

A Choreographic Approach to Mixed Reality: Archival Materials as Site-Specific Situations in Kvarnbyn

Marika Hedemyr

ABSTRACT

This article explores a choreographic approach to the creation of mobile mixed-reality (MR) experiences in public space, with specific attention to how archival material in a cultural heritage context can be turned into a repertoire of site-specific situations. This approach can be described as a montage technique that triangulates the embodied audience member, the digital media via a mobile device, and the site with the aim of evoking somatic and kinaesthetic responses, making the experience felt in the body. To demonstrate this, the creation process of *ENTER Mölndal – Kvarnbyn*, a site-specific MR walk commissioned by Mölndals Stadsmuseum, is discussed. The films, photos, facts, and stories are seen as ‘energetic forces’ that evoke emotional and creative responses. In the MR walk, they become a repertoire of actions and situations experienced performatively by the audience. I share examples of the creative process and choreographic composition strategies applicable to an expanded practice of choreography in the realms of cultural heritage, mobile technology, and public space. Such a choreographic approach can contribute to experiences that activate our senses and critical reflection in an embodied way, which in turn can contribute to keeping our social relations alive.

SAMMANFATTNING

Denna artikel utforskar ett koreografiskt tillvägagångssätt för att skapa mobila Mixed Reality (MR)-upplevelser i offentliga rum, med särskilt fokus på hur arkivmaterial i ett kulturarvssammanhang kan omvandlas till en repertoar av platsspecifika situationer. Det kan beskrivas som en montage teknik som triangulerar publiken – dess kropp och alla sinnen, de digitala medierna via mobilen, och den fysiska platsen, med syfte att skapa en somatisk och kinestetisk respons som gör att upplevelsen känns i kroppen. För att åskådliggöra detta diskuteras det praktiska arbetet med att skapa *ENTER Mölndal – Kvarnbyn*, en platsspecifik mixed reality-walk beställd av Mölndals Stadsmuseum. Filmer, foton, fakta och berättelser ses som ‘energifulla krafter’ som väcker känslomässiga och kreativa reaktioner. I MR-vandringen blir de till en repertoar av handlingar och situationer som upplevs performativt av publiken. Författaren delar med sig av exempel på den kreativa processen, samt koreografiska kompositionsstrategier som kan tillämpas i koreografi som expanderad praktik inom kulturarv, mobil teknik och offentliga rum. Ett sådant koreografiskt förhållningssätt kan bidra till upplevelser som aktiverar våra sinnen och kritiska reflektion på ett förkroppsligat sätt, vilket i sin tur kan bidra till att hålla våra sociala relationer vid liv.

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ENTER Mölndal – Kvarnbyn, a mixed reality walk in Kvarnbyn that opened in 2018, part of Mölndal Stadsmuseums permanent exhibitions. By Marika Hedemyr and team. Image credits: Mölndals Stadsmuseum.

Introduction

In this article, I introduce a choreographic approach to the creation of mobile mixed-reality experiences in public spaces, focusing on how archival material in a cultural heritage context can be transformed into a repertoire of site-specific situations. To illustrate this point, I will share the creation process of *ENTER Mölndal – Kvarnbyn* (2018/2019), a site-specific mixed-reality walk commissioned by Mölndals Stadsmuseum. The museum's aim with the project was to activate the local public space and its archive of photos, films, and stories about the town through a mobile phone-based experience. My personal interest was to explore how a performative approach to mixed reality can provide content and experiences that help sustain our social relations. I will detail how I combined archival material, mobile technology, and the outdoor site into a site-specific mixed-reality experience. First, I will explain the concept of 'mixed reality', which I have utilised as a site-specific performance format.

Mixed reality (MR) refers to experiences and technologies that combine physical reality with a layer of digital information and media. This is achieved by using digital augmented reality (AR) and MR technologies on mobile phones, computer

screens, or AR glasses. The media are presented in real time, mixing sensory and conceptual elements externally in the world and with your mind, body, and imagination. Today, multiple terms cover the broad spectrum of MR technologies, such as AR, MR, virtual reality (VR)—although VR attempts to replace the real world rather than add to it (Milgram and Kishino 1994; Bolter, Engberg, and MacIntyre 2021)—locative technologies, audio-guide technologies (Tallon and Walker 2008), and the umbrella terms extended reality (XR) and immersive technologies.

