MEDIATING TRAUMATIC HERITAGE: THE ROLE OF VIRTUAL REALITY IN CURATING MEMORY MUSEUMS

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ABSTRACT

This thesis explores the use of immersive VR technologies in memory museums, focusing on their role in shaping commemorative practices and curatorial approaches in dealing with difficult heritage. Immersive technologies are often regarded as an effective way to enhance viewers' empathetic engagement, with the aim of fostering socially oriented political awareness and advancing justice. This research critically revises this position.

The research draws on interdisciplinary theory within the fields of memory studies and museum studies, applying Alison Landsberg's concept of prosthetic memory, Andreas Huyssen's reflections on memory in late capitalism, Pierre Nora's notion of *lieux de mémoire*, and critiques by Judith Butler and Silke Arnold-de Simine to investigate the ethical and curatorial implications of using VR in trauma-related contexts.

The methodology is based on a triangulation of methods: critical discourse analysis of the public controversy surrounding the new memorial project in Babyn Yar; thematic analysis of expert interviews with museum professionals; and content analysis of the VR project at the GULAG History Museum, interpreted through the lens of contemporary memory theories.

The analysis demonstrates that rather than serving primarily as a tool for fostering empathy or transmitting affective memory, VR technologies are most effective as educational instruments within complex pedagogical programs. Furthermore, they offer new ways of interacting with — and even constructing — spaces of memory. The findings contribute to current debates on the use of immersive media in memory museums.

KEY WORDS: Memory Studies, Museum Studies, Difficult Heritage, Difficult Past, Curating, VR, Empathy, Immersive Technologies.

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1. Introduction.

In her essay "Regarding the Pain of Others," Susan Sontag explores the first photographs in the history of photography that aimed to capture traumatic historical events — military conflicts and the human condition within them. Analyzing the photographs of war correspondents and their presentation in the press, she formulates two main ideas: first, that what we know about human conditions during complex historical periods and anthropogenic disasters, and how we imagine them, regardless of whether we were direct witnesses, is largely constructed by visual culture and the available produced visual images that form a specific tradition of representation. As Sontag notes, such images at the dawn of war photojournalism were often staged or referred to a longer artistic tradition of depicting death, war, and other conflicts. Here, she problematizes testimony as such, its possibility, and the possibility of its representation (Sontag, 2003, pp. 15–35). The second idea is that the way these visual materials are presented — through captions, commentary, or even the fact that photographs are used by one of the parties — largely determines the narrative, regardless of the content of the image. Thus, an image presented in a particular context may not be able to defend its own truth, yet it serves as a powerful tool of documentary validation for the author of a particular narrative. Therefore, the act of "looking at others' pain" involves not only the problem of visual documentation and/or historical representation but also the contextualization of these testimonies and their potential impact on the viewer. This, in turn, leads to experimental questions that attempt to localize constants and variables among the mediums of representation and methods of their display, or exhibition, in the broadest sense.

Visual culture of historical representation, particularly of tragic and traumatic events, plays a key role in shaping memorial culture. It takes different forms across various projects, perhaps finding its primary expression in the institutionalized spaces of memorials and memory museums. Memorial museums, having evolved over time from memorial-like expositions to open public spaces for discourse, often serve as platforms for experimentation, using numerous theories of memory and museum design. In their mediating role, they connect historical narratives with the experience of contemporaneity. The use of VR technologies and the creation of VR projects dedicated to difficult pasts is a vivid example of this. But does

this medium change the structure of our remembrance? Is it truly a new way to remember, or simply an old way of "looking at others' pain"? If Sontag questioned the ability of photography to document suffering objectively, VR takes this challenge even further, promising immersion rather than observation. Unlike traditional documentary representations, which inherently carry the perspective of its creator, VR often presents a form of hyper-documentality. It often reconstructs scenes that were never witnessed by victims or perpetrators, generating a paradox of immersive realism detached from lived experience. But does immersion necessarily mean deeper understanding? Or does it risk creating another mode of spectacle?

If the documentary nature of photography serves as a tool for validating certain historical narrative, does 3D modeling and the "reality" of experience through VR glasses serve the same function? Sontag, in this book, not so much as a researcher but as a thinker, starts with a rhetorical question about how we can stop war, implying that visual testimonies have a socio-political potential (Sontag, 2003, p. 9). Certainly, memory museums, as bearers of specific ethical principles, also use this visual dimension for their purposes. Therefore, the social-political dimension of VR technologies in the context of remembering and curating a difficult past is an evident question.

Thus, this study focuses on the issues surrounding VR technology, which is increasingly used in commemorative practices in memorial institutions. It aims to reflect not only on the still few VR projects about difficult pasts but also on the context of their application, in terms of curation, creation, and implementation in museum exhibitions. *In other words, what new insights does VR bring to the representation of difficult heritage, and what ethical challenges arise in its application? And the sub-question: how does VR, as a curatorial tool in memorial museums, transform the way we engage with traumatic pasts?*

The importance of the questions posed is revealed in the active process of implementing VR projects into museum exhibitions by curators, as well as in the arising debates surrounding these projects.

A key premise for the growing interest in technology within museums is the affective turn in museum curation, which has led museum exhibitions to go beyond the mere display of artifacts and instead offer emotional visitors' experiences often mediated by the usage of multimedia technologies (Varutti, 2022). This shift is driven not only by the evolving

expectations of contemporary audiences, who increasingly perceive technology as an integral and familiar part of daily life, but also by the commercialization (Outka, 2009) and further theatricalization of the museum's "product" (Falco & Vassos, 2017). As a result, museums are compelled to rapidly adapt to new technologies, particularly in the field of visual media. While such experiments are relatively unproblematic for art museums, natural history museums, and similar institutions, those that deal with complex and emotionally charged historical events must approach technological innovations with deep theoretical reflection and carefully defined ethical boundaries. The ongoing debate in this field underscores the potential relevance of this research.

Furthermore, with the growing use of VR technologies in historical projects and the widespread belief in their strong affective impact on audiences, such projects are increasingly commissioned and funded by a diverse range of major actors, including Auschwitz-Birkenau, The Nobel Prize Foundation and the International Campaign to Abolish Nuclear Weapons (ICAN), as well as the Society for Threatened Peoples e.V. and the Institute for Transcultural Health Science (ICAN), among many other organizations committed to social change and well-being. Given the author's strong commitment to the need for social change toward peace and social justice, a critical analysis and reassessment of such projects is essential in order to prevent unintended negative consequences.

This thesis is conceived as an interdisciplinary study that explores the problematics of contemporary memory museums, the specific nature of this exhibition format, and its relationship to memory theories. It examines the challenges associated with the use of multimedia tools in memorial exhibitions instead of traditional documents and artifacts, the role of empathy as a central concept in discussions about audience affect, and the distinctive visual genre of VR projects.

The thesis is divided into four main sections. The first part is dedicated to the theoretical aspects of the topic. The second part focuses on a discursive analysis of the unrealized museum project by director and curator Ilya Khrzhanovsky — the Memorial Museum Complex in Babyn Yar, Ukraine. Since this project provoked intense public debate on usage of immersive technologies inside the new exposition, the goal of this section is not only to analyze the project from a theoretical standpoint but also to identify the "trigger points" in the discourse on contemporary memory museums. In the third part, the aspects identified in the

previous section will serve as conceptual reference points for analyzing interviews conducted with the museums professionals. And the fourth part will be focused on the real VR project inside of a memory museum (GULAG History Museum, Moscow, Russia) dedicated to the legacy of the Soviet labor camp system. The final section presents key conclusions on the role and potential of memorial VR projects and their integration into memory museums.

2. Literature review and Theoretical Background

2.1. Theories of Memory

The discussion on the representation of traumatic memories in museums and multimedia projects would be impossible without a broader theoretical context concerning the concept of memory and its evolution. This academic discourse began with Maurice Halbwachs, who, as early as 1925, was among the first to attempt to define the mechanisms of memory in society and to distinguish this concept from the one of history. The discourse has been actively developing especially over the past forty-five years, since the so-called memory boom of the 1980s-1990s, mostly theorized by the Assmans, to contemporary views of post-memory-boom era, such as one by Andreas Huyssen and Julia Landsberg.

Maurice Halbwachs in his book "The Social Frameworks of Memory"(2007) describes two types of memory: collective and individual, both of which are rooted in a linguistic, spatial, and temporal community of people (Halbwachs, 2007). For Halbwachs, memory is a collectively shared representation of the past, endowed with an adaptive capacity that allows it to adjust the past to the present and vice versa. Examining historical consciousness and memory as it manifests within families, religious groups, and social classes, he argues that memory is socially determined and, like tradition, has a collage-like nature, employing elements of the present to construct an image of the past (Halbwachs, 2007, p. 129). Within this framework, memory is understood as an inherently fluid and mobile concept, shaped by the needs of contemporary societies and communities (Halbwachs, 2007,p. 209). While acknowledging the instability of collective memory, he nonetheless distinguishes between dogmatists (more static actors who uphold "truth") and mystics, who transmit memories in a more performative manner through personal communication and rituals (Halbwachs, 2007, p. 249). Halbwachs's theory is profoundly sociological, positioning religious communities, families, and social classes as the primary agents in the formation of memory, and consequently in shaping its hierarchy and individual identity.

However, due to the time in which he worked, Halbwachs was unfamiliar with the structuralist and poststructuralist ways of thinking. As a result, his famous thesis — "history begins where memory ends" — was based on a failure to recognize official history as merely one of society's narratives, consciously or unconsciously shaped by various hierarchical structures (Hutton & Gordon, 1993, p. 83). This is a significant limitation that, during the rise

of structuralist theories, was critically expanded upon, particularly in the clearer recognition of the role of institutions and their inherently conflictual struggle for narrative dominance, rather than a simple functionalist social determinism. This awareness leads to the increasing importance of cultural institutions, as well as memory museums, as public forums for the preservation of personal public memories, and on the other hand permanently challenge any institutionalized narrative and provoke numerous experiments aimed at deconstructing a singular representation of the past, instead embracing as much polyphony as possible—for instance, through multiple personal testimonies, recorded live or drawn from individual recollections.

In this way another contradiction is revealed - Halbwachs implies some kind of conventional meme based on the consensus of a social group - one need = one interpretation of history). In the second half of the 20th century, the heterogeneity and uniqueness of personal testimonies became an important place.

The passing of the generation of witnesses to World War II and the Holocaust, as well as the growing interest in marginalized narratives (colonial, gendered, ethnic) exposed the limitations of the functionalist approach: memory could no longer be seen as a monolithic phenomenon based on group consensus. On the contrary, it was increasingly perceived as a field of struggle over the interpretation of the past, where institutions - museums, archives, memorials - played a dual role. On the one hand, they fixed the "official" versions of history; on the other hand, they became sites for deconstructing these versions through the inclusion of alternative voices. It is in this context that Jan and Aleida Assmann have proposed a division between communicative and cultural memory. Whereas the former, as with Halbwachs, relied on live communication and was limited to generational boundaries, the latter, based on material media (texts, images, rituals), made it possible to bridge temporal gaps (Assmann, 2019, pp. 80-85). Cultural memory, according to Assman, is a dynamic process where institutions do not simply preserve the past, but reassemble it in dialogue with the present. This approach has opened the way for experiments with polyphony in museums: from multimedia installations to VR projects where personal testimonies and official narratives coexist, challenging each other.

French researcher Pierre Nora developed Assmann's theory and showed that collective memory can be "anchored" in shared places of memory - these can be both physical places of memorials or commemorative events and other tangible or intangible objects, symbols or

spaces in which memory is "crystallized". On the one hand, this theory can be seen as a reference to Benedict Anderson's "imagined communities" (Anderson, 1983, pp. 98-99), which he formulates as societies self-defining and formed around shared common beliefs. On the other hand, for Pierre Nora, as for Aleida Assmann, the role of institutions is undeniably important. When the direct bearer of memories (whitesses) passes away and short-term communicative memory becomes impossible, cultural memory, preserved in symbolic material objects, becomes crucial. At this stage, Assmann distinguishes between storage memory, which is kept in a state of semi-forgetfulness, as if in storage, and functional memory, which is preserved in the cultural space, largely within museums (Assmann, 2004, pp. 48-49). Thus, both of these types of memory require institutions: first, those that will conserve and preserve the currently irrelevant "remains" of history, and second, institutions that continuously actualize functional memory in their exhibitions and displays. Developing the idea of the institutional side of memory, which Assmann herself left aside (Lang, 2007), institutions cannot function without a community or society that ensures their operation in both specific and more global senses, as well as supports the constant volatility and plasticity between storage and functional memories (Assmann, 2004, pp. 59-60), reminding us of their adaptive social work as proposed by Halbwachs.

Thus, based on this group of studies, a mechanism can be identified: when communicative or social forms of memory weaken, cultural memory, anchored in "places of memory" and other "crystallizations" (symbolic objects) of history, helps societies with self-identification and adaptation to the present.

Assmann's theory, directly shaped by Holocaust memory culture, should perhaps be supplemented by Marianne Hirsch's concept of "Postmemory," which more thoroughly explains the commemoration of traumatic events across two generations and beyond. In her analysis, Hirsch also examines photography as an unreliable narrator, which brings us back to the issue raised by Susan Sontag, but also focuses on figures of silencing. Although the original concept of postmemory is primarily explained as memory of the second generation, it also addresses the important theme of "inheritance" of memory. Being a relatively contemporary study, it still emphasizes the existence of a group connection in the process of transmitting memories and trauma (Hirsch, 2012, pp. 5–20).

With the emergence of these theories, it becomes clear that there exists a cultural-social agreement regarding certain historical events, but it is formed through intergenerational

communications or their significant absence, as in Hirsch's theory. Consequently, the transmission and perception of representations of historical events require a community of people who are directly connected to one another and perceive this connection as meaningful in shaping their own identity. However, globalization and the digitization of the information space significantly challenge these theories because they blur boundaries, such as national or territorial memory boundaries, and make personal relationships within the family, nation, or social group conditional. This process was described in terms of global flows by the researcher Appadurai (1996). His theory largely stems from a post-industrial understanding of the modern world and the capitalist system but also describes the contemporary movement of meanings, images, and ideas alongside global economic ties.

Anderson emphasized the role of print capitalism in shaping stable national identities that are confined by territorial borders. In contrast, Appadurai argues that globalization breaks down these boundaries through the movement of people (ethnoscapes), media (mediascapes), and ideas (ideoscapes) beyond borders (Powell et al., 2011, p. 75).
These interconnected flows give rise to transnational imagined worlds, which surpass the concept of fixed communities, undermining the traditional notion of memory as something anchored in specific territories or generations.

Following Appadurai, memory and heritage scholar Andreas Huyssen, in "Present Pasts: Media, Politics, Amnesia" (2000), already states that since the 1980s and the onset of the memory boom, a significant shift has occurred — using Reinhart Koselleck's terminology — from "present futures" to "present pasts." In other words, whereas previously the general aim of memory and commemorative practices could be described as a desire to extract useful lessons from the past in order to build a better future — one with less violence and a more universal humanism — in our contemporary reality, shaped by active media and digitalization, the modernist utopian project is being replaced by a retrospective turn toward reinterpreting the past and understanding what kind of present emerges from it (Huyssen, 2000, p. 21).

The popularity of memory museums and nostalgia has led to the musealization effect becoming widespread — not only for historical events but also for private life. This happens not only because historical distance increases over time and living witnesses pass away, but also because commemoration increasingly coexists with amnesia: there is a persistent anxiety

that real memory is disappearing alongside historical consciousness. Despite the abundance of media technologies that expand access to memory, they also contribute to the accelerated consumption of memorial content — and, consequently, to its rapid forgetting. The temporality itself has changed, making not only the stable structures of collective consensual memory — as described by Halbwachs and the Assmanns — impossible, but also undermining any opposition between these forms of commemoration and capitalist consumption or spectacularization: "There is no pure space outside of commodity culture" (Ibid., p. 28).

The attempt to stabilize a rapidly changing world, to halt forgetting and to "anchor" it, is expressed through musealization, the creation of archives — particularly digital archives. However, Huyssen acknowledges that these digital tools are not a panacea: they cannot fully replace the living communicative memory as described by earlier researchers. At the same time, he argues that memory mediated through new technologies is just as partially virtual and rooted in the realm of imagination as memory transmitted through artifacts, photographs, or testimonies (Ibid., p. 38).

