

BA Thesis

The (Inter)medial Qualities of Videomapping

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Bachelor's Thesis
Media & Cultuur
Comparative Media Studies

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Januari 2019



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Summary

This thesis explores the medial and intermedial qualities of videomapping, trying to answer the question “How can videomapping be seen as an intermedial performance?” Videomapping is an artform where projections are often casted directly on their surroundings, instead of on a screen. Three examples of videomapping performances are used to illustrate the specific characteristics of videomapping. In order to look at intermedial qualities, it is important to first explore the medial qualities of videomapping. Lars Elleström’s modalities recognizes media to be build up from four modalities, which are then put into context by their qualifying aspects. The spatiotemporal modality seemed to be of great importance for the realization of a videomapping performance. In other words: videomapping performances use static backgrounds and add the dimension of time by projecting moving images. In Chiel Kattenbelt’s words, causes videomapping a “temporalization of the space”. Mapping the projections very precisely blurs the border between the immaterial beams and the material background. This paradox has also been recognized by Anna Friedberg when looking at spectatorship in cinematics.

After looking at the medial qualities of videomapping, theories on intermediality are deployed to look at the way videomapping is connected to other media. Irina Rajewsky’s categories of intermediality and Jens Schröter’s models of the intermedial discourse were connected to similarities that stood out from analyzing the three artworks. Both theorists departed from the notion that all media stand in connection to other media, and there are indeed many ways in which videomapping connects to other media, for example through a strong similarity of both aesthetics and creation of the work *Keys of Light* and abstract painting by Wassily Kandinsky. This striking example is therefor analyzed in a more detailed way. The research concludes by emphasizing that videomapping is intermedial in many ways, but maybe mostly by how it very close to cinema, yet differentiating itself by how videomapping transforms the static background, making it part of the performance instead of using a white screen to merely display content.

Verklaring Intellectueel Eigendom

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Introduction

In videomapping, a projection is most of all not casted on a screen but rather on the existing environment itself, and by doing so it creates a new layer upon the already existing reality. Projection art studio Mr. Beam often uses existing surfaces and makes them come alive by videomapping, using a projection that is designed for the exact lay-out of that specific space. Their project *Ollo* was cast on the side of a building as part of the Brussels Light Festival. *Ollo* tells the story of two 'blobs' that come alive and interact, and by roaming find the sides of the physical windows of the building as the borders of their world. Their site holding the recording describes *Ollo* as follows: "These two curiously dancing light friends made their first appearance at the Brussels Light Festival. They love exploring boundaries and are always up for new adventures" (Mr. Beam, 2014).

In a similar enchanting way, *Gallery Invasion* by Skullmapping brings an art gallery to life, using projections. What first looked like static works of art, including drawings of a monkey and a plane, start moving, and interacting with each other (Skullmapping, 2016). Important for videomapping is the way in which immaterial projections add a layer to, or temporarily change the characteristics of the real, material world. Anna Friedberg has recognized a similar immaterial-material paradox for watching movies; where the immateriality of the images and the materiality of the physical space cause friction (Friedberg 2009, 150).

Next to telling stories, videomapping can also add a more abstract layer to reality. This can be seen in *Keys of Light* by Mr. Beam, a project where touching the keys of a real piano makes parts of a building on the other side of the street light up (Mr. Beam, 2018). This artwork has a specific aesthetic connection with abstract painting. Creating an illusion on top of existing surfaces, makes videomapping performances a striking example of intermediality. Videomapping accommodates a relation between technology and the spaces and objects projections are cast on, and refers to other media through both its technology and content. What stands out about videomapping will be explored using Lars Elleström's theory on the 'modalities' of media. Qualities of intermediality have been theorized by many authors. I will use the distinctions of intermediality as explained by Jens Schröter and Irina Rajewsky, who found intermediality on different levels of media. I will exhaustively explore this literature, trying to answer the question:

'How can videomapping be seen as an intermedial performance?'

The sub-questions that will help to answer this main question will be noted at the end of the method section.

Method

In order to explore intermediality in videomapping, I will first consider some main theories surrounding (inter)mediality. I will mainly discuss Lars Elleström's theory on media modalities and their qualifying aspects to explore videomapping as a medium, using theories by Sarah Bay-Cheng, Birgit Wiens, Chiel Kattenbelt and Anna Friedberg to explore each of the four modalities in more depth. Jens Schröter's and Irina Rajewsky's insights on intermediality will be deployed because of their importance within the discourse and their different approaches to distinguishing different types of intermediality. The three projects, *Ollo*, *Gallery Invasion* and *Keys of Light*, were selected based on their partly overlapping qualities, for example all share a very precise mapping of the video, emphasizing the found importance of 'space' in videomapping. Next to that, *Ollo* and *Gallery Invasion* share a focus on narrativity, and *Ollo* and *Keys of Light* share a strong causal music-movement element, but the projects are also different enough to bring in their own use of these characteristics, like the strong element of interactivity between physical actions, visual art and sound found only in *Keys of Light*. I will analyze the works using the official recordings of the works as presented on the website of Mr. Beam for *Ollo* and *Keys of Light* and Skullmapping's website for the recording of *Gallery Invasion*.