Today, cultural heritage museums use mobile and digital technologies for purposes ranging from marketing and outreach to learning/pedagogy and interactive exhibitions. Learning activities and pedagogy are often the main goals (Wollentz 2023), while a performative approach is rare. Creating a purposeful and engaging experience requires careful design of both technology and content (Wessel and Mayr 2007). In the art world, there are several examples of works that use mobile technologies to create performative experiences in public locations. These include the audio-video walks by Janet Cardiff, the mobile phone theatre *Call Cutta* by Rimini Protokoll, and the video performance *Little Frank and His Carp* by Andrea Fraser.

Artistically, I use MR technologies to create site-specific experiences and have developed a format for MR walks. My background as a choreographer informs my work (Hedemyr 2023). I employ an embodied practice of 'mixing realities' and approach MR as a site-specific



Audience at the square in Kvarnbyn during the mixed reality walk ENTER Mölndal – Kvarnbyn, June 2018. Photo: Marika Hedemyr.

performance format in which issues of the real and virtual are explored aesthetically. I create site-specific situations that triangulate the embodied audience member, the media via the mobile phone, and the site. This can be described as a montage technique that aims to make the content felt in the body, somatically and kinaesthetically. Consequently, I define MR as a technique of mixing realities through a combination of MR technologies and theatrical/choreographic composition practices. I work with documentary sources from the location, and the material I develop—such as text, narration, videos, and animations—is created and developed on site. In *ENTER Mölndal – Kvarnbyn*, this included extensive archival material from the museum related to the site. My curiosity lay in how archival records, such as photos, films, and stories in a cultural heritage context, could be activated and staged into a performative experience.

ENTER Mölndal – Kvarnbyn

In this project, I was engaged as an artistic director and artist to create the work based on my concept of MR walks. The project was developed in close collaboration

with creative technologist Jacob Michelsen, who works at the RISE Research Institutes of Sweden. We worked together with the Mölndals Stadsmuseum staff and a team of artists and technologists. Throughout the process, I developed the concepts, script, and overall artistic vision.

After a period of research and concept development, I decided to use micro-stories as the general structure. Sixteen short stories, each with a unique theme, collectively tell a larger story about Kvarnbyn and the living and working conditions of ordinary people during the industrial period from 1880 to the 1960s. Kvarnbyn, located in Mölndal, is one of the early industrial towns in Sweden thanks to a waterfall that runs through the town. In the Middle Ages, people lived from fishing and mills; later, the town became a large industrialised community with spinning mills, paper and sugar factories, and eventually chemical industries. Today, 4,000 new homes are gradually replacing the factories. While the dominant story of the town is about the men who owned the factories and the industrial-economic development, in this project, Mölndals Stadsmuseum wanted us to focus on the living and working conditions of ordinary people during the industrial period.

Consequently, when I worked at Mölndals Stadsmuseum to create *ENTER Mölndal – Kvarnbyn*, I engaged with this archival material choreographically as *energetic forces* that evoked emotional and creative responses. I explored how they could channel human connection and action through a MR experience, creating sensory and intellectual experiences on site. This approach builds on my previous choreographic practice of creating site-specific performances that use documentary and site-specific sources.

In the process at Kvarnbyn, I further articulated this approach, inspired by the writings of scholars on the performative aspect of engaging with archival records.



Screenshots from the scene At the market in ENTER Mölnådal – Kvarnbyn, archival footage from the square in the early 1900s.

Image credits: Mölnålds Stadsmuseum.

Diana Taylor (2003) discussed the relation between archive and repertoire and highlighted how a repertoire enacts embodied memory. The repertoire includes all those acts considered ephemeral knowledge and not kept in an archive, such as performances, gestures, orality, movement, bodily labour, and craft. She argued that the repertoire requires presence, with people participating in the production, reproduction, and transmission of knowledge by being there and taking part. This has informed how I think of the audience as a participant in a repertoire during the MR experience. Astrid von Rosen (2017) suggested engaging intimately with archival records to keep reception and interpretation open and dynamic, contributing to critically productive cultural history in the digital age. She posited that the ‘intimate activation operates through a performative encounter, taking on sensorial, embodied, material, affective, and kinaesthetic – and thus intensely relational – dimensions’ (18). Furthermore, Cathy Carbone (2015) proposed that archival records can be ‘active, energetic forces’ that evoke emotional and creative responses and channel human connection and action (51).

To summarise, due to my choreographic approach to archival records, I became intimately engaged with them. I sought creative ways to stage site-specific MR situations on site. In the MR walk, this process becomes a repertoire of mixed actions and situations that are experienced performatively by the audience.