Thus, Huyssen offers a critique and establishes a distance between the contemporary moment and earlier theories of memory, arguing that new technologies undoubtedly alter the way we commemorate and the form in which we remember certain traumatic events. However, the essence of memory transmitted to future generations does not change — even if its connection to post-capitalist processes of information consumption is significantly closer and more complex. VR technologies can undoubtedly be viewed as an example of this assertion.

The contemporary researcher Julia Landsberg picks up on this idea and proposes the concept of prosthetic memory as a form of modern memory. For her, Halbwachs' theory that "memory is socially constructed by particular societies" is inadequate in the face of the emergence of modern mass media too. These media dismantle the boundaries of memory and themselves become a global archive in which memory is mediated and preserved. In addition to the fact that memories become accessible to a potentially unlimited number of people, these memories lose their natural owner (Landsberg, pp. 6-10). Thus, she contrasts her view with all previous theories in which interaction and any connection to the generation of witnesses was determining for the understanding of the mechanism of memory inheritance. In the present time, she argues, mediated memories are commodified images; therefore, they do not

have their own natural owner. This is why the distinction is removed between those to whom memory is passed down from predecessors and those who perceive it without having "natural claims" like race, nationality, or gender.

The concept of prosthetic memory refers to the metaphor of a prosthesis, an instrument that helps to experience what is different from the current lived experience of the subject. This metaphor is not accidental, as it resonates with the understanding of memory as bodily experience: the body as a participant in events, which typically distinguishes direct witnesses from their descendants. For Landsberg, bodily experience is important, but not to "guarantee" the connection in the transmission of memories and their identity, but to make it possible to perceive and understand the memories being transmitted (Landsberg, p. 113).

Thus, bodily experience as such, including emotions like empathy, compassion, and fear, is necessary for the identification of the viewer with the participants in the events. Bodily experience becomes an important part of understanding alongside cognitive-rational comprehension. Media act as unique "transferrential spaces" — a concept she borrows from Freud: "Through such spaces people may gain access to a range of processual, sensually immersed knowledge that would be difficult to acquire by purely cognitive means" (Ibid.). Her examples include Hollywood films about the Holocaust, such as "Schindler's List" and "The Pianist", whose genre and Hollywood effect, characteristic of popular mass culture, ensure immersion for the viewer. It would be logical to further develop her reflections and try to apply them to even more immersive visual technologies, such as VR. She does not only explains particularly how Huyssen's new media work with memory, but also closely addresses issues that are becoming increasingly relevant in the conversation about contemporary immersive technologies, where the experience of the body becomes as real as possible, providing its "presence" at the point of the event and offering the closest sensations, thus intensifying the effect of the "prosthesis" in the transmission of knowledge/memories of past historical experiences. This is why her theory may be crucial for understanding the work of historical VR projects in this study.

However, Landsberg democratizes the realm of memory by stating that its transmission, perception, and preservation are accessible to everyone through empathy and identification with the experience of the witness, Silke Arnold-de Simine sees important limitations. She raises the question of how far we can go as viewers if the boundary between the authentic memory of the witness and "prosthetic memory" becomes blurred, especially when it comes to traumatic memories (Simine, 2013, p. 27). She notes that empathy and identification with

another person's traumatic experience may be significantly limited by one's personal life experience or the experiences of their immediate social group, such as family. Citing examples of museum exhibitions about slavery, she points out the prevalence of themes like separated families and the separation of children from their mothers—subjects that resonate most with the viewer based on what they can imagine within their own experience (Simine, 2013, p. 100). Accordingly, various media and museum exhibitions presenting the experiences of the Holocaust or imprisonment in the Gulag through deprivation, hunger, and cold risk creating the illusion for the viewer that they have "understood" it, which is a deeply unethical misconception for most viewers.

Landsberg's concept also raises the question of the final goal of identification and empathy, as well as the purpose of media or museum projects that deal with memory. She says that the aim of such projects is to make historical trauma or a difficult past "imaginable, thinkable and speakable" (Landsberg, p. 139), so that later it becomes possible to talk about, recognize, and document more complex personal and social experiences that still haven't found a place in memory culture or its reflection.

Georges Didi-Huberman, in his book "Images malgre tout", continues this idea when he looks at documentary evidence and photographs from Auschwitz. He writes that imagining the unimaginable and facing the incomprehensible is important — not only because it helps overcome the lack of language, but also because the act of imagining or identifying with the image is an ethical and political act of resisting historical injustice (Didi-Huberman, 2003).

At the same time, he also writes about the gaps in representation and its constant incompleteness, which also have political meaning. And while Landsberg focuses on the immersive experience of watching Hollywood films with strong emotional effects—through which prosthetic memory is created, Didi-Huberman argues that the experience of trauma cannot and should not be completely reconstructed, because there is also value in the fact that full emotional understanding is incomplete or even impossible.

Judith Butler, in "Violence, Mourning, Politics" (2004, pp. 22–40), resonates with Didi-Huberman and offers an even more critical perspective. She argues that the very attempt to make trauma "imaginable" risks reproducing hierarchies of mourning, where some lives are recognized as "grievable," while others are marginalized. For her, imagination is not a neutral tool of empathy but a means of political engagement: it must reveal whose losses

remain "unmourned" in the public sphere (Butler, 2003, pp. 19–40). In contrast to Landsberg's concept of "prosthetic memory," which substitutes for a lack of direct experience, Butler proposes to acknowledge interdependency through shared bodily vulnerability. For her, identification—including immersive, empathic experience—is less important than creating a logical connection based on the vulnerabilities common to all, such as death, murder, or genocide. This becomes possible when the role of the "viewer" is not located "outside," in the safe space of the present, distanced from the traumatic event, but rather as if "inside," where anyone can become a victim of political systems, ideologies, and so on. It is precisely this awareness of shared vulnerability that carries the most powerful political effect (Arnold-de Simine, pp. 124–125).

Thus, Huyssen and Landsberg offer a new approach to the transmission and "perception" of memory about complex or traumatic historical pasts, taking into account the realities of modern technology, the spread of pop culture, and global capitalism. However, her approach exhibits limitations, such as the absence of significant "gaps" as described by Didi-Huberman, and its susceptibility to the hierarchies of memory identified by Butler. This discussion highlights the key challenges faced by memory museums, particularly in using technologies, mediated memories, and other media and pop-cultural tools. It also raises the question of how successfully new media can reconcile the critiques of different theories, either alleviating or, conversely, reintroducing ethical concerns.

2.2. New Media Technologies in Contemporary Museums.

Contemporary museums, including memory museums, are primarily faced with the challenge of maintaining a balance between educational impact, social responsibility, and inclusivity, on the one hand, and the contemporary visitor's demand for an advanced and engaging museum experience, on the other. Whereas earlier the function of most museums was largely focused on presenting historical time through the display of objects, the critique of the traditional museum as an ideologically constructed narrative, formulated by Tony Bennett (1995) and inspired by Foucauldian approaches to hierarchies of knowledge, has contributed to a shift. Since the late 1990s and early 2000s, museums have increasingly been seen as more complex institutions that not only preserve heritage objects but also aim to trigger public debate and contribute to social justice (Simine, pp. 10–11). This condition, in which the museum is held accountable for the adequate representation of the present, particularly in the way it addresses the past, was described by Peter Vergo as the emergence of the "New Museology" (1989).

This new condition involves a diminished focus on the object collection and a greater emphasis on the attempts to visualize, interpret, and present historical events that are distanced to contemporary audiences. As a result, visual understandings and representations of history, as described by Hayden White's concept of historiophoty, along with the increasing desire to represent marginalized groups lacking material heritage, have significantly shaped the scope of new technologies in museums, especially in memory museums (Simine, pp. 7–13).

In this regard, Valerie Casey, in her study, traces the evolution of historical museums from their "legislative" role in the early 19th century to the "interpretative" role in post-WWII era. Contemporary museums, according to her, can be described as the ones evolved into a "performing" role, trying to unite these issues in a holistic theory (Casey, 2003, p. 3). What is crucial here is how museum practices have altered the relationship between the object and the viewer, changing over time the way in which the latter engages with historical exhibitions.

Unlike earlier practices, when the viewer had a more direct, unmediated relationship with the object (Casey, 2003, p. 5), modern display methods increasingly push the viewer toward more active participation with the historical events presented. This is tied to the growing theatricalization (Falco & Vassos, 2017) and commercialization of culture (Outka, 2009), leading to the creation of an illusion of control for the viewer, who seems to have the ability to influence their perception. At the same time, this limits the scope of interpretation, positioning the viewer as an actor in a performance where their role is predefined. Problematizing this phenomenon brings us to the concept of "performing museum"/ "performative museology", as a form of museum experience (Williams, 2011, p. 223). Williams argues that the viewer must feel a sense of belonging to the story being told, meaning that the narrative of the exhibition should not only be autobiographical but also employ techniques from art and literary storytelling. On the one hand, the theatricalized museum experience facilitates empathic identification between the viewer and the figures in the exhibition. On the other hand, this approach fundamentally alters the nature of knowledge and the process of its acquisition (education) within the museum. While object-oriented exhibitions are characterized by a rational-cognitive perception of information, immersive theatricalized spaces, often using new media and technologies to enhance the effect, offer a kinesthetic and embodied method (Simine, pp. 12–13) (Zhang et al., 2024).

Therefore, the increased usage of new technologies in memory or historical museums was determined not only by technological process, but also by evolution of the museum practices, the change of the viewer's position in the museum space and new understanding of knowledge transmission. Undoubtedly, this understanding of the museum and interactive exhibitions fully aligns with Landsberg's theory and her vision of a new type of museum as an "experiential museum."

Although the scholar Andrea Witcomb proposes an alternative genealogy of museum development, suggesting that the traditional 19th-century object-oriented museum may have functioned as even more discursive and dialectical space than today's immersive exhibitions, which increasingly insist on how history ought to be seen (Witcomb, 2002, pp. 13–26), both she and Simine agree that the majority of contemporary museum media projects are driven by ethically grounded intentions – to give visitors as many opportunities as possible to connect with unfamiliar historical experiences and to encourage political and civic engagement.

Summing up the intermediate results, one can say that Huyssen proposes the idea that in our time—due to the development of capitalism, globalization, and the spread of media technologies—it is no longer possible to draw a modernist, clear-cut boundary between the spectacular capitalist "culture" in the broad sense of the word and some pure, external space. This is because the ways we consume information have changed, and consequently so have the ways it is represented, reproduced, and produced. But how exactly? For instance, he argues that we no longer remember the past primarily through the testimonies of witnesses, but rather through the experience of receiving this information. In fact, the viewer always remains within the space of the imaginary, since the very nature of memory is "virtual." Memory is inherently mobile and unreliable. Nevertheless, media and digital technologies involved in the archiving and preservation of memory undoubtedly influence how and in what form we remember (Huyssen, 2000, p. 38). In parallel, museum scholars have been developing the idea that technologies allow for the creation of particular experiences in the perception of historical knowledge or remembrance. These technologies can shape how memories appear, where they are located, how they are organized, and most importantly, how they interact with those who perceive them. Landsberg adds that mass culture technologies, media technologies, and those employed within the "experiential museum" enable the formation of prosthetic memories through an empathic process.

Thus, within the framework of "new museology," contemporary memorial museums offer a conceptual and discursive model of the postmodern exhibition, in which media technologies function as a mediating layer between the architectural design of the building, the exhibition spaces, archival elements, and the viewer—enabling the creation of a more dynamic and affectively open space (Ordonez-Castillo,2018 2018, pp. 38–48). In this way, the museum produces an "emotional witness," capable of empathizing, engaging emotionally, and activating other affective responses, following the path of experiential and affective learning described above.

Moreover, several key areas can be identified where technologies work with the representation of history and memories in a new way. Firstly, it is the field of objects (or its absence) and the realm of digital archivization which goes beyond just photo and video fixation. The reason is the absence of a sufficient number of objects and visual documents that would help reconstruct a representation of the historical event due to both the temporal distance from the events and, more significantly, their loss or deliberate destruction. Since this research focuses on difficult pasts and traumatic historical events, such a problem is encountered in virtually all memory museums.

It also involves the materialization of these testimonies into forms that are more accessible to perception: transforming fragile archival records, bureaucratic documents, or oral testimonies into voiced or visualized versions integrated into exposition.

When The Fængselsmuseet in Horsens opened in 2015 in a former prison building, the curatorial challenge was not only to renovate and preserve the architectural structure, but also to tell the story of the penitentiary institution and its inmates — whose traces and stories had not survived in material form. The curators of the project developed a special design approach that used holograms, lighting, and projections to "fill" the space with immersive narratives about the prisoners. According to the creators, their aim was to present a critical reflection on the site, and a wide range of media technologies — from touchpads to projections — helped them tell that story (Lanz & Montanari, 2022, pp. 175-183).

In the recently opened Museo Casa de la Memoria in Colombia, the curators go even further. Without the possibility of using a specific historical building to tell the story of armed conflicts and Operación Orión in Medellín in 2002, they created an exhibition in a newly constructed building. Due to the absence of physical artefacts, the exhibition is built almost

entirely on interactive panels and audiovisual installations, not only to present the multiple voices of victims and witnesses of that time, but also to create a particular atmosphere of immersion through audiovisual set design. The museum's curators introduce the notion of a "politics of translation," which they apply as one of the museographic tools (Ordoñez-Castillo, 2018, pp.40-47). This concept assumes that traumatic experience should not be fully recreated but rather translated — not only into a different linguistic form, but into a sensory and perceptual language more accessible to a viewer who did not witness the events (Ibid., pp. 106-107). In this way, the mediation of traumatic memory — its supplementation by artistic fiction, whether in the form of a soundscape composed of compilations or visual reconstructions — becomes an oxymoronic method of giving the viewer a more "real" understanding, as the raw testimonies without such interpretation might be less effectively perceived. On the one hand, Alison Landsberg, reflecting on popular culture and Hollywood cinema addressing difficult pasts, notes a similar effect. On the other, this very problem of having to translate traumatic history into a narrative proportionate to an average museumgoer is interpreted by Silke Arnold-de Simine (Arnold-de Simine, 2013) as a limitation — one that leaves events such as genocides and other large-scale acts of violence ultimately unrepresentable, untransmittable, and therefore not fully perceivable.

An alternative technology-based approach to moving away from a universal, singular narrative — the curatorial voice-over — and instead adopting a more bottom-up perspective (Stylianou, p. 122), in which the narrative is divided among multiple storytellers or witnesses, is proposed by the creators of the "Dimensions in Testimony" project realized by the USC Shoah Foundation. This initiative features holograms of Holocaust survivors who not only recount their memories but are also capable of interacting in dialogue with viewers. This approach fundamentally engages with the nature of testimony itself. Survivors' first-person narratives allow them to regain agency and no longer be perceived solely as "victims," enabling viewers to identify with them and experience empathy (Ibid). Researcher Elena Stylianou argues that projects utilizing holograms — 3D images projected on a 2D medium — effectively tackle the challenge of generating emotional and empathetic connections with audiences while, somewhat unexpectedly, reducing the risk of excessive spectacle. Holograms, as an imperfect and visibly artificial technology, reveal their own constructed nature and are therefore perceived as such by the viewer, preserving a necessary distance. As a result, even when encountering first-hand testimony through a hologram, the viewer retains

space to recognize their own agency and separateness — not absorbing another person's trauma, but rather feeling for it (Stylianou, pp. 120–125).

On the other hand, however, such formats of testimony not only provide a powerful emotional experience but also carry the risk of commodifying and speculating on traumatic experience, which may lead to re-victimization. Furthermore, the use of highly realistic technologies such as holography can divert the viewer's attention from critical engagement with historical processes — as personal testimonies are inherently subjective and can obscure the complexity and ambiguity of historical events (Witcomb, 2002, pp. 133–138).

Consequently, the visibility of technologies, the explicit presence of the medium with all its advantages and limitations, which preserves the fragmentariness of memory and its elusive nature, implying that behind these limitations lies an inaccessible fullness of historical experience, resonates with Marianne Hirsch's argument about the necessity of figures of absence, as well as with Georges Didi-Huberman's notion of the importance of visible "glitches" or representational incompleteness. These are essential effects that allow space for viewer identification with witnesses, the preservation of viewer agency and critical reflection, and, most importantly, the emergence of that very knowledge which contemporary memory museums strive to produce.

