness to young because this is misleading the person that can be the more vulnerable those phases and also because where they are not adults. Some legislation that of this that's a bit tricky in terms of responsibility. So that's my wishes and hope and also another hope that I have both, which is probably something that never happened, is like you can be, as I was saying, you can be sick when you are immersed. Then I hope that in the future that the technology will be able to understand why people are sick when they are too much immersed. We call this cyber sickness. So, you have motion sickness, which is like when you're sick from motion, like in the both art and cyber sickness is this is the sickness from first base.

And once again, like, it becomes like still something that we can have, like open alternatives. We should always open alternatives. I think some industries having products for this is part of life, so you cannot say that. Yeah, let's abolish everything. And it's harder than this in practice, but at least I think like some opportunities are so consortium that can also give the possibility to also people who don't know about technology, how to use those, to have some tools to create and design.

There is one book...I have to think the name in English because I read in French. It's a neuroscientist called Alain Berthoz. His book was about the brain's sense of movement. So, this is a book that I read during my Ph.D.

That was a bit more interesting in the book, like what it's like to see what is the philosophy of movement and motion in general. Just aside from this, and I should read it again because it's been a way to screen inspired me to understand a bit more. What I also would like to do in my research. Another inspiration that I have is like, I don't know if it's really an artist or researcher, he's called Jaron Lanier.

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