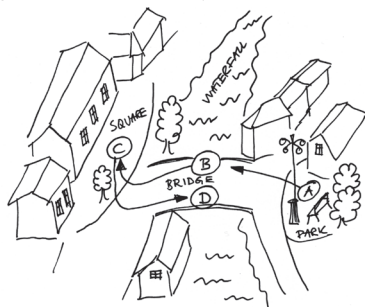
During the MR walk, you hold your phone in your hand and wear headphones. You are guided to four different locations to experience a panorama on the phone, a 360-degree spherical photo taken at the same

spot where you are standing. In the panoramic photo, there are windows to open. Each window is located in the direction of the place or event to which it refers. You click on the window and encounter a short situation and micro-story told by a character. Technically, it is a short film with both archival and new site-specific footage. For the sound, we combined voices of actors recorded in the studio with binaural sounds recorded on location to further amplify the sense of presence on site.

The format can be described as a combination of a guided tour, immersive theatre, interactive exhibition, and site-specific performance—without any live performers. It is a cinematic experience, done with open ears, open eyes, and open senses: a form of site-specific performance in which your own body and mind are engaged in the exploration from a first-person perspective. You see or feel one thing in reality, hear

Drawing of the path in physical space the audience walks during ENTER Mölnådal – Kvarnbyn. A,B,C, and D indicates the location of the panoramas.

Image credits: Marika Hedemyr.



or see another via your phone and headphones, and create a third in your own imagination and thought. It is a mixing of realities in the here and now. A montage experience is created by combining the real place on site with the version via the phone. The work is thereby open to interpretation and invites you to form your own understanding of the place and its stories.

Compositional Choices in the Creation Process

In the process, I spent a lot of time with the archival material at the museum, talking with people who knew the place and spending considerable time at the actual location. I decided to create short stories and scenes that represented specific situations, not real people. This was partly because the names of the people in the pictures were often unknown and because I strove to create a sense of a repertoire of general actions in each scene. By focusing on making the micro-stories scenes, I could create site-specific situations that included the experience of being at the outdoor site with all its sounds, movements, and smells. Together, the team and I worked on what to tell, who would be speaking from which perspective, where the audience would be, and which direction they would face when engaging with the scene. We also explored how to combine the archival photos, films, facts, and histories with new recordings and audio to ensure that the experience did not become a historical tour but an experience that combined the present and future situation of the place with the history of its past. In the walk, you meet, for example, a washer lady, factory workers, and a child. I also used strategic anthropomorphisation to make non-human entities speak as characters and tell stories from unusual perspectives. For example, a lamppost in the park talks about when electricity came to town. An eel that swims in the river recounts transatlantic crossings in colonial

Audience at the bridge in Kvarnbyn during the mixed reality walk ENTER Mölndal – Kvarnbyn, June 2018. The image on top is a screenshot of the panorama she sees on her screen. Photo: Marika Hedemyr.

times and future reconstructions of the river's path.

When I wrote the scripts for the scenes, my aim was to create on-site performative situations that involved the audience, as if both the character and the audience were at the location at the same time, live, together. A me talking to a you. For example, in the scene where you 'visit' a home from the 1920s, you stand outdoors at the square, facing a building. You click on a window, and a woman greets you as you—using your imagination—step into her home. The film you see is recorded in a recreated home that is part of the museum's exhibition.

When you enter, she says:

Come in, come in! By the way, what are you wearing on your feet? Take off your shoes. Put them in the hallway. Otherwise, the floor will get so dirty. Every time I come home, I think to myself how lucky we are to have so much space. Look! One room and a kitchen. 22 square metres. And it's only our family who lives here. Many families share their apartments, you know.

(Excerpt from voice actor script)



To develop a performative situation, the content in each scene involved three loops, envisioned as loops between the embodied audience member on site and the scene unfolding via the phone and headphones. The first loop related to the body. The character in the scene directed attention to their own or the audience's body, movements, or senses, such as encouraging the audience to place their hands on the bridge railing and sense the vibrations from the water. This does not result in dramatic actions for the audience; it is more about paying attention to one's own bodily presence and the bodily aspect of life and work. The second loop explored the socio-economic power structure and connected the site-specific context to general and international movements, linking the very local to the global. The third loop connected time by including past, present, and future aspects of the situation. This avoided the scene being a merely historical representation of the past. We included the constant changes in the place, enabling a fictive character from the past to address the audience in the present time and discuss future plans for the site. For example, in the scene 'Visiting the Flat', the woman is inside her 1920s flat while commenting on the present-day housing situation.