Thus, when turning to the discussion of VR projects, one must ask: might the possibility of full immersive engagement hinder or conflict with these relatively successful models in museum practice described above? Could they — even if only relatively — more successfully address the issue of the selectivity of memory and of institutional memory, as posed by Jill Bennett and Judith Butler? And could they overcome the risk of the spectacularization and commodification of trauma, turning it into an entertaining experience through new technologies, rather than provoking genuinely critical reflection on the representation and comprehension of historical events, as Witcomb cautioned?

2.3. VR Projects on Traumatic Pasts.

VR technology is based on digital 3D modeling or scanning, photogrammetry technology, as well as the creation of a three-dimensional digital environment using graphics or spatial data layouts derived from GIS data. Through the use of a headset and manual controllers, the viewer experiences an illusion of presence and gains the ability to interact with the created

digital space. Currently, this technology is being actively developed in the field of narrative creation — both fictional and documentary — and in storytelling practices.

Thus, VR technology, on the one hand, offers new technical possibilities, and on the other, due to the specifics of the medium, addresses familiar issues of visual and conceptual narrative construction.

Thanks to its technical features, VR often provides solutions to issues of accessibility in relation to heritage — whether archival, object-based, or urban. With the use of VR, a wide audience can access not only digitized objects held in storage, previously destroyed, or subject to display restrictions, but also a viewing and study experience that closely approximates reality. This not only makes large museum collections more accessible. The University of Glasgow's "Museums in the Metaverse" project, for instance, presents exhibitions based on items held in storage, such as the project on Lord Kelvin, which features not only objects but also a reconstruction of a 19th-century scientific laboratory interior. Their post-exhibition survey showed that 79 percent of respondents expressed interest and willingness to explore artifacts in this way (Journee, 2025). For the creators of "The Belarus Shtetl Project", VR technology became not only a means to reconstruct and preserve Belarusian architectural heritage, but also a way to maintain political independence and, while in exile following the 2020 protests, present their heritage project outside of ideological pressure (Richardson, 2025).

A distinct category includes projects that use VR not only to reconstruct inaccessible or unfamiliar spaces for viewers, but also to create complex storytelling aimed at drawing attention to difficult heritage and global social issues. This direction has also developed on the wave of popularity of so-called immersive journalism, which enables viewers to become participants in events through the effect of presence. Documentary film scholar Mandy Rose (2018) suggests that the move toward the computerization of nonfiction content is closely tied to the immersive turn in this field. A pioneer in this area was Nonny de la Peña, who played a key role in the development of immersive journalism with the goal of allowing audiences to feel connected to historical moments, to be passive witnesses placed at the very center of events, and to evoke a visceral internal response through the powerful illusion of presence (Ibid., pp. 139–140). Later, in his famous 2015 TED Talk, Chris Milk would argue that nonfiction VR projects are a kind of "ultimate empathy machine" capable of eliciting strong and deeper emotional engagement from the viewer through immersive effect, and thus,

encouraging political action and acts of solidarity, ultimately making the world more humane (TED, 2015). As evidence, he cited the impact of the documentary VR film "Clouds over Sidra", which significantly increased donations to refugee aid during its presentation at the World Economic Forum in Davos (Rose, 2018, pp. 141–142). A similar effect was reported by the creators of the documentary film about the Yazidi genocide in Syria, "Nobody Listening", featuring the reconstruction of destroyed Yazidi villages and narration by survivors. The presentation of this work at various venues across the world showed the great potential not only for raising awareness about recent genocides, but also for supporting charity organizations involved in this field (Mohammed-Amin, 2022, p. 103).

Subsequently, the idea of a connection between empathy and positive political action has become widespread and has even turned into a common place in the context of working with difficult heritage. Given the growing number of VR projects developed in memorial museums for the reconstruction of historical environments, this technology is perceived, firstly, as more attractive to younger audiences accustomed to rapid technological progress, and secondly, as a convenient method of immersing the viewer into the topic and atmosphere of a historical event. Successful examples of VR projects implemented in the exhibitions of memory museums can be found at the Anne Frank House in Amsterdam, at the Auschwitz-Birkenau Memorial and Museum, and at the Janis Lipke Memorial in Riga. Such projects serve as a convenient way to combine audio guides and guided tours, to animate visual material. From the perspective of many museums, XR technologies — a general umbrella term encompassing augmented, virtual, and mixed reality (AR, VR, and MR) — are revolutionizing museum education and enabling the adaptation of educational content for a wide range of user categories, significantly facilitating the task of inclusion. And despite the relatively high cost of such projects, more and more platforms are democratizing and simplifying access to this technology, not only for end users but also for smaller cultural institutions as is clearly exemplified, for instance, by the launch of the Google Arts&Culture VR.

Fast, effective, and affective immersion of the viewer into a subject, especially when it results in a readiness to act and to change the world for the better, isn't that precisely what memory scholars and museum practitioners of the 20th century were striving for? In essence, the VR headset becomes the embodied metaphor of Landsberg's "prosthetic," allowing one to truly feel and temporarily inhabit someone else's experience, or the experience of direct

witnessing. In this sense, VR emerges as a technocratic utopia of what Landsberg envisioned, particularly when she placed her hopes in the "experiential museum." However, this position has already begun to encounter some, albeit limited, criticism in academic literature.

Firstly, the witnessing of traumatic experiences raises concerns about the risk of retraumatization. Ann Caplan, in her work "Global Trauma and Public Feelings: Viewing Images of Catastrophe" (2008), suggests that we can be traumatized through mediated images. For her, trauma constitutes a spectrum, one that may include even those who were not direct participants in the events. And while one pole of this discussion emphasizes the risk of retraumatizing the viewer, the other points to the enduring issue of the spectacularization of traumatic history — especially given the gamified elements and the high level of interactivity characteristic of many such projects.

What is the danger of such a position? As Schlembach and Clewer (2021) observe, the affective intensity generated by VR, particularly in narratives focused on traumatic events, encourages viewers to surrender to emotion, including empathy, and to trust that it will become more politically effective than rational judgment. This reflects a liberal humanitarian logic, in which sustained critique of historical injustice is replaced by a kind of posthumanitarian communication, which "trains the eye on the subjective witnessing of suffering" (Ibid.).

Thus, under the pressure of such an intense immersive emotional experience, the critical distance necessary to formulate such judgment may be lost. But if the outcome of this experience still results in an empathic engagement with someone else's unjust and traumatic past — then does the viewer need this distance at all?

The authors of the article point to the inevitable manipulation embedded within the very mechanism of this so-called "ultimate empathy machine." By abandoning Judith Butler's idea that witnessing suffering should reveal our own vulnerability within systems of violence, creators of VR projects place their faith in an unconditionally positive political outcome, despite the fact that there is no solid research to support this belief beyond scattered examples of successful fundraising campaigns. On one hand, the creation of an intense empathic experience is envisioned as a key to resolving global conflicts and achieving peace on Earth. On the other hand, the very possibility of manipulation, which is difficult to resist in the

moment due to the experience's emotional intensity, recalls more troubling historical precedents.

Heritage scholar and originator of the term "difficult past", Sharon Macdonald, in her analysis of VR projects situated at former Nazi sites, ironically notes that the totality of experience offered by this technology may be comparable only to the totalizing vision of Nazi neoclassical architecture by Speer and others (Macdonald, 2022, p. 12). She introduces the term "dangerous pasts" to describe historical legacies whose extremist and xenophobic ideologies still carry a certain appeal today, and which risk being revived if not handled with care and countermeasures. One such past is that of National Socialism, whose conceptual allure persists not only for some neo-Nazis but also due to its distinctive aesthetic.

Likewise, VR projects do not offer true identification, but rather "impersonification" — the experience of being "as if I were in someone else's shoes" (Ibid.) This shift undermines and even disables the possibility of maintaining critical distance, which is essential for ethical and political reflection. The result may be a depoliticizing effect.

Thus, any emotional manipulation intended to produce political outcomes falls under the broader definition of ideology — something that, one might say, defined much of the 20th century. In today's context, other discourses on race, gender, and social inequality may also become aestheticized. For instance, VR experiences like "We Wait" (about Syrian refugees) and "6x9" (about solitary confinement) elicit a powerful bodily response but ultimately create only an illusion of "knowing the other," rather than genuine understanding or social transformation. Such practices risk turning racial, gendered, or social stigma into a form of "identity tourism," where users temporarily inhabit another's body without facing the real consequences of discrimination or suffering (Nakamura, 2020). Moreover, VR projects about the traumatic experiences of marginalized groups: refugees, prisoners, victims of racism — are primarily created for privileged, white audiences. They offer an illusion of "access" to someone else's pain through immersive technology, replacing social responsibility with digital participation, and allowing privileged users to experience a sense of moral superiority without the burden of a real-world action (Ibid.).

This issue of the "narcissistic viewer," confident that they have finally understood everything, was previously described in the theoretical work of Arnold-de Simine. The illusion of access

to someone else's historical experience creates a central ethical dilemma, alongside risks of retraumatization and ideological manipulation.

Therefore, the emergence of ethical boundaries in the creation of VR projects dealing with difficult heritage is both necessary and inevitable. A particularly thorough approach in this regard has been demonstrated by the team behind the already mentioned "Nobody's Listening" project about the Yazidi genocide. The project applies a "Do No Harm" principle, which includes clear warnings that the experience is not intended for survivors of the genocide to avoid retraumatization, the absence of explicit references to sexualized violence, and the use of stylized graphical elements in violent scenes. Other ethical principles applied mostly align with journalistic ethics in the process of material collection. In this way, the VR industry is beginning to acknowledge the risks of potential trauma by reducing the level of realism. Furthermore, this example shows that the creators have chosen to incorporate multiple narrators and sources of storytelling. Using photogrammetry, they also reconstruct destroyed Yazidi villages — yet explicitly advise against encouraging survivors to undergo the experience or to "return" to their lost culture and heritage in this way (Mohammed-Amin, 2022, pp. 100-102).

Thus, this literature review and outline of key theoretical approaches illustrate the complexity of the discourse around immersive technologies. On the one hand, there is a noticeable immersive/experiential turn in the memory field. It is supported by some contemporary memory scholars — primarily those in alignment with Landsberg — as well as by VR creators and other techno-enthusiasts who view the new technology as a more efficient and spectacular way to increase the museum's impact as both an educational and leisure institution.

This movement, however, is met with strong criticism, primarily from "structuralist" perspectives, which expose the workings of universalizing, totalizing, and reductive narratives. In this view, VR projects are seen as overly manipulative, erasing the safe distance between viewer and content, and preventing memory from slipping away — something Georges Didi-Huberman values. Even from Landsberg's own perspective, these projects might lack a crucial element in the process of memory work: transferential spaces — the zones where knowledge and understanding are actively formed in the process of mimetic identification.

Even when each VR project individually addresses important topics and involves thorough research or investigation, the potential intense affective experience they provoke may ultimately serve the viewer's own ego, emotional gratification, or narcissism, rather than fostering an awareness of themselves as part of society, political systems, and solidarities — the very goal Judith Butler had in mind.

Non-fiction VR projects related to difficult heritage cannot, without a doubt, be considered in general terms; they require individual study. However, it is clear that the issues highlighted by Susan Sontag in her brief essay on early war photography remain almost equally relevant for this new medium in terms of neutral representability of sufferings.

A notable feature in the complex discourse surrounding the use of VR technologies is the lack of interconnection between theoretical reflection, the practices of VR content creation, and the museum reality where these projects are actually implemented. Analytical articles dedicated to specific VR projects often fail to explore the long-term effects of these projects on commemoration practices in society and in memory museums, nor do they present the viewpoints of museum curators and professionals. VR project creators also seldom engage with the extensive history museums have as institutions focused on preservation and knowledge creation. Meanwhile, curators who implement these technologies into their exhibitions produce too little academic and critical material, making their institutional perspective less visible in the discourse.

Despite the growing body of research that reveals the complexities of the relationships between immersive technologies, the viewer's experience, and curatorial practices, this issue undoubtedly requires further in-depth exploration. Only then can we truly understand whether VR technologies are a panacea for the challenges of memorialization and the commemoration of difficult pasts, or if they are simply another medium that gained widespread popularity but leaves unresolved the old dilemmas. Therefore, the question arises: Can we observe a shift in curatorial approaches in memorial museums and a change in the quality of our engagement with the past, or do new technologies not yet contribute to such a transformation?

3. Methodology.

This study aims to examine VR technology used in the creation of projects dedicated to difficult heritage from the perspective of memory studies and the curatorial management of commemorative processes in memorial museums. While this technology is most often discussed in the context of technological advancement and its effect or affect on the immediate viewer, this text seeks to shift the discussion towards a more theoretical direction and to understand what place this technology occupies within the broader discourse of memory theory and memory culture as a discipline. Since the direct impact of VR projects on the viewer is not the subject of this study, and the long-term influence of such projects on how certain events remain in collective or cultural memory is nearly impossible to measure, this research draws on memory theories, as outlined in the previous chapter, and employs a qualitative research methodology, namely the methods of discourse analysis, interviews with museum professionals, and case study analysis (Bryman, 2012; Bryman, 2016).

The previous chapter provided a literature review of the current state of discussions on how VR projects "function" within the framework of collective memory, the capacity to perceive traumatic memory through empathy, and mediated recollections in the form of "prosthetic memory." However, neither existing critiques nor articles analyzing specific cases adequately address the perspective of professionals within the museum field. These individuals are not only closest to the public but are also most often responsible for implementing technological media projects and have the opportunity to observe their outcomes. In order to answer the research question of what curatorial possibilities and insights the implementation of VR projects brings to museum exhibitions and educational programs, as well as what ethical challenges and dilemmas arise during this process, it is necessary to go beyond theoretical analysis and gather information from the experience of those directly involved in these processes, as well as from a broader group of cultural professionals who, in one way or another, influence the adaptation of VR projects in memorial museum exhibitions now or in the future by influencing public opinion. This is why particular attention in this study is given to discourse analysis of public debates and thematic analysis of interviews with professionals from the museum field.

To understand the state of discourse in the museum environment, identify the main arguments for and against the use of such projects in addressing difficult heritage in museums, and

formulate key ethical trigger points by analyzing the case of designing a new Holocaust memorial museum in Babyn Yar, Ukraine, along with the ensuing media debates discussing this project, was selected. There are several reasons for this choice. First, the Babyn Yar memorial museum, which should have been dedicated to the victims of Nazism, is a relatively new phenomenon for post-Soviet republics that gained independence after 1991. While Central Europe has an already established tradition of such discussions, for the Russian-speaking world, due to the specifics of Soviet national policy, which will be addressed later, the topic of the Holocaust and approaches to commemorating this event carries not only novelty and local political peculiarities but also the opportunity to reexamine the issue, taking into account the experience of Western colleagues. Second, a central topic of discussion was precisely the promise by Ilya Khrzhanovsky, the art director of the project, to include several VR installations in the exhibition, which directly relates to the subject of this research and makes this case especially suitable.

To analyze the debates, critical discourse analysis (CDA) will be applied in accordance with the methodologies of Fairclough (2013) and van Leeuwen (2008, pp. 5-25). This method will reveal how meanings of VR technologies in dealing with difficult heritage are constructed in public texts, along with ethical concerns, as well as what professional apprehensions and ideological positions emerge in the discourse. The material will consist of direct statements from the project team and public museum professionals, expressed in interviews, personal opinions in independent media channels, and authored analytical articles. Special attention will be given to analyzing metaphors, argumentative strategies, and the subject positions of debate participants. Such an analysis will help clarify how technological innovations intersect with memory politics and commemorative culture, as well as identify conflicts and dilemmas arising from the implementation of VR in memorial practices (Ibid., pp. 84-95).

For the interviews, a semi-structured format was chosen, followed by qualitative analysis using thematic and coding methods (Maguire & Delahunt, 2017). The semi-structured interview method was selected to allow interviewees to independently guide the conversation. Their chosen direction is expected to be the most informative, revealing the role VR projects occupy within the broader context of museum and memory studies. Interview questions were tailored to each individual and the institution they represent. The questions were organized around four key themes: approaches to curating difficult heritage within a particular museum context, perspectives on the use of VR in memorial museums, discussions of specific case

studies either projects developed by the interviewee or the ones which they are aware of, and the underlying rationale for either embracing or rejecting VR in memorial practices. The selection of interviewees deliberately included professionals from institutions that have integrated such technologies into their exhibitions or educational initiatives, as well as those that have refrained from doing so. This approach was designed to capture not only the motivations behind adopting VR but also the constraints, reservations, or institutional barriers that may prevent its implementation.

All interviews were conducted online in Zoom in english and russian languages and transcribed with Yandex.Console SpeechKit Playground and edited by me afterwards. Coding and thematic analysis was conducted with the help of Atlas.ti Software and manually. All the translations from Russian and Ukrainian (in Babyn Yar case) to English were made on Deepl.com and edited by me.

The second part of the study focuses on a case study (Yin, 2018), specifically examining a VR project within the permanent exposition of the GULAG History Museum in Moscow, Russia. This particular case was selected because, although the history of the GULAG forced labor camps constitutes a central narrative of Soviet history, fitting the definition of difficult heritage or toxic heritage (Wollenitz et al., 2020), memorial institutions addressing this topic have only emerged relatively recently, in the 1990s. In Russia, the aforementioned museum remains the sole institution entirely dedicated to this chapter of history. This context underscores not only the relevance of the research but also its necessity.

Furthermore, this case was chosen to ensure that the discussion of memory and difficult heritage is not confined solely to the Holocaust. The case study will be conducted using the theoretical framework and insights gained from the earlier discourse analysis of the media controversy and interviews, including those with staff from the GULAG History Museum.

The study employs method triangulation (discourse analysis, interviews, case study analysis) to overcome individual methodological limitations and strengthen the validity of results (Bryman, 2016; Braun & Clarke, 2006, pp. 71-100). As Bryman notes, combining methods helps reveal contradictions and consistencies in data while "viewing the issue from different perspectives" (Bryman, 2016, p. 643). Thus, discourse analysis of debates exposes public arguments and ideological positions but doesn't explain how these discourses form in

practice. Interviews with museum professionals uncover hidden aspects of decision-making, ethical dilemmas, and subjective evaluations of technology effectiveness. Case study analysis verifies how theoretical debates correspond with actual projects.

This approach follows Braun & Clarke's (2006) recommendations: method combination not only ensures analytical depth but also reduces risks of "blind spots" inherent to single-method approaches. For example, interviews may reveal non-obvious problems and motivations in VR use that aren't apparent in theoretical texts or are too specific for public debates. Case analysis can demonstrate how ideas circulating in media and academic fields gain (or fail to gain) practical relevance.

Among the concerns and limitations of this methodological approach is the cultural and territorial diversity of selected cases. Both cases relate to the post-Soviet space and Russian-language cultural/academic environments, while theoretical foundations and some interviews (particularly concerning Holocaust issues) developed within European and American traditions. On one hand, this sample broadens opportunities for building conceptual and logical connections, introducing post-Soviet memory issues into dominant European discourse. On the other hand, it may indirectly reveal inconsistencies, comparative difficulties, and the need for more comprehensive and detailed research on these topics. The limitations of the interview analysis primarily relate to the quantity and quality of resources available to the author of this thesis. The selection of interviewees was conducted through secondary recommendations rather than targeted selection of professionals in the field, as many did not respond to requests and letters, or contacts were simply unavailable.

4. New Memorial Museum Complex for Babyn Yar — CDA.

First case study refers to the development of the memorial project of Babyn Yar in Ukraine and active discussion appeared in the media about it. Babyn Yar is the place of mass execution in the time of WWII known for the biggest simultaneous mass execution of 33, 770 jews in less than 36 hours in the end of September of 1941. In the following months there were executed more than 70 000 people of different nationalities. These events became the peak of the so-called "Holocaust of Bullets" (Lebovic, 2020). In 1943, when the occupied soviet territories were being fought back, the Nazi army got an order to excavate all the troops and burn them (Ibid.).

In the later soviet times any open commemorative practices of jewish genocide were undesired and punished due to the special memory politics restricting making any differences (based on nationality) between the victims of Nazism among soviet citizens (Zeltser & International Institute for Holocaust Research, 2018). Moreover, commemorative practices on the official side were further complicated by the well-known fact of widespread collaboration with the Nazis by parts of the Ukrainian population in the occupied territories. Soviet official memorial policy, both during and, to a lesser extent, after Stalin's rule, adhered strictly to a representation of wartime history as a binary confrontation between the Soviet Union and Nazism. Arkadii Zeltser, a researcher of Soviet culture and the Holocaust, notes that in the USSR, until almost the 1990s, there was no understanding or recognition of the Holocaust as it existed in the rest of the world. In Soviet historical rhetoric, the extermination of Jews was closely tied to the "Generalplan Ost" and was implied to be only the first stage on the path to the destruction of the Slavic population. This largely explains the absence of major museum institutions dedicated to the Holocaust east of Poland (Ibid.).

Till 2020-s the ravine of Babyn Yar where the mass grave located was partially abandoned and re-wildened serving as a park zone, and partially it became unrecognizable part of the city with living accommodation and infrastructure. Later spatial research and 3D recreation of landscape by M. Dean appeared to be one of the most challenging (Lebovic, 2020).

Due to the international heritage boom and the trend in memory studies, such a horrific "untouched material" became the subject of one of the most intriguing projects for several years. The Babyn Yar memorial project was conceived as an ambitious museum project,

incorporating not only exhibition space but also religious buildings. The development of the project began in 2015, with investments made by Russian and pro-Russian Ukrainian oligarchs such as Mikhail Friedman, Herman Khan, Pavel Fuks, and Yuri Pinchuk, totaling 100 million dollars. This ambitious project was set to open its doors in 2026. Its development included both a research phase and an exhibition design phase (Sharon, 2020).

From a theoretical perspective, Babyn Yar is a classic example of dissonant heritage with elements of "toxic heritage" according to Wollentz (Wollentz, May, Holtorf, & Högberg, 2020), not only because it is a place of a horrific historical event and a testament to human deeds but also because its history has long been untold to the broader public, ignored, and not memorialized in objects or practices, while it remains actual and "hurting" for contemporary ukrainian society.

When the research phase reached its end, it was time to think about the museum's exposition and spatial organization. For this purpose, the scandalously famous director of the film *DAO*, Ilya Khrzhanovsky, known for his unconventional filming methods (Botanova, 2022), was invited. The leaked working concept of the exhibition in 2019 sparked active discussion on new approaches in memory museums, as well as the issue of using new technologies (Voronovici, 2021).

The project presentation included the phrase: "We will offer various VR journeys that will place visitors, among other things, in the roles of victims, collaborators, Nazis, and prisoners of war who had to burn corpses" (Atanesian, 2020). This statement sparked the majority of the subsequent discussion, despite the fact that no concrete ideas for the VR project or further project details were provided. The large-scale debate that unfolded after this quote was made public engaged both the general public and professional communities in Russia and Ukraine.

Several layers can be distinguished in the discourse surrounding the project. First, the political one. Khrzhanovsky, who is of Ukrainian origin but more affiliated with the Russian cultural establishment and the project's pro-Russian sponsors, is perceived as part of an oligarchic power structure opposed to the emerging democracy and politics of national memory in the relatively young state of Ukraine (Chermalyh, 2020). In this context, the social and political status of Khrzhanovsky, who was appointed to lead the museum exhibition project, is met with caution — as an ideological assertion of power over the

independent narratives of Ukrainian society. His decisions therefore provoke additional skepticism and power games.

The second level of the discussion is methodological. This is the one that will be the primary focus of the present study, although it must be acknowledged that the director's previous bad reputation and working methods significantly influenced the course of the debate and the level of criticism directed at his ideas. In his previous project *DAU*, Khrzhanovsky proposed a rather experimental filming method: over the course of 15 years in Kharkiv, in Soviet-style sets, actors were required to lead a "Soviet" way of life, live together, and form relationships in such a way that the filming of a feature film partly resembled a reality show, where actors, influenced by the conditions created for them, were not so much performing as living through the scenario (Kozlenko, 2020). Thus, Khrzhanovsky's method known for its immersive nature and harshness cast a shadow over similar proposals for the museum exhibition.

Within the framework of discourse analysis of opinions expressed about the idea of implementing VR technologies in the new museum exhibition of Babyn Yar, several discourses can be identified: the discourse on the boundaries of representation between empathy and spectacle; on the forms and language of commemoration; and on the opposition between academic and artistic approaches.

The discourse on the boundaries of representation and empathy immediately took an unexpected turn. Based on the analysis of academic literature on the representation of the traumatic experiences of Holocaust victims, the issue of empathy is most commonly emphasized in relation specifically to their suffering. Ilya Khrzhanovsky proposed the creation of an immersive VR experience not only from the perspective of the victims but also from that of the Nazis and collaborators.

 In the leaked presentation the slides about VR said: 'Bringing to life and living' a catastrophic event from the participant's point of view is indeed a cathartic experience with the cleansing effect of being in a commemorative space. Virtual reality (VR) devices can be used to enable the experience of a historical tragedy of mass destruction for a contemporary audience in a way that is reminiscent of the use of masks in ancient Greece. By wearing a VR headset, you become a masked hero of the tragedy and experience the catastrophic event from the point of view of a participant…We will offer various VR journeys that will place visitors, among other things, in the roles of victims, collaborators, Nazis, and prisoners of war

who had to burn corpses…Combined with virtual reality, deep fake technology will help us create a connection between the visitor and the role-playing route, so that the visitor can recognise themselves in what they will experience in virtual reality" ("Babyn Yar," 2020).

As he states in later interview, a person would be able to observe how certain psychological mechanisms work within themselves: "I believe this cannot be traumatic — it can help one understand where, within one's soul, lie the boundaries that must not be crossed," the director emphasized, noting that perhaps this could help uncover the answer to the question of how mass brutality of people and nations became possible in the 20th century (Lechaim, 2020). "The question is how to create such a system of images, through an encounter with which a person would be ready to experience complex, powerful emotions and pass through pain" (Koshkina, 2022). Later on, more for the sake of defending his reputation, he added a softer explanation: "VR technology will enable the audience to feel closer to the victims, understand who they and their families were, hear sounds from the past, and share their feelings, thoughts and actions" (Ibid.).

Thus, for the author of the concept, the possibility of immersive emotional identification is an experience necessary for understanding the motivations of different actors in historical events and for self-reflection. He connects such concepts as "soul", "complex, powerful emotions", "pain", "feel closer", "share feelings…" with the action of understanding. In fact, the same logic underlies the notion of 'prosthetic memory' and its modes of functioning in Landsberg's theory: 'the person does not simply apprehend a historical narrative but takes on a more personal, deeply felt memory of a past event through which he or she did not live. The resulting prosthetic memory has the ability to shape that person's subjectivity and politics' (Landsberg, 2004, p. 2) Khrzhanovsky replaces the prosthesis metaphor with the more culturally rooted and complex phenomenon of the ancient Greek theatre mask, which carries even more contextual potential than the image of the " prosthesis". There is no doubt that their two views on the transmission of memories coincide in many ways.

However, drawing on previous theoretical research, this idea has been criticized as a form of "identity tourism" (Nakamura, 2020), where the user takes on the role of the Other without facing its consequences. Potentially, the gamification of the roles of oppressors, and even the very possibility of choosing them, as an experience — diminishes the gravity of the historical event, transforming it into a set of interchangeable perspectives available for consumption.

This risks trivializing the asymmetry between victim and oppressor, and undermines the ethical imperative to keep strict moral positions in the representation of traumatic pasts (Ibid.)

Moreover, close identification in a highly emotional context remains the effect described by Sharon Macdonald (2022, p.13) "as if I were in someone else's shoes" — impersonification. It can blur the boundaries between a witness and a participant. This risks reducing complex collective traumas to individualized affective experience, detached from complex and multifaceted historical context.

From the perspective of memory studies, Ukrainian researcher and critic Yuliya Yurchuk argues that there are boundaries of representation, particularly when it comes to the Holocaust, as well as a moral responsibility of memory. Referring to the work of Saul Friedländer and Dominick LaCapra, Yurchuk notes that identification with Nazis and collaborators may lead to empathy toward their positions and motivations. This, in turn, not only allows for the possibility of a "secondary catharsis" of a traumatic event and removes the potential to create critical distance for historical reflection, but also leaves the narrative of the Holocaust unfinished or unassessed from the standpoint of the present. The key ethical question, with a negative answer, becomes whether it is permissible to "experience" the Holocaust as an emotional journey (Yurchuk, 2020).

The ideas of Yuliya Yurchuk and Saul Friedländer, that the variability of proposed historical experiences or impersonations may imply incompleteness, a lack of historical judgment, and thus relativization of horrific historical events, were supported by Gryhorii Kasianov, head of the Department of Contemporary History and Politics at the Institute of History of Ukraine, National Academy of Sciences. "Of course, in the case of Babyn Yar, the proposal to 'play' executioners and victims is directed at outsiders. But in my view, this is precisely the relativization of one of the most horrific crimes of the 20th century," he states (Atanesian, 2020).

This position was echoed by numerous voices, including members of the academic team involved in the museum's development. For instance, Dieter Bogner, who left the project after Khrzhanovsky's concept was leaked, referred to his vision as a "Holocaust Disneyland." In his statements, Bogner contrasts audience self-reflection with crude emotional provocation, specifically criticizing the VR projects proposed by Khrzhanovsky (Bogner, 2020). Although

Khrzhanovsky himself sees VR technologies as tools for self-reflection, in broader discourse his idea is largely positioned in opposition to that very notion.

Yana Barinova, coordinator of the project's working group, stated that the museum needs a different strategy — one that does not aim to shock its visitors (Barinova, 2020).

Thus, this layer of the discussion reveals a semantic opposition between understanding VR as an "empathy machine" — a medium capable of shocking viewers into deep self-reflection — and a critique of that same approach. Moreover, the historical event in question, the Holocaust, is depoliticized and reduced to a sequence of individual choices. Khrzhanovsky suggests that impersonation of various participants and their life choices should naturally conclude where the viewer draws their own moral or ethical boundary. It is this realization of one's personal limit that is meant to become the moral lesson of the memorial museum.

Critics of this position do not oppose the process of reflection per se, but rather the risk of leaving the construction of ethical boundaries solely to the viewer. They argue that it is the museum's responsibility to offer moral judgments on historical events, and these moral judgements should be offered from the beginning. They express concern that gamification and emotional shock do not guarantee a clear moral outcome for the visitor. And that very ambiguity constitutes the central ethical prohibition in Holocaust representation. Moreover, gamification and spectacularization expressed in the phrase "Holocaust Disneyland" may distract viewers from the deep reflection process that is expected from the exposition. As a result, VR technology is perceived as a tool that relies too heavily on the viewer's personal consciousness, making the museum's narrative and its "message" secondary to it.

Thus, the actual public debate of 2019-2020 almost repeats and even anticipates the logic of established academic discussions examined in the theoretical portion of this work. Even though A. Huyssen was more sceptical about leftist utopist idea of non-spectacular/non-capitalist ways to create such experiences in museums.

Although this analysis focuses specifically on statements concerning the use of VR technologies, it can be asserted that Khrzhanovsky's entire proposed concept is consistent in nature and appeals to "catharsis" and strong viewer affect as primary instruments for memory work in the future Babyn Yar memorial complex. Khrzhanovsky formulates this as follows: "The Jewish world in Ukraine, in Eastern Europe was almost destroyed... This destroyed world must be felt, it must be felt and loved. One cannot love without feeling, and one cannot

empathize without loving. For this we must find a language, for this we must find a method. To love, to feel, to experience can only happen through contact." (Lechaim, 2020)

On one hand, he remains close here to Landsberg's logic, who begins her book with an analysis of Hollywood cinematic productions "The Pianist" and "Schindler's List."

However, continuing this line of reasoning further leads to a logical impasse that actually demonstrates how Khrzhanovsky's method differs significantly from creating prosthetic memory as described by Landsberg. For Landsberg, emotional identification with Adrien Brody in the role of pianist Szpilman is important, but only because the medium of popular dramatic cinema can construct a transferential space where, through the mimetic experience of cinema, the viewer can comprehend certain ideas not just through pure cognition but also bodily (Landsberg, 2004, p. 113), that is, emotional intelligence .

If we follow Khrzhanovsky's logic, the primary beneficiary of this process would be actor Adrien Brody himself, who had the opportunity to live through this experience — which represents a certain distortion of Landsberg's ideas. Thus, while both Khrzhanovsky and Landsberg acknowledge the effective power of dramatic art that can supplement knowledge of others' experiences through artistic affect, for Landsberg (as for many artists referenced by Khrzhanovsky) this concerns mimesis, whereas for Khrzhanovsky it becomes a matter of almost ritual performativity.