The experiences from the project *ENTER Mölndal – Kvarnbyn* show how compositional choices, MR, and archival material can be great resources for animating relations between people and places in the public domain. They have the potential to transmit memories that activate reflections about the current and future states of the place. When activated on site, this can evoke both emotional and intellectual responses.

Working Methods and Concluding Thoughts

Based on my work with *ENTER Mölndal – Kvarnbyn*, as well as other similar working processes, I propose a choreographic approach to the material and the site when working with archival material in a cultural heritage context. I also encourage attention to the nuanced ways in which ethics and politics emerge when people, technologies, and places are brought together. Above, I have discussed the specific approach and working method I explored in Kvarnbyn—treating the archival material as a collection of energetic forces that could be transformed into site-specific situations on site. In my choreographic practice, there are also general approaches that inform how I work with MR technology and site-specific formats centred around the concepts of *relationality*, *site-specificity*, *embodiment*, and *choreographic storytelling*. In my artistic practice, these are addressed in a manner of 'working from', and I propose these concepts as useful starting points for exploring choreographic composition strategies for site-specific MR experiences that involve archival records. *Relationality* is the view that, instead of existing in isolation, persons, things, and conceptual ideas are always situated, related, and connected to each other and their contexts (Ahmed 2006; Barad 2007; Haraway 1988). Activating these relations is part of choreographic composition and was central in selecting which archival sources to activate

Screenshots from the scene To live in Kvarnbyn in ENTER Mölndal – Kvarnbyn, in which the audience enters a flat of the 1920s. Image credits: Mölndals Stadsmuseum.



and deciding their placement on site. Site-specificity is a concept grounded in discussions by practitioners and scholars on site-specific performance (Hunter 2015; Pearson 2010) and refers to the specific features and qualities of a place. The choreographic approach to *site-specificity* is always intertwined with the perspectives of the body, the local, and the world. The site is understood as a complex social and geographical landscape that we inhabit, rich in materials that can be combined into MR work by bringing the site, the performance, and the audience together. *Embodiment* is a concept and ontology informed by phenomenology and refers to being and participating in the world as lived bodies (Dourish 2001; Koppers 2011; Weiss 1999).

My choreographic perspective treats embodiment as an intercorporeal activity and practice that considers how bodies and artefacts are part of an intricate web of relations. This informed how I composed the path for the audience in Kvambyn, as well as the relationship between the audience and the character in each scene. *Choreographic storytelling* refers to two distinct features of how dance and choreography tell stories and engage the audience: how choreography communicates through the body and has a dialogic and embodied relation to the audience (Fischer-Lichte 2008; Joy 2014) and how it uses poetic structures and expressions that leave space for the audience members' own interpretations. Using micro-

stories as a narrative structure, the experience could combine choreographic storytelling with the protocol of a museum exhibition where the audience explores the content at their own pace. The four concepts described here informed my compositional choices in *ENTER Mölndal – Kvambyn*, and further discussion on related techniques and working methods can be found in my PhD thesis (Hedemyr 2023).

In this article, I have shared some of the choreographic composition strategies I used to turn archival materials into site-specific situations and to stage these situations in a MR walk on site. In collaborating with cultural heritage actors, I have realised that as an artist/choreographer, it is important to take a stance on why such experiences are relevant. I hold that art, particularly site-specific, public, and performative art, has the capability to stitch our relation to the public and the political domain through aesthetic experiences. We are all part of the social systems that make up a society, but we do not always feel it. Artistic expressions can animate these relations and our sense of being part of them.

In conclusion, by using these choreographic strategies, the audience can be addressed personally in the midst of a busy public space without being 'put on the spot'. Being addressed privately, in a way that activates your senses and reflection in an embodied manner, can be a strong experience. I suggest that it can be a way to sensitise and engage in politics through aesthetic and poetic means, which in turn can contribute to keeping our social relations alive.

Acknowledgements

Full credit list for *ENTER Mölndal – Kvambyn* is available at <https://www.marikahedemyr.com/enter-molndal-kvambyn>.

Audience at the bridge in Kvambyn during the mixed reality walk ENTER Mölndal – Kvambyn, 2018.
Image credits: Mölndals Stadsmuseum.



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BIOGRAPHY

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Dance and Theatre Festival and RISE Interactive, and *ENTER Mölndal* (2018/2019), a series commissioned by Mölndals Stadsmuseum to reactivate cultural heritage sites. Hedemyr's publications include a chapter in *Art and the City* (2017, Routledge) and her PhD thesis *Mixed Reality in Public Space* (2023, Malmö University Press). Info@marikahedemyr.com
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