Consequently, we cannot claim that Khrzhanovsky adopts Landsberg's position in public debates — in academic ones, even though such a conclusion might have been drawn in the previous section of the analysis.

On the other hand, the sharp criticism of Khrzhanovsky's approach that emerged in the media allows us to identify another semantic layer of the discourse — namely, the conflict between artistic and academic approaches to creating memorial exhibitions. The artistic approach is also associated with using specific language that describes museums in terms like "engaging," "relevant," and "more technocratic," while the academic approach seemingly represents a more conservative vision of the museum as an educational project.

Within this dichotomy, we can observe the previously described shift of museums toward the performative turn (Varutti, 2020) and interactivity. Although, perhaps, in Khrzhanovsky's concept this line of thought received an even more exaggerated interpretation.

Thus, for Khrzhanovsky and his few supporters, the use of VR and deep fake technologies becomes a metonymic concept representing the modernity and future of museums: "It's one thing to build a museum following the principles of existing Holocaust museums. But it's another — to tell this story in a way that remains relevant and still 'works' in 30-40-100 years. It requires a different language and different technologies that would correspond not only to the present but also to the future" (Koshkina, 2022c).

"This is a place visited annually by millions. If millions don't come, it means it was done wrong. To prevent such catastrophes from happening again, one needs to understand something about oneself. When you understand yourself - you understand something about the world. You come to the Memorial to experience something. This is the most important thing. The only thing you can gain is experience. Only through lived experience can one arrive at acceptance and love" (Ibid.) - this is how he responds to questions about the appropriateness of new technologies, connecting it with relevance for millions of visitors.

Meanwhile, his critics oppose this techno-utopian vision of the museum with "historical truth":
Kirill Lipatov: "For me, immersion is a tactic for engaging with the past used by non-historians; by people who don't work with the past professionally. We have two versions of such immersive approaches - both the immersive practices in the 'thinking directions' of BYHMC (Babyn Yar Holocaust Memorial Center), and the VR project 'Babyn Yar: Virtual Memory' curated by Valeriy Nakhmanovich - you put on a VR headset and 'find yourself' in September 1941. This is mechanical immersion. It doesn't work this way. Or maybe it works, but poorly."

"Another problem with immersion in commemoration: unfortunately, those who employ it experience a 'merging' of two realities. This happens both with gamification proponents and Khrzhanovsky. He believes that the reality he recreates equals the historical reality or at least comes maximally close to it." (Kalita, 2020)

Meanwhile, Karel Berkhoff, former chief historian of the new Babyn Yar memorial project, published an article contrasting Khrzhanovsky's ideas about implementing virtual reality with the principles of memorial museums. He argues that these ideas lack restraint, respect for victims, and most importantly, fail to adhere to established historical approaches to difficult heritage (Zhirenko, 2020).

Natan Sharansky, head of the scientific council, expresses a position that Khrzhanovsky's ideas represent creative concepts that should be filtered by "professionals": "I want to emphasize the following: our board consists entirely of very serious people. No matter how brilliant an artist might come, any project contradicting our principles - especially those concerning racism, etc. - stands no chance of being approved" (Aymurzaev & Musaeva, 2020).

This quotation reveals an opposition between artistic methods/technologies/experimental ideas and scientific approaches.

Consequently, the critical discourse implies that the use of VR technologies fundamentally cannot be strictly scientific or academic. While it's evident that this refers specifically to the employment of virtual reality within the context of Holocaust role-playing scenarios proposed by Khrzhanovsky in his concept, it's equally important to note that neither the critics' interviews nor cultural commentators' articles provided analysis of actual case studies — when and how virtual reality has been previously utilized in memorial museums, nor what such implementations might look like. Similarly, intermediate perspectives were absent — those suggesting this technology could potentially prove successful in a new memorial exhibition if applied differently.

Moreover, no distinction was made between immersive virtual reality experiences adopting the victim's perspective versus that of a Nazi soldier. While the latter provokes sharp criticism, the former could have been subject to more profound reflection, which partially constitutes the focus of this present research.

Thus, the cultural discourse analysis of public debates employed over 15 sources, some containing repetitive arguments not cited here as direct quotations. Nevertheless, the analysis revealed that VR technologies in Russian and Ukrainian public discourse function as trigger words, exposing deep-seated anxieties about using such technologies in memorial museums, despite existing precedents at the time of these debates.

This state of public discourse, though geographically limited to the post-Soviet space in this particular case, demonstrates broader distrust toward curatorial experimentation in memorial institutions. It also exemplifies how emerging technologies can challenge established ethical boundaries and societal perceptions. Merely three sentences included in the draft concept of

the Babyn Yar project managed to provoke extensive discussions about the fundamental nature and purpose of memorial museums.

This analysis further underscores the weight of responsibility borne by memorial museums regarding their public role, particularly in selecting curatorial methods, tools, and strategies. Consequently, it validates both the significance of this research and the necessity for broader public and academic dialogue on these matters.

5. Interview Findings.

In order to answer the research question concerning the role of VR technologies and VR projects in memory museums, a series of interviews was conducted with museum practitioners who are currently facing, or have previously faced, the decision of whether to use this technology in the creation of new exhibitions, or who have already implemented it into their displays. This research approach was chosen not only to understand how those directly responsible for shaping museum content perceive the issue, but also to determine whether there is a "gap" or any kind of mismatch between the theoretical perspective on immersion and empathy in the field of commemoration, the public perception of the issue — as it was described in the previous section through CDA analysis — and the actual curatorial practice of memorial exhibitions.

Among the interviewees were: the director of the Jewish Museum in Riga (JM), the director of the Janis Lipke Memorial in Riga (ZLM), the head of the educational department at the Bergen-Belsen Memorial (BBM), and the head of Digital Department (GLG-T) and curator-producer of new exhibitions (GLG-C) at the GULAG History Museum in Moscow. The selection of these respondents was partly shaped by the research focus on the post-Soviet region, as well as by an internal network of recommendations among the interviewees themselves. For instance, a staff member from a German institution was included in the sample after it became clear that representatives of German memorial institutions most frequently collaborate with specialists from the Baltic states.

The interviews were conducted following the principles of semi-structured interviewing, and therefore the structure, sequence, and sometimes the wording of the questions varied depending on the interviewee. However, each interview included questions from several key thematic blocks: principles and perspectives on curating difficult heritage, new technologies in museums, immersive technologies in museums and approaches to emotional framing in exhibitions, as well as issues and ethical challenges related to the use of new, including immersive technologies in museums. These thematic blocks made it possible to gain insight into professionals' perspectives on the integration of VR technologies into exhibitions, their ethical evaluations, and curatorial standards.

To answer the research question, the interviews were coded using four main codes: Motivations for VR, Implementation of VR, Critical Perspectives on VR, and VR Future

Aspirations. Additionally, two supplementary codes were added to encompass recurring subtopics: Collaborative Process and Exposition Strategy.

5.1. Motivations for VR. (Based on Table A1)

Almost all participants emphasize that VR is, first and foremost, an educational tool rather than a form of entertainment. In the museum context, VR becomes part of a broader educational program grounded in the principles of constructivist learning theory. "We are motivated by the educational mission of these new tools," says the director of the Žanis Lipke Memorial. The head of the education department at the Bergen-Belsen Memorial highlights the tool's effectiveness in helping visitors absorb and interpret educational content: "Use it in pairs or groups… that forces discussion and reflection." "This helps people connect with the content." The head of the digital department of the History Museum of the GULAG notes: "The goal is to spark the viewer's own process of imagination and interpretation."

In order for the educational component and the memorial museum's function as a whole to be most effective, interviewees point to the importance of speaking a contemporary language: "...my take on immersive technologies is a critical one. I'm a reluctant early adopter. I see it more as just another way of conveying a message. My goal is that kids learn something, or that regular visitors gain some understanding. And if I'm in a position to use VR as a kind of entry point — an 'empathy machine,' so to speak — I'm not against it. But it's not an end in itself. It's just a tool." "For kids, for whom this is as distant as the Middle Ages… we have to speak a language they understand." "Still, we are open to it — because it brings new perspectives to what we do and to how we communicate with our audiences, especially young people." These quotes by the Žanis Lipke Memorial's director (ZLM) demonstrate that modes of perception and communication are evolving in the contemporary world, and that incorporating tools such as VR helps sustain audience engagement, especially among younger generations.

With this approach, curators aim to revitalize educational content by encouraging individual imagination, while avoiding the illusion of authenticity. Paradoxically, although the technology was previously used in journalism to enhance a sense of extra-documentary realism, museum curators deliberately reject authenticity — explicitly or implicitly defending the constructed nature of such projects. As the director of the Žanis Lipke Memorial (ZLM) emphasizes, accurate reconstruction has never been the goal: "But we're always clear with

visitors: what they experience in the artwork is an artistic interpretation, a visual language through which we communicate. The actual historical space is the one you see outside — never a one-to-one reconstruction."

This attitude toward VR technology is echoed by the head of the Digital Department from the GULAG History Museum, who notes that it is better to show ruins than to create the illusion of a realistic reconstruction. In this way, a truthful approach to the destruction of spatial and material evidence of crimes against humanity can be described as a form of "affective documentality," in which absence and fragmentation take center stage — serving as the material counterpart to Georges Didi-Huberman's concept in his writings on documentary photography. "We wanted to convey the atmosphere…" "Better to show decayed remains than a clean computer reconstruction 'from faith'." – GLG-T

On the other hand, this principle of authenticity not only allows for the depiction of hard-to-access sites in Kolyma, but also supports archival creation and the preservation of memory of the site's final stage — its decay: "and also document the current condition for archival purposes." – GLG-T. This notion can be seen through the linse of Huyssen and new cyberspace for memories. Even though the concept of ruin exists since Romanticism, digital documentation of the ruin in its different condition and through the time might be determined in Huyssen's terms as one of the new ways to remember, and also as a sign of great anxiety about the disappearing past.

In nearly all memorial museums, VR technology is used to allow visitors to explore spaces of tragedy. At the Žanis Lipke Memorial, this space is the now-lost bunker where Žanis Lipke hid Jewish families during the occupation (Žaņa Lipkes memoriāls, 2024), which is recreated in a VR room. At the GULAG History Museum, the VR project consists of photogrammetry and 3D imaging of remote northern sites located 200 kilometers from Magadan, where forced labor camps of the GULAG system once stood — namely, the Dneprovsky mine: "It's very hard to reach those places now... a regular person can't just go to Magadan and then fly by helicopter two more hours." – says GLG-T. At the Bergen-Belsen Memorial, AR and VR are used to reconstruct the cemetery area that once housed barracks for Jewish prisoners. All these places are direct sites of tragedy — too remote, destroyed, or transformed; in other words, inaccessible in their original state. In this context, the motivation emerges to add a digital layer.

At the same time, as the director of the Žanis Lipke Memorial explains: "historical space is the last authenticating factor of Nazi crimes in the post-witness era. How can we work with it? By augmenting." "Learning from the space… as scaffolding for learning." (ZLM) He speaks of the necessity of interacting with space. Since the original sites of tragedy are no longer accessible or have been seriously altered, VR technologies that augment or "complete" reality (augmented reality) are often site-specific. They allow for the formation of a virtual space of memory. Consequently, these projects — developed specifically within memorial museums — tend to distance themselves from digital reconstructions of the past: their goal is not to restore but to actualize — to imbue these spaces with symbolism, ritual, and memory in the spirit of Pierre Nora and his lieux de mémoire.

Since the initiators of these projects are often not homogeneous institutions but specific professionals from various fields, one can argue that they project the significance of a given site outward from within their small group. In other words, such projects remain niche and local — a characteristic that also aligns them with forms of memory that must emerge and exist in the era of passing away witnesses. Thus, VR can be seen as an institutional attempt to create a place of memory for younger generations through technological means.

Is the enhancement of empathy, a central concept for many theorists of VR technology in the field of commemoration, part of the core motivation for museum professionals? On the one hand, the director of the Žanis Lipke Memorial states: "Anyway, eventually, the goal of this whole experience — apart from the facts that you learn — is to raise empathy. And through that, also to share humanity and human behavior with each other. … students slowly start reflecting more on the issues they might have in their own environments … And what it takes to be a human — just to be a good person for the society you're in." The Bergen-Belsen Memorial's representative expresses a similar hope: "But I do hope — and I believe — that VR and other digital approaches can help provide a certain empathy."

However, a broader reading of their interviews and these quotes in context reveals that empathy is regarded as a secondary effect, triggered by perception and — most importantly — the understanding of the material conveyed to the audience through various methods, most often as part of a multi-layered and multifaceted guided tour or educational session. For none of the interviewees was the increase of empathy through VR technology an end goal or an expected result. Rather, what was described was a cognitive process — one that assumes that

learning through movement, through navigating the physical space of the museum or memorial, is more effective than passive, seated reception of information.

5.2 Implementation. (Based on Table A2)

The code "Implementation" reveals the core principles, guidelines, and internal orientations of museum professionals interviewed regarding the integration of VR projects into their memorial museums.

The director of the Jewish Museum in Riga (JM) outlines a critical theoretical framework for curating difficult heritage and integrating any new technologies into the exhibition of memorial museums. Commenting on the "Digital Testimonies" project, he states: "Visitors must understand where historical knowledge comes from." "If people talk to a chatbot or hologram, they miss the fact that we know more about some topics because of surviving sources." "Even if a hologram uses real testimony, it generates something new. That's fake."

The director emphasizes that the introduction of innovative technologies, such as VR, chatbots, or holograms, must not blur the line between authentic testimony and reconstructed or generated content, despite increasing demands for engagement and multimodal educational tools. In his view, the task of a memorial museum is not only to emotionally involve the visitor, but also to develop critical thinking regarding the sources of historical knowledge and the methods of its transmission, because "These technologies collapse critical distance and the space where knowledge is formed."

Thus, the principle of transparency becomes a key internal standard for introducing new technologies: visitors must clearly understand where documentation ends and artistic or digital interpretation begins. This principle is especially crucial in memorial museums, which remain subject to criticism from those denying Stalinist repression or the Holocaust, as pointed out by BBM: "The app has no guidance built in... it follows the documentary principle." "We always fear that we are accused of giving false information... the risk of Holocaust denial." (also coded as "critical reflections").

Thus, VR becomes merely a supplementary tool, deeply embedded within the museum's educational program or guided tour. Interviewees stress that VR should never be a standalone or even an individual experience within the context of memorial museum engagement. Instead, it should be preceded by an introductory session and followed by a meaning-making

session that "grounds" the experience through reflection and critical processing within an educational and discursive framework.

ZLM says: "Technology helps in that respect — but only if it is applied with great care, with the preconditions I just listed: A safe way in, graphically; An assisted experience; A meaning-making session before and after; And a programmatic approach to the space, like the bunker, which includes four steps of preparation."

And: "We worked on a solution to break this perception that VR is only for individual experience, so we made it an out-of-headsets experience by virtue of projecting image and sound in a space — in a specially designed VR room which is in exact measurements of the bunker."

For ZLM, VR "is not a core element — it's not a mainstream technology in the museum. It's more of an add-on to the standard visit, which includes the permanent gallery and, as much as possible, experiencing the outdoor areas like the terrace and the yard."

BBM similarly emphasizes that for their institution, VR functions as an auxiliary tool intended to inspire self-led exploration of the memorial cemetery grounds through open navigation and autonomous discovery. From a cognitive perspective, this enhances the educational process, with VR content triggered via GPS:

"That is also why we decided to make it a local, on-site application. You are supposed to walk outside — for example, content opens or appears once you're in a certain location."

"And Paul said research has shown: you remember things better if you move — if you walk."

"The app uses a non-linear approach… people choose what to explore."

Agency in how to use the technology — whether individually or in groups, continuously or with pauses, choosing between VR and AR — is also an essential element. As BBM explains: "It's an offer. If you want to, you can learn about our ideas." "People just put it away... they don't use it all the time." "We felt it's important to maintain a balance... let the visitor stay in control." "The app has no guidance built in. It's not always necessary to go for just one decision or one result. Sometimes it's even better to give options to users. That's why, for example, the application can switch between VR and AR."

This not only improves the user experience according to personal preferences and individual characteristics, but also ensures control over one's own educational and emotional trajectory. This approach encourages the formation of a conscious distance between the visitor and the

commemorated past, allowing them to regulate the depth of immersion and pace of learning. It enables not only more effective information retention, but also the construction of personal boundaries when dealing with difficult heritage.

As BBM puts it: "To let them make decisions. Not to feel pressured to cry or to turn away." or "As long as the visitor has space for self-reflection and understanding... it's good."
A broader picture of this approach is offered by the curator of the permanent exhibition at the GULAG History Museum: "Two biggest difficulties: first, emotional balance in presentation…" "We didn't want to go into 'tear-squeezing'…" "When you impact a person too strongly emotionally… it makes it hard for them to think." "The exhibition should lead to inner reflection: 'What can I do so this doesn't happen again?'" "A person should leave in a state of calm reflection, not emotional breakdown." (coded as Emotional Strategy in Exhibitions)

However, this approach has another, technical, side — accessibility and usability. The creation of any VR project for memorial exhibitions requires collaborative effort not only from professionals but also from initial users, whose feedback is integrated during subsequent revisions. As ZLM notes: "Now, after testing it with focus groups, fixing bugs, and improving the system," "This is a collaborative project between curators, technologists, and the target group itself."
GLG-T shared that the first version of the VR project in their exhibition had overly "harsh" camera movement, and they had to "fix the viewer's gaze" to prevent visitors from feeling nauseous.

Thus, the implementation of VR in memorial museums can be seen as a continuation of the underlying motivations to build a multifaceted educational experience — one that is adapted to physical space, audience needs, and limitations — through a series of technological, methodological, and ethical decisions grounded in collaborative processes and testing. For VR projects in memory museums are crucial to be a logical part of a bigger educational experience rather than to produce any affects/emotions by itself.

5.3. Critical Perspectives on VR. (Based on Table A3)

Critical statements regarding VR technologies and projects in memory museums primarily serve to define ethical boundaries and limits. Nevertheless, the most explicit critique is offered by the director of the Jewish Museum (JM), who has not been involved in creating

such projects at his own institution. He expresses the view that it is difficult for him to imagine an exhibitionary tool capable of changing the mind of a hypothetical museum visitor who, prior to the exhibition, held a positive view of the Holocaust, and who would, after some visual or artistic experience, reverse that opinion: "I personally can't imagine being a visitor who changes after seeing a pile of shoes…" "There's a hypothesis that technologies — like character-based guides or sensory VR — could help convey missing historical context." "But is that really what matters? Maybe reading and understanding are more important than sensory experience." On the one hand, he positions himself alongside critics of the Babyn Yar memorial project, raising the question of whether affective immersion outweighs intellectual comprehension. In a similar tone, he voices criticism of the VR project of the Žanis Lipke Memorial, which he has only read and heard about but has not seen in person: "That's why you only look from above. You cannot pretend to be inside at that moment." "I'm wary of full immersion. You can't truly transmit that emotional state of uncertainty." On the other hand, his intent is oriented toward the methodological construction of an educational experience — an approach also shared by, and never disputed by, the other interviewees who have implemented VR projects in their exhibitions.

This observation reveals a gap between the anxious perception of new technologies in society, including among broader circles of museum professionals, as discussed in the previous chapter, and the views of practitioners who have direct experience working with VR in memorial contexts. Museum professionals with such experience tend to focus their critique primarily on decontextualized memorial VR projects. In their view, it is precisely the lack of educational, curatorial, or exhibitionary context that can lead to the Disneyfication of such difficult topics as the Holocaust, or to a gamified experience. ZLM says: "So, the Disneyfication of Holocaust history — especially in digital Holocaust education — is a danger. Decontextualizing Holocaust education, as I say, by accessing it from a couch anywhere in the world, without having the context of spaces, places, and people involved in these historical occurrences, is a great danger to education."

In this quote, he also criticizes the project at the Anne Frank House in Amsterdam, which was designed for those unable to visit in person. He emphasizes the importance of the museum experience, including the act of standing in line: "But we don't want to just end up with one VR project that explains it all, like the Anne Frank House did — for people who cannot visit."

This holistic approach is also affirmed by the curator of the GULAG History Museum (GLG-C): "Using technology just to be fashionable is unacceptable." "Every implementation must be well justified."

There is also noticeable agreement among the interviewees regarding the goals and anti-goals of creating a VR project. "You didn't have the motivation to enforce empathy... the visitor creates it on their own." "We should not overwhelm visitors... they become passive." — this is how BBM formulates the core principle, further developed in the idea that immersive historical reconstruction is likewise not a goal. And if the "Motivations" section described the idea of "affective documentality," here it is important to emphasize that the speakers tend to associate immersion/empathy enforcement and full graphic reconstruction of historical sites with aspects of gamification and the spectacularization of difficult heritage, which they oppose to an effective educational process. As GLG-T explains: "I like that it's not a reconstruction... this contemporary look into the past creates a boundary." "So that the viewer doesn't feel like they now 'know everything' or have 'been there'." "We realized that recreating a space with computer graphics is a different goal." "A digital copy starts to feel more like a game... and is subconsciously perceived that way." BBM confirms this: "You don't have to reconstruct buildings — and we wouldn't do that. That's not the idea." "They had a fictional character as a guide — a young boy — in this AR thing." "I couldn't really accept this... keeping the balance of factual and fictional is very challenging." "We always fear that we are accused of giving false information... the risk of Holocaust denial." "We don't feel that it's ethically allowed or appropriate." "Let's offer a tool that helps people understand and relate — but let's not put them inside the camp." "We would not want them to follow in the shoes of a guide or of a prisoner." "There still remains a distance — and I think that is still important in the VR context in particular." "There's always this balance... define the degree of closeness." "A very strong emotional approach... would feel more manipulative."

Thus, the visibility of historical distance, the explicit avoidance of claims to historical authenticity, a non-manipulative emotional narrative approach, and the intentional absence or minimization of illustrative graphic elements become key principles in the creation of a VR project. However, despite the apparent rigidity of these principles, the interviewees recognize — and continue to see — great potential in such projects, as their purpose is not centered on

empathy or the use of VR as an "empathy machine," but rather on the "spatial" exploration of a site of tragedy.

The critical perspective of practitioners does not reject VR as a method; on the contrary, it welcomes its integration into a pedagogically and ethically grounded context, where the priority remains not producing an affect, but a structured, reflective engagement with the space of tragedy.

5.4. Future Aspirations about VR. (Based on Table A4)

The analysis of this code shows that all interviewees perceive VR not as a trendy feature, but as an educational tool that can and should be used in memorial museums — as GLG-C puts it: "Yes, such technologies are needed. We should not be afraid to use them." They also demonstrate openness to experimentation in such an ambiguous field as immersive technologies — BBM: "We shouldn't be shy — we should be brave and try." Moreover, they recognize institutional responsibility for the creation and control of historical narratives, while at the same time expressing concern about the uncontrolled use of historical material, possibly for commercial purposes. BBM says: "If we don't try things out… other people will." "Maybe that's not how we want it to be… so we should do it ourselves." "If we don't try out characters… it will be done in games and ego shooters."

Although one respondent expressed general skepticism toward the current direction of exhibition development — the shift toward alternative media — "We're already saturated — visual noise is everywhere." "Soon we may return to simple formats — just a picture on a wall." "The brain also needs rest — the museum is also a place of rest and education." — the others, on the contrary, argued for the necessary revision and improvement of existing projects toward more complex narratives or bolder experiments at the intersection of educational and visual design. ZLM: "If only we could afford it, we would create a multi-plot VR documentary — about different rescue stories." BBM: "Today, I think we would offer more guidance or orientation."

Thus, the coding of the interviews revealed a significant gap in attitudes toward VR projects in memorial museums — between public opinion and perception of this theme, and the attitudes of actual museum professionals directly responsible for implementing such projects into exhibitions. Moreover, these interviews also pointed to a boundary between memory studies theory and the spaces where it is applied — museums. It had been expected that the

respondents would draw more on the theories discussed in the theoretical part, but in most cases, they either did not mention them or showed no interest in them when asked directly. However, the interviews revealed that museum professionals largely articulate their motivations and concerns through the language of educational methodology, ethical responsibility, and audience engagement. This epistemic disjunction might reflect a broader gap between theoretical and professional discourses in the heritage sector.

Nevertheless, from the perspective of memory studies theories, several trends can be observed. First, an interesting balance emerges between the intention to document and digitally archive disappearing or inaccessible spaces, and, on the other hand, despite the austerity and minimalism of the tools employed, there is always an acknowledgment of the inherent virtuality of any memory — the notion of "imagined memories" (Huyssen, 2000, p. 27). At the same time, this brings us back to the questions raised by Susan Sontag regarding the limits of representation and its capacity to be objective — hence the strong rejection and critique of animation and advanced digital reconstructions, as well as the emphasis on technological visibility and transparency as a means of preserving critical distance.

The second trend is the preference for what I have termed affective documentality (the dramatic presence of the GULAG camp ruins), rather than reconstructions in the style of the Anne Frank House — not only due to the excessive fictionalization inherent in the latter, but also because of its limited emotionally engaging effect. Empathy, in this case, arises through rational knowledge and awareness, rather than through immersion alone. In this way, we see a complete rejection of the idea of "VR as an empathy machine for a more just future," which had given rise to numerous humanitarian projects about traumatic pasts outside the museum context. Moreover, the very concept of empathy tends to be taken for granted, assumed as something that naturally accompanies the process of education, rather than its ultimate aim. In this regard, museum professionals place more trust in comprehensive historical knowledge of a tragedy's context, causes, and consequences than in empathy or pity as such, bringing them closer to Judith Butler's call to recognize our shared implication in, and vulnerability to, political and social systems. VR, then, is regarded merely as a visual tool, one that facilitates work with complex landscapes and spatial environments, such as the Bergen-Belsen memorial, where a cemetery now stands in place of former barracks.

The third trend is a particular focus on the site-specificity of VR projects and, accordingly, on the sites to which they are "anchored." As one of the interviewees put it, sites of tragedy are

the final witnesses in the post-witness era. A reference to Pierre Nora and his theory of lieux de mémoire is obvious here and has already been referred to. However, within the context of these interviews, what becomes particularly interesting is the active role taken by museum professionals in imbuing historical sites not only with historical information, but also with meanings and rituals that emerge or are identified during the spatial research conducted as part of the interviewees' projects. As Nora observes, history has a repressive and aggressive character toward living, plural memory, while memory — social memory of communities, for instance — always resists it. In cases where active social memory fades, sites of memory serve as spaces where the continuity of memory and the past can still be perceived (Nora, 1989, p. 8). I would argue that site-specific VR projects, especially when integrated into complex educational museum programs, serve the same purpose, which is balancing historical content. Given that there is also criticism of this position, namely, that contemporary sites of tragedy are no longer what prisoners saw, and not even the landscapes seen by liberators or survivors (Szpociński, 2016, pp. 246–249) — minimal reconstruction through VR and AR technologies appears as another attempt to reconcile this discrepancy.

6. VR project in the GULAG History Museum. Case study.

This analytical section focuses on the VR project presented to visitors as part of the permanent exhibition at the GULAG History Museum (Moscow, Russia). As outlined in the methodological chapter, this case was selected, first of all, because it is the only example known to the author of the use of this technology in the commemoration of the GULAG and Stalinist repressions. Secondly, because the curatorial treatment of the difficult heritage of Stalinist repression and the GULAG camp system in the post-Soviet space has not received significant attention in English-language academic literature, which underscores the relevance and novelty of this study. A third factor was the interest in approaching theory not through the example of Holocaust memory, which was already extensively theorized in the literature, but through Soviet heritage, continuing the line developed in the chapter on the discursive analysis of the new Babyn Yar memorial project and in the interview analysis.

The analysis focuses on narrative structure, visual means, spatial design, and the mode of visitor engagement. In terms of methodology, it includes both content analysis of the project with the help of interviews conducted with two staff members of the GULAG History Museum.

The primary objective of this analysis is to examine a concrete project through the lens of the theoretical frameworks introduced in Chapter 2, and to relate it to the public and professional discussions analyzed in Chapters 4 and 5. This allows for an assessment, through a specific example, of how theoretical concepts of memory as well as the principles and limitations articulated by museum professionals are reflected (or not) in actual curatorial practice.

The GULAG History Museum, currently closed (Hitrov, 2024), was the first state museum institution fully dedicated to the history of Stalinist repressions and their victims. The exhibition was opened in 2014 following the signing by Vladimir Putin, President of the Russian Federation, of the "Concept for Commemorating the Victims of Soviet Political Repression." Prior to this, since 1991, the only existing institution was the organization "Memorial," now declared undesirable, whose staff began collecting testimonies from survivors and former camp inmates, as well as the few artifacts that remained in their possession (Memorial International, n.d.). As a result, the culture of remembrance surrounding these events and the processes of commemoration developed for a long time primarily as an oral or literary tradition within the framework of samizdat. The GULAG

History Museum, like "Memorial," originally emerged as a private, non-profit initiative. The institutional interpretation of one of the greatest tragedies of the Soviet era undoubtedly draws on international experience in creating memory museums, but also represents a field of active experimentation due to the complete lack of institutional precedents or models in this domain (Mishchuk, 2020), as well as the relatively limited scholarly attention the topic has received.

Nonetheless, having been awarded by the Council of Europe Museum Prize in 2021 (Gulag History Museum, the 2021 Winner of the CoE Museum Prize – European Museum Forum, n.d.), the GULAG History Museum has become a leading model for many regional exhibitions dedicated to Stalinist repression (for example, the NKVD prison exhibition in Tomsk). Therefore, the curatorial and managerial decisions made by this institution also merit analysis and critical reflection.

The VR headset station is located approximately in the middle of the labyrinth-like exhibition space of the GULAG History Museum, in a room filled with infographics and numerical data on arrests, imprisonments, and deaths that occurred during the widespread political repressions in the USSR from 1918 to 1960. There, visitors can watch two short VR films about the Dneprovsky mine and Sopka — the former classified zone of the Butugychag camp. This section does not aim to compare the two videos, but rather to analyze their specific characteristics in terms of content and medium.

Both films are under 7 minutes long. They present a walk through contemporary sites of former Soviet camps, accompanied by the voiceover narration of the museum's director.

The film about the Dneprovsky mine was shot on the territory of the former camp. The voiceover narration informs the viewer that it is located two hundred kilometers from the nearest major city — Magadan. Together with the museum's director, Roman Romanov, the viewer is taken on a walk through the ruins of the watchtower, the areas where tin was mined, trenches, scattered tin cans from which the prisoners made dishes and other everyday items, as well as a makeshift bathhouse, a tool shed, and a cemetery. The voiceover, narrated by Roman Romanov, comments on the locations, explaining how the work was organized. The film ends (at the cemetery location) with his words about the absence of a database of prisoners who died in this camp — only metal rods and nameplates remain in memory of them. The surrounding environment is characterized by natural landscapes captured in

summer rather than in winter conditions. The director remarks on a theory that the camps are disappearing because nature is reclaiming them, so to speak. But every object remains a witness to what happened in these places: "Oblivion looms. But today our task is to oppose this oblivion, so that it does not happen again tomorrow" (Museum of Gulag History, 2020).

The second film, which plays immediately after the first, is dedicated to the territory of the Butugychag camp and begins with the viewer flying in a helicopter alongside the museum's expedition team to even more remote parts of Kolyma. The walk with the director proceeds through sites of collective labor, mine adits, railway tracks, as well as administrative buildings and barracks. Since uranium, in addition to tin, was mined in this camp, some of the abandoned buildings are not entered due to high radiation levels. Because uranium mining was and remains of state importance, almost all data about these camps and their prisoners are still classified — the director explains. The 360-degree panoramic view allows the viewer to examine inscriptions on the walls — mostly surnames and cities of origin of the prisoners who wrote them. The walk concludes with a story about a woman who worked in the camp administration (as a clerk) — she now lives not far from the museum, confirmed her former employment (as a civilian staff member) at the camp, and refused to give an interview (Museum of Gulag History, 2020a).

Both films use 3D filming technology. The viewer has the opportunity to observe a panoramic view all around. There is a minimal number of cuts. The films closely resemble a real-time walk in the company of the museum director.

When analyzing both films, the first point to note is the carefully maintained historical and physical distance. The creators of the videos did not aim to reconstruct or supplement the space with any additional materials — aside from the voiceover. This is a contemporary perspective on oblivion as it is. As if the viewer is invited, for a moment, to forget they are standing inside an already established museum dedicated to political repression, and instead to witness how things really are — "oblivion looms." And in this context, it is the very state of decay, the silence of the ruins, that proves more powerful than the inhuman living and working conditions of the prisoners. The museum director acts as a mediator between historical knowledge and the site of memory. However, the educational element here is not found in his rather informative narration, but in the ease with which crimes against humanity committed less than a hundred years ago can be forgotten.

The viewer is in no way made a participant in the events, nor are they asked to imagine these abandoned camps in operation. For this, there are documentary photographs in the exhibition, and reconstruction based on the ruins is virtually impossible even in the viewer's imagination. Instead, the viewer is simply offered a few minutes to situate themselves in a place of suffering for millions of people and to witness the last remaining artifacts left behind. The significance of absence and the unmediated documentary nature of the footage thus become the primary characteristics of this experience.

As stated in the interview with GLG-T, the decision not to add any digital layer in the form of additional graphics was a deliberate choice, not a result of budget constraints. "Better to show ruins than reconstruction," he says. The viewer is invited to take part in witnessing the destruction of these places and in creating a documentary archive. In this way, what I refer to as the effect of affective documentary form is expressed.

For Pierre Nora, the "lieu de mémoire" is a term that refers not only to physical locations but also to "commonplaces" that persist in the collective memory of historical events. In the case of the GULAG, the physical camp sites — except for NKVD prisons — remain largely inaccessible. During the Soviet era, the GULAG system of labor camps was kept secret for a long time, and to this day, due to both historical secrecy and geographical remoteness, these places remain inaccessible. For the most part, memory has been preserved through the novels and stories of writers like Aleksandr Solzhenitsyn, who was long considered one of the most well-known witnesses to this humanitarian catastrophe. The GULAG Museum's project aims to document these physical memory sites for the first time.

In her book "Landscapes of Holocaust Postmemory", Brett Ashley Kaplan also turns to the analysis of spaces of tragedy and argues that, in the memory of witnesses, there are essentially two types of such tragic landscapes: the psycho-emotional and the physical. For subsequent generations, both types of landscapes — as sites of lived experience — become inaccessible: the physical landscape or space has changed over time, while the more anthropocentric perception of the camp's topography is always transmitted through the experience of trauma and is mediated in collective memory through widely circulated images. A more recent researcher, Aleksandra Szczepan, concludes that a common thread across such analyses is the recognition that the spatial experience of the postmemory generation is marked by a dissonance between the observed landscape and the knowledge of the events that took place there. The landscape of postmemory often appears as an indistinct, unmemorable

terrain — a "non-site of memory" — where natural processes have obscured the traces of tragic history (Szczepan, 2016).

Whereas the projects discussed in the interviews, ZLM and BBM, create an additional digital layer to bridge this gap, the GULAG Museum's VR project unites both approaches: on the one hand, it documents disappearing "sites of memory" and endows them with symbolic meaning; on the other hand, it allows new generations to confront the very rupture between the visible landscape and the knowledge of tragedy that Kaplan and Szczepan describe. Through its refusal to reconstruct and its emphasis on authentic ruins, the project transforms absence and silence into a distinct form of testimony.

Referring to Georges Didi-Huberman's theory that the photographs of Nazi concentration camps he studies function as historical evidence, visual traces, and vital forms of testimony, we can suppose a similar effect is at play in the ruins shown in this video. They too help us look at the event beyond representation and to convey meaning "in spite of all." Despite their effect being muted by the condition of ruination, as traces of real history, the ruins expose absence and missing elements. The incompleteness of representation becomes an ethical gesture rather than a technical shortcoming.

As already noted, the processes of understanding and commemorating Soviet political repressions were, for political reasons, halted or impeded for a long time — a situation that continues today with the symbolic closure of the museum "for technical reasons" and a significant change to the official "concept of commemorating victims of political repression" in 2023. However, such projects, which demonstrate the undeniable existence of document-sites, help resist the apathy of forgetting and encourage reflection not only on the past but also on the present.

Consequently, this VR project clearly does not rely on Landsberg's theory of prosthetic memory, nor does it aim to evoke any empathetic affect toward the prisoners of the camps, nor does it adopt the more widespread framing of VR technologies as "empathy machines." Rather, it invites the viewer to recognize themselves as one of those participating in forgetting — and to change their behavior, unlike the woman who refused to speak about her working experience in Butugychag, as recounted by the director at the end of the second film. The visitor is not asked to simulate the experience of the victim, but instead to acknowledge

their own involvement in the collective process of memory displacement/remembrance, and their own responsibility alongside that of institutions.

Continuing the reflections from the previous chapter on VR technologies and sites of memory, this case also embodies Pierre Nora's ideas that such sites can make the continuity of memory visible, even when social memory (as in the case of the museum staff member who refused to give an interview) is interrupted. However, it should also be noted that for Nora, a site of memory is already imbued with symbolic capital, whereas the staff of the GULAG Museum are only beginning to introduce the recently visited and documented sites into the realm of representation and imagination.

From the perspective of museum studies, this project within the exhibition can be seen as aligning with the concept of the performative museum, particularly in the way it shifts the mode of engagement with the document—from passive viewing to active investigation. This is achieved through the autonomy granted by the VR headset: the viewer can move their head, linger on the landscape, or focus solely on the ruins. However, the project also introduces an interesting solution that helps to avoid retraumatization and the effect of the "narcissistic viewer" (a viewer who mistakenly believes that immersive technology grants access to someone else's lived experience). The only protagonist and potential subject of identification is the museum director—a contemporary individual similar to the viewer. Through this "dead-end" model of identification and its commitment to documentary form, the project overcomes many of the ethical challenges typically associated with immersive technologies with empathetic/victim narratives.

7. Main Findings and Conclusions.

This study addressed a broad range of issues — from the challenges of commemorating difficult pasts and their representation in memory museums to the use of new technologies therein — in order to answer the question: what does the curatorial tool and exhibition medium of VR bring to the table? Does it transform the way we engage with difficult heritage, and what challenges may arise in the application of VR?

The initial hypothesis of this study proposed that immersive VR technologies, within the framework of the so-called performative museum, could have an impact on the viewer — and that even in the absence of living communicative memory about the event or the possibility of hearing firsthand testimonies, they might enable the viewer to feel and empathically imagine a given historical experience. This hypothesis was, to a certain extent, supported by the broad public discourse analyzed through the framework of critical discourse analysis (CDA).

In this context, earlier memory theories were reconsidered — for instance, Maurice Halbwachs' ideas on social frameworks were set aside in favor of more recent scholarship, such as Marianne Hirsch's concept of postmemory, Alison Landsberg's theory of prosthetic memory, Judith Butler's notion of solidarity as a counterpoint to the affective pull of empathy, as well as Andreas Huyssen's contemporary overview of the condition of memory and Georges Didi-Huberman's reflections on Holocaust documentation and historical traces.

In addition, the study considered the critical work of Silke Arnold-de Simine, who interrogates the limits of empathy-driven exhibitions and warns that overly close identification can blur the boundary between authentic witness memory and a simulated experience.

She notes that viewers' empathy is often constrained by what they already know or have felt: people tend to empathize with aspects they can relate to, which may create a false sense of understanding.

The academic criticism of VR projects and technologies was also examined. The main conclusions indicate that VR technologies play a significant role in the archiving and digitization of heritage. However, the manipulative effect produced by the inherent immersiveness of the technology itself — as discussed by Sharon Macdonald — is not an

ethical solution, as it essentially operates in the same way as ideology. And although the field of non-fiction VR storytelling developed out of immersive journalism, whose very aim was to immerse the viewer in the news context and render them a witness to events, researchers working with historical projects have demonstrated that it is precisely the visibility of the technology, its imperfection, and the transparency of its use that leave room for critical thinking — which is essential in the museum context.

Nevertheless, the backdrop for this discussion is the contemporary museum, which has long been situated within the affective turn.

Overall, the theoretical literature demonstrated that commemorative practices and the transmission of memory are becoming increasingly detached from direct connection to eyewitnesses — new generations live in a more globalized world, where the perception of traumatic pasts is mediated not only through personal testimonies, but also through popular culture and memory museums with their "performative" exhibitions. In this context, the concept of empathy and the degree of immersion necessary to evoke it has come to the forefront.

The discourse analysis of the debates, at least in the Russian and Ukrainian speaking fields, surrounding the proposed memorial complex at Babyn Yar revealed that the public perception of VR projects remains charged with conflicting preconceptions and anxieties. These are manifested in distrust toward the technology and fears that difficult heritage will be gamified and commercially exploited. The critical opinions largely echo the theoretical critiques of immersive and empathic approaches in memory museums discussed in the earlier part of the study.

However, the conducted interviews and their thematic analysis revealed that museum professionals tend to shift the focus of the debate from memory theory and the questions of empathy/immersion toward the broader topic of museum education and the formation of knowledge itself. The interviewee who had not yet worked with this technology expressed concerns similar to those voiced in the public debates around the Babyn Yar project. In contrast, curators who have already implemented these technologies in their practice demonstrated a markedly different perspective. For them, VR technologies have proven to be a productive tool for enhancing visitor engagement within educational museum programs.

Without a doubt, their use requires the context of mediation, involving an educator who can help articulate the intended conclusions and ensure alignment with museum methodology.

This shift from a memory-based to a pedagogy-based discourse highlights the institutional rationality that underpins museum practice and complicates theoretical approaches that place affect and empathy at the center of commemorative work.

Secondly, according to those responsible for implementing VR in memorial museums, such technologies are primarily aimed not at enhancing empathic narrative, but at facilitating access to memorial spaces — whether accessible on site or unreachable, as in the case of GULAG camps. This site-specific function is also a key element of the educational approach in museums, as it enables direct interaction with the artifact (the last authentic witness), which functions as a testimonial object.

The subsequent analysis of the case study on the VR project within the GULAG History Museum's exhibition further elaborates the meaning of such spatial interactions with sites of trauma — through the attribution of symbolic value, the introduction of rituals such as VR walks, and the enhancement of the spatial dimension of remembrance.

Thus, VR technologies undoubtedly hold significant potential for transforming our engagement with traumatic pasts. While many concentration camps have been turned into memorial museums and complexes that serve as sites of the "crystallization" of collective memory, in Pierre Nora's terms, many other sites of crimes against humanity remain neglected, abandoned, or forgotten. VR technologies, to varying degrees, help not only to access these spaces but also to expand the possibilities for reflecting on difficult heritage. For cases like the GULAG, where a stable tradition of remembrance has not yet been fully established, this seems particularly important.

The ethical concerns expressed by theorists, participants in public discourse, and interviewees alike include the gamification and spectacularization of the VR experience, as well as the fine line between immersion and emotional manipulation of the viewer. These concerns are directed toward upholding the fundamental principle of maintaining critical distance, within which knowledge and interpretation are formed. Nevertheless, it should be noted that museum practices already tend to avoid excessive use of graphics and animation, recognizing that even the most rigorous reconstruction entails a high degree of interpretive subjectivity. The fact that many museum professionals have criticized the Anne Frank House's VR project

in Amsterdam — which offers remote virtual access to Anne Frank's room — demonstrates that staff working in museums of difficult heritage already operate with a strong ethics of self-censorship, even while remaining open to careful experimentation.

Since the initial assumptions of this study were largely based on public consensus — particularly evident in the discourse analysis — the resulting findings proved to be far from self-evident. The most promising direction for further research, in my view, lies in shifting the academic and theoretical perspective from memory theory and the concept of a new type of museum toward inquiries into phenomenology of a place and space — what might be called the topography of memory. The dilemma between the "place of memory" and the "non-place/non-lieu," highlighted in the case analysis, adds an important dimension for reflection: how should one work with these two forms of commemoration? Which conceptual framework is more suitable when speaking about places of tragedy? While a substantial body of literature likely already exists in this area, it would be particularly interesting to explore it through the lens of VR technologies as well.

At present, this approach seems to me the most productive when thinking about VR — not in terms of the binary between immersion, empathy, and representation, but rather in relation to the spatial and phenomenological experience of memory. Moreover, a potential future study could expand the focus beyond VR to include AR or mixed reality projects, in order to conduct a comparative analysis and determine the most meaningful approaches to engaging with so-called memory landscapes.

The limitations of this study include the lack of geographic diversity, a very narrow sample of professional interviewees, and only one case study. However, through methodological triangulation, it was possible to identify the gap between theory and practice and to partially compensate for the limited volume of data.

This study provided a perfect opportunity to engage thoughtfully and critically with what exactly new technologies offer to memorial museums, and to highlight the importance of conducting research not only within the theoretical field, but also in close dialogue with active museum practitioners — also in order to prevent the imbalance between the growing volume of academic texts and the practical realities of curatorial work.

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Appendix A. Coding Tables.

Table A1

CODE	Speaker	Quote
Motivations *(what drives the speakers to create or use VR; their goals, intentions, or reasons)*	2 ZLM	But we're always clear with visitors: what they experience in the artwork is an artistic interpretation, a visual language through which we communicate. The actual historical space is the one you see outside — never a one-to-one reconstruction.
	2 ZLM	Exactly. We are motivated by the educational mission of these new tools. The idea is never for someone to be completely and uncritically immersed. They should be reminded throughout that this is our attempt to understand a historical situation — but the reality was, and could have been, different. This is just our way of making it more vivid
	2 ZLM	my take on immersive technologies is a critical one. I'm a reluctant early adopter. I see it more as just another way of conveying a message. But again, as I've said, my preferred approach is mixed reality. I'm not someone who sees this as historical entertainment. My goal is that kids learn something, or that regular visitors gain some understanding. And if I'm in a position to use VR as a kind of entry point — an "empathy machine," so to speak — I'm not against it. But it's not an end in itself. It's just a tool.

	2 ZLM	It is educational theory — constructivism — which is used in making sense of space. Space is used practically as scaffolding for learning.
	2 ZLM	Anyway, eventually, the goal of this whole experience — apart from the facts that you learn — is to raise empathy. And through that, also to share humanity and human behavior with each other. … students slowly start reflecting more on the issues they might have in their own environments …. And what it takes to be a human — just to be a good person for the society you're in.
	2 ZLM	"For kids, for whom this is as distant as the Middle Ages… we have to speak a language they understand." For the purposes of business and the development of new technologies, we — and museums in general — are interested in using those technologies to convey messages better Still, we are open to it — because it brings new perspectives to what we do and to how we communicate with our audiences, especially young people.
	3 GLG-T	"It's very hard to reach those places now... a regular person can't just go to Magadan and then fly by helicopter two more hours." "We wanted to convey the atmosphere... and also document the current condition for archival purposes." "It's not an attraction or a gimmick — it helps the person go deeper into the exhibition's atmosphere."

	3 GLG-T	"Even short 360 videos attract attention... at Intermuseum or other platforms, it draws a queue." "It was a good PR element. And yes, they were showing Kolyma."
	3 GLG-T	"Our emotional goal was not to smooth or embellish history... but to show how it really is." "Better to show decayed remains than a clean computer reconstruction 'from faith'." "The goal is to spark the viewer's own process of imagination and interpretation." "There has to be a clear goal that justifies VR — not just 'let's film a view from the roof'." "Places that are hard to access... or might disappear soon — that's what should be shown."
	5 BBM	"Use it in pairs or groups… that forces discussion and reflection." "This helps people connect with the content."
	5 BBM	"You wouldn't recognize it as a former camp... all buildings were destroyed and removed." "Many people said they found it very helpful — to get a sense of the dimensions."
	5 BBM	"We want visitors to learn... not just store facts and numbers." "That always needs... a space for reflection and self-reflection."

		But I do hope — and I believe — that VR and other digital approaches can help provide a certain empathy.

Table A2.

CODE	Speaker	Quote
Implementation (how VR technologies are used in practice, and what choices or limits are set when bringing them into the museum context)	1 JM	"Visitors must understand where historical knowledge comes from." "If people talk to a chatbot or hologram, they miss the fact that we know more about some topics because of surviving sources." "Even if a hologram uses real testimony, it generates something new. That's fake."
	1 JM	"We can't infinitely simplify historical knowledge just to make it easily consumable." "There should be a threshold of complexity. To understand something, one has to work for it." "Museums are not entertainment spaces."
	2 ZLM	i'm talking through the methodology. Methodology of our museum educational program centerpiece of which is the virtual reality so we are site bounds so we take great care about communicating from this very historical spot so physical physical site not just placing our vr experience somewhere in the clouds you can experience from the couch at anywhere in the world but so
	2 ZLM	we worked on a solution how to make how to break this perception that VR is only for individual experience so we made it an out of headsets experience by virtue of projecting image and

		a sound in a space in especially designed vr room which is in exact measurements of the bunker
	2 ZLM	place is important
	2 ZLM	As I said, VR is not a core element — it's not a mainstream technology in the museum. It's more of an add-on to the standard visit, which includes the permanent gallery and, as much as possible, experiencing the outdoor areas like the terrace and the yard.
	2 ZLM	Initially, there were no headsets. The first iteration was a guided, group-based experience, where people were physically present in the space and guided through it. Now, after testing it with focus groups, fixing bugs, and improving the system, we're able to offer it as an autonomous experience for individuals. We've also created a dedicated room — about 3 by 2 meters — to make this possible.
	2 ZLM	After the VR, they have a meaning-making session.
	2 ZLM	Technology helps in that respect — but only if it is applied with great care, with the preconditions I just listed: A safe way in, graphically; An assisted experience; A meaning-making session before and after; And a programmatic approach to the space, like the bunker, which includes four steps of preparation. That is why the mode in which we use technology is on-site, preferably assisted, with great care — safe in and safe out.

		"This is a collaborative project between curators, technologists, and the target group itself."
	3 GLG-T	"When we made this VR... it was 7 years ago... only then the technologies started to be good enough."
	3 GLG-T	"You can't just leave the VR headset on a chair... someone has to assist, explain, prevent damage."
	4GLG-C	"Where is the ethical boundary? How to formulate it?" "Maybe only an internal tuning fork — individual and collective."
	5 BBM	"It's not always necessary to go for just one decision or one result. Sometimes it's even better to give options to users. That's why, for example, the application can switch between VR and AR. I personally prefer the VR version, but I know from user feedback that many people prefer the AR version — it combines the camera view, the actual scenery of the memorial grounds, with the 3D structure from the app." "And if our goal is to help people approach meaning, or create meaning from this tool — because it is a tool — then we should offer them different ways of accessing it, according to their preferences. That way it's easier to cross technical barriers and dive into the content."
	5 BBM	"That is also why we decided to make it a local, on-site application. You are supposed to walk outside — for example, content opens or appears once you're in a certain location. And Paul said research has shown: you remember things better if you move — if you walk."

		"The app uses a non-linear approach… people choose what to explore."
	5 BBM	"Seeing this... helped me understand the dimensions and the topography of the camp" "Content appears as you approach... like a photo or drawing of the building."
	5 BBM	"The app has no guidance built in... it follows the documentary principle."
	5 BBM	"We felt it's important to maintain a balance... let the visitor stay in control." "To let them make decisions. Not to feel pressured to cry or to turn away."
	5 BBM	"Some of the colleagues said: it's not appropriate because you're near the graves... just be there and present." "If we leave out that particular area... we would have to leave out important parts of the history." "People just put it away... they don't use it all the time."
	5 BBM	"As long as the visitor has space for self-reflection and understanding... it's good." "It's an offer. If you want to, you can learn about our ideas."
	5 BBM	"In narratives... you always have this combination of emotional and cognitive and ethical." "I think that can go alongside everything else. It should work."

Table A3.

CODE	Speaker	Quote
Critical Perspective on VR *(reflections on the ethical, emotional, and conceptual limits of using immersive technologies to represent historical trauma)*	1 JM	"I personally can't imagine being a visitor who changes after seeing a pile of shoes…" "There's a hypothesis that technologies — like character-based guides or sensory VR — could help convey missing historical context." "But is that really what matters? Maybe reading and understanding are more important than sensory experience."
	1 JM	"There is a 3x3m concrete bunker reconstruction with bunks. Visitors can only look at it from above — never enter." "The idea is: you know how it ended. You cannot re-experience hiding during the Holocaust because you know the outcome." "You can never recreate the experience of *not knowing your fate*. That is more terrifying than any physical discomfort." "That's why you only look from above. You cannot pretend to be inside that moment." "I'm wary of full immersion. You can't truly transmit that emotional state of uncertainty."
	2 ZLM	"So, the *Disneyfication* of Holocaust history — especially in digital Holocaust education — is a danger." "And the worst is that technology becomes a parachute: it just drops in and is completely decontextualized, not embedded."
	2 ZLM	"We don't train in empathy that way. We can't pretend to be doing that." "But we don't want to just end up with one VR project that explains it all, like the Anne Frank House did — for people who cannot visit."

	3 GLG-T	"I like that it's not a reconstruction... this contemporary look into the past creates a boundary."
		"So that the viewer doesn't feel like they now 'know everything' or have 'been there'."
		"We realized that recreating a space with computer graphics is a different goal."
		"A digital copy starts to feel more like a game... and is subconsciously perceived that way."
	3 GLG-T	"It remains an individual device, not central to the exhibition."
		"What kind of interactions could there even be, without it turning into a game?"
		"In a memory museum… one hits a bell, another..."
	4GLG-C	"Using technology just to be fashionable is unacceptable."
		"Every implementation must be well justified."
		"Digital sensitivity is something we need to be aware of to stay in contact with the audience.
	5 BBM	"You don't have to reconstruct buildings — and we wouldn't do that. That's not the idea."
	5 BBM	"You didn't have the motivation to enforce empathy... the visitor creates it on their own."
		"We should not overwhelm visitors... they become passive."
	5 BBM	"They had a fictional character as a guide — a young boy — in this AR thing."

		"I couldn't really accept this... keeping the balance of factual and fictional is very challenging." "We always fear that we are accused of giving false information... the risk of Holocaust denial." "We don't feel that it's ethically allowed or appropriate."
	5 BBM	"Let's offer a tool that helps people understand and relate — but let's not put them inside the camp." "We would not want them to follow in the shoes of a guide or of a prisoner." "There still remains a distance — and I think that is still important in the VR context in particular." "There's always this balance... define the degree of closeness. "Reading is a different process... more a mixture of emotional and cognitive." "A very strong emotional approach... would feel more manipulative."

Table A4.

CODE	Speaker	Quote
Future Aspirations *(ideas, hopes, or concerns about how VR and related technologies*	2 ZLM	If only we could afford it, we would create a multi-plot VR documentary — about different rescue stories.
	4GLG-C	"Yes, such technologies are needed. We should not be afraid to use them."
	4GLG-C	"We're already saturated — visual noise is everywhere." "Soon we may return to simple formats — just a picture on a wall."

could or should be used in the future)		"The brain also needs rest — the museum is also a place of rest and education."
	5 BBM	"Today, I think we would offer more guidance or orientation."
	5 BBM	"If we don't try things out… other people will." "Maybe that's not how we want it to be… so we should do it ourselves." "We shouldn't be shy — we should be brave and try." "If we don't try out characters… it will be done in games and ego shooters."

Appendix B. Consent Form.

INFORMED CONSENT FORM

Project Title	Master's Thesis Research "The Role of VR Projects in Memory Museums"
Purpose of the Study	This research is being conducted as part of my postgraduate dissertation for the Erasmus Joint Master's Degree "MAGMA". I am inviting you to participate in this research project about curatorial approaches to traumatic heritage and the use of new media technologies in memory museums. The purpose of this research project is to explore the ethical, conceptual, and practical challenges involved in representing difficult historical memory, particularly through the use of immersive technologies such as virtual reality.
Procedures	You will participate in an interview lasting approximately 45–60 minutes. You will be asked questions about your curatorial experience and perspective regarding memory politics, the representation of difficult heritage, and the use of digital media and immersive technologies in your museum's exhibitions.
	Sample questions include: "What is your approach to representing traumatic memory in your exhibitions?" and "Have you encountered ethical or conceptual dilemmas when working with new media technologies, such as VR or digital testimonies?"
	You must be at least 18 years old to participate.
Potential Risks and Discomforts	There are no obvious physical, legal or economic risks associated with participating in this study. You do not have to answer any questions you do not wish to answer. Your participation is voluntary and you are free to discontinue your participation at any time.
Potential Benefits	Participation in this study does not guarantee any beneficial results to you. As a result of participating you may better understand [Verder in te vullen door onderzoeker, indien van toepassing].

Confidentiality	Your privacy will be protected to the maximum extent allowable by law. No personally identifiable information will be reported in any research product. Moreover, only trained research staff will have access to your responses. Within these restrictions, results of this study will be made available to you upon request. As indicated above, this research project involves making audio recordings of interviews with you. Transcribed segments from the audio recordings may be used in published forms (e.g., journal articles and book chapters). In the case of publication, pseudonyms will be used. The audio recordings, forms, and other documents created or collected as part of this study will be stored in a secure location in the researchers' offices or on the researchers password-protected computers and will be destroyed within ten years of the initiation of the study.
Compensation	*no*
Right to Withdraw and Questions	Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify. The data you provided before you stopped participating however will be processed in this research; no new data will be collected or used. If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the primary investigator: Anzhelika Urusova: urusovaanzhelika@gmail.com

Statement of Consent	Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree that you will participate in this research study. You will receive a copy of this signed consent form. I agree to participate in a research project led by Anzhelika Urusova. The purpose of this document is to specify the terms of my participation in the project through being interviewed. 1. I have been given sufficient information about this research project. The purpose of my participation as an interviewee in this project has been explained to me and is clear. 2. My participation as an interviewee in this project is voluntary. There is no explicit or implicit coercion whatsoever to participate. 3. Participation involves being interviewed by (a) researcher(s) from the EJMD MAGMA. The interview will last approximately 45-60 minutes. I allow the researcher(s) to take written notes during the interview. I also may allow the recording (by audio/video tape) of the interview. It is clear to me that in case I do not want the interview to be taped I am at any point of time fully entitled to withdraw from participation.	
	4. I have the right not to answer any of the questions. If I feel uncomfortable in any way during the interview session, I have the right to withdraw from the interview. 5. I have been given the explicit guarantees that, if I wish so, the researcher will not identify me by name or function in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. In all cases subsequent uses of records and data will be subject to standard data use policies at the EU (Data Protection Policy). 6. I have been given the guarantee that this research project has been reviewed and approved by the Erasmus Mundus Master's Program "Managing Arta and Heritage in Global Markets" and by the EU Ethics Committee. For research problems or any other question regarding the research project, the EU Ethics Committee may be contacted through . 7. I have read and understood the points and statements of this form. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study. 8. I have been given a copy of this consent form co-signed by the interviewer.	
Signature and Date	NAME PARTICIPANT	NAME PRINCIPAL INVESTIGATOR **Anzhelika Urusova**

	SIGNATURE	SIGNATURE
	DATE	DATE

Appendix C. Overview of the Respondents.

№	Code	Role/Organization	Language of the Interview	Summary
1.	JM	Director of the "Jews in Latvia" Museum and Jewish Memorial Center https://ebrejumuzejs.lv/en/ Riga, Latvia	Russian	This interview was conducted in Russian with the director of the Jewish Museum and Memorial Center in Riga. In the conversation, we discussed the current and future exhibitions of the museum, as well as previous experiments with VR and AR walks developed in collaboration with German colleagues, based on materials about Jewish communities during the Second World War in Riga and Berlin. As this respondent has not yet implemented such technologies in their museum's exhibition, and they are not currently planned for the upcoming version either — although there was some previous experience working with them — the goal of the interview was to understand the respondent's perspective on the integration of immersive technologies into curatorial work. The key idea expressed during the interview was that the respondent, being a professional historian, remains skeptical of such technologies, as they tend to obscure or inadequately present the process through which historical knowledge is constructed — where it comes from and how much of it is available. The respondent also raised the dilemma between the demand for museums today to be fashionable

				and appealing to audiences, and their real function, which lies in education. They also voiced criticism of the VR project created at the Janis Lipke Memorial by another respondent featured in this study, arguing that immersive technologies erase one of the most important differences between victims/witnesses and contemporary viewers — namely, the experience of not knowing one's own fate.
2.	JLM	Director of the "Janis Lipke Memorial" Museum https://lipke.lv/en/ Riga, Latvia	English	The respondent was responsible for the implementation of the VR project at the Janis Lipke Memorial Museum. We discussed the history of the museum and the project, as well as the challenges and ethical dilemmas the team encountered. The respondent emphasized two key ideas: first, that the VR project is deeply embedded in the museum's educational program and cannot be experienced outside the context of a meaning-making session afterwards; and second, that any reconstruction carries the same degree of interpretative subjectivity as artistic devices used in exhibitions, in relation to the original testimonial experience. He also stressed that the development of the VR project was a collaborative effort, involving multiple rounds of focus group testing.
3.	GLG-T	The Head of Digital Department in the State GULAG History Museum https://gulag.museum-online.moscow/	Russian	The respondent was one of the team members responsible for the development, production, and implementation of the VR project within the museum's exhibition. During the interview, we

				discussed the overall process, the challenges and ethical dilemmas encountered during the project's creation, as well as the technological specifics of the VR experience.
				One of the respondent's key points was the team's immediate and deliberate decision to reject the use of any kind of graphics, animation, or interactivity. These additions, according to the respondent and their colleagues, were considered unacceptable within the context of working with traumatic historical material.
4.	GLG-C	Curator (Curatorial Department) in the State GULAG History Museum https://gulag.museum-online.moscow/ Moscow, Russia	Russia	Although the respondent did not participate in the development of the VR project presented in the museum's exhibition, they were involved in curating the exhibition from the very founding of the museum and have been actively engaged with both the permanent display and temporary exhibitions. The conversation addressed the challenges of curating difficult heritage in museums, as well as the curatorial strategies that were either applied or deliberately avoided in the permanent exhibition. The respondent explained that the exhibition was designed to follow a rhythm of emotional shifts — from the touching to the factual — in order to regulate the visitor's emotional state when confronted with a tragic past. This approach aims to prevent a collapse into sorrow, empathy, or tears, and instead preserve space for rational cognitive analysis and knowledge formation. The respondent expressed the view that new technologies are indeed

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				necessary in memory museums, but emphasized that their use — like any other aesthetic or emotional effects — must be guided by an internal sense of appropriateness and self-censorship when dealing with the sensitive subject matter of Stalinist repressions.
5.	BBM	Head of Press and Public Relations, Lower Saxony Memorials Foundation (Bergen-Belsen Memorial) https://bergen-belsen.stiftung-ng.de/ Bergen, Germany	English	The respondent is the Head of Press and Public Relations for the Lower Saxony Memorials Foundation and is responsible for all digital strategies at the Bergen-Belsen Memorial. She also took part in the development of the AR and VR projects at the memorial site. The conversation focused on the team's working process, ethical considerations, and the respondent's personal perspective on such projects. Throughout the interview, her key points included a critical stance toward digital reconstructions, a strong emphasis on the constructivist approach in museum education, the museum's educational programming, and the principle of intuitive exploration of the memorial site supported by AR or VR applications. The respondent expressed clear support for such projects in memory museums, arguing that these institutions — rather than private commercial initiatives — should serve as spaces for experimentation with immersive technologies and commemorative practices.

Appendix D. Interview Guide.

Introduction for the Respondents:

This interview is part of a research project exploring curatorial approaches and the use of immersive technologies (particularly VR) in the representation of traumatic heritage. The focus lies on how museums navigate ethical challenges, audience expectations, and curatorial strategies when working with complex historical content. Your expertise and experience are invaluable for this study. The interview is semi-structured — feel free to elaborate, reflect, or skip questions as you see fit.

For Russian speakers: additional reference to the Babyn Yar Scandal

Interview Questions

I. Institutional Context and Professional Role

1. Could you briefly introduce your institution and your role within it?
2. How would you describe the overall curatorial or educational approach of your institution when dealing with difficult heritage?
3. Are there any immersive or digital storytelling projects implemented at your institution (e.g., VR, AR, multimedia installations)?

II. Project-Specific Questions

4. If your institution has implemented a VR project:
   - How did the idea emerge?
   - What were the initial goals or motivations for developing this project?
   - Who was the intended audience, and how did that influence design or curatorial choices?
5. Were there alternative approaches or ideas considered before choosing VR?
6. What ethical dilemmas or curatorial debates arose during the project's development?
7. Were there any internal discussions? About what?
8. How were curatorial decisions made?
9. Were you inspired or influenced by some other similar projects?

III. Exhibition Strategy and Audience Reception

10. How does the immersive project relate to the rest of the permanent or temporary exhibitions?
11. Do you have any information about audience reception or feedback?

IV. Reflections, Risks and Future

12. In your view, should there be more VR projects in memory museums?
13. What would you advise to your colleagues who are only thinking about implementation of such technology ?