Elleström's modalities will function as an analytical tool of mediality to describe the most important characteristics of videomapping through his notion of spatiotemporal modality, with a focus on the use of space and time, which is mainly theorized through the spatiotemporal modality. After that, I will relate videomapping to Rajewsky's subcategories of intermediality to explore the placement of videomapping within the broader frame of intermediality. I will explain which intermedial connections between the examples and other media are important. Then, I will give as an example a short, detailed intermedial analysis of the connection between abstract painting and *Keys of Light*. Lastly, I will conclude my thesis by bringing the analysis of the examples together in an interpretation of what it means for videomapping to transform material surroundings by using projections.

Questions

In order to answer the main question 'How can videomapping be seen as an intermedial performance?' the following sub-question will first be answered:

- 1a. What are the medial qualities of videomapping, using Elleström's mapping of modalities in media?

Since the Elleström's theory adds up after considering every new modality, I have chosen to leave the order of the four modalities as they are. Yet, because of the importance of time and space in videomapping, I have inserted a separate subquestion that will be discussed under the subheading of the third, the spatiotemporal, modality:

1b. What is the role of time and space in videomapping performances?

To explore the intermedial qualities of videomapping, I will address the question:

2. What kind of intermedial relations, as conceptualized by Rajewsky and Schröter, seem most important for *Ollo*, *Gallery Invasion* and *Keys of Light*, and how is Videomapping then placed in the intermedial discourse?

Theoretical Framework

(Inter)mediality

The goal of this thesis is to explore the medial qualities of videomapping, through considering both the concepts of 'media' and their 'qualities'. In our huge variety of media reciprocal links exist between them. The concept covering these links is 'intermediality'. This term quickly became problematic, since it was used in different disciplines, which lead to multiple interpretations, observed by for example literature and media researcher Irina Rajewsky (Rajewsky 2010, 51). Writing within this broad discourse requires presenting enough opinions and models. I have chosen to include multiple authors on (inter)mediality, with a specific focus on their usability in thinking about videomapping.

Lars Elleström created an ontological system in which the characteristics of all media fit into four modalities. He describes these in his book *Media Borders, Multimodality and Intermediality*. The first, the **material modality**, includes the underlying physical characteristics of a medium, like a flat surface or light. The **sensorial modality** is then what the spectator receives of what the material modality is displaying: the act of perceiving through our senses. Elleström then argues that in order to perceive a medium, a third, **spatiotemporal, modality** is needed: the structuring of width, height, depth and time in both space and time (Elleström 2010, 17-19). This means that the lack of time in a medium makes it static. The spatiotemporal modality of videomapping will be of great interest, since the power of videomapping is often found in the collaboration of a moving projection on a static underground, and the illusion of bringing that surface to life. Also, virtual space is mentioned which is an important part of videomapping, since it suggests this second layer upon our reality (Elleström, 21).

The fourth modality is the **semiotic modality**, which concerns giving meaning after interpretation as a result of perceiving the sensorial characteristics of a material medium, unfolding in time and space.

Intermediality is to Elleström then the way in which media borders are crossed through differences in modalities and qualifying aspects. Elleström ends the chapter by naming Irina Rajewsky's theory on intermediality as a relevant way of distinguishing notions of media transformation. She states in her book *Intermedialités* how considering intermediality to be 'every crossing of the borders between media' is too broad and too vague to work with (Rajewsky 2005, 45-46). She recognizes three main categories of intermediality. The first is **medial transposition**, where "the "original" text, film, etc., is the "source" of the newly formed media product" (Rajewsky 2005, 51). This category is rather production-oriented and includes for example adaptations. The second category is called **media combination**. This is where at least two media are combined while all parts "contribute to the constitution and signification of the entire product in their own specific way" (Rajewsky 2005, 51-52). Important is here that sometimes multiple parts are integrated in such a way that a new, independent art or media genre may arise. The third category is that of **intermedial references**, which are mainly "meaning-constitutional strategies that contribute to the media product's overall signification" (Rajewsky 2005, 52). The reference can point to a specific work, a medial subsystem (for example a film genre) or to another medium. The given product thus stands in close relation to the referred work. She does emphasize that a media can be found related to two or all three categories (Rajewsky 2005, 52-53).

This voluminous discourse surrounding intermediality drove Jens Schröter in 2011 to map it, and by doing so recognized four models of intermediality. His view on the discourse surrounding media will help to place videomapping within terms of intermediality, after considering Rajewsky's categories. Schröter describes in the article "Discourses and Models of Intermediality" how the discourse on media can be brought back to four main models. He first of all recognizes **synthetic intermediality**. Here, intermediality means that the combination of media into a new medium leads to being more than just the sum of its parts. Within this view fits for example the Wagnerian concept of Gesamtkunstwerk which has political connotations (Schröter 2011, 2). Secondly, there is **formal (or transmedial) intermediality** where intermediality is found in formal structures that can be found in different media, for example narrativity or rhythmicity. "These concepts and can even be considered to be separated from the material basis of the media," Schröter elaborates. This discursive field is therefore connected to Rajewsky's understanding of medial transposition, because in both cases the transported structure can (as then shown) exist on its own (Schröter 2011, 2-3).

The third and fourth model can be considered to be two sides of the same coin. The third field, **transformational intermediality**, sees intermediality as the processes of representing one medium through another medium. This discourse lies on an edge of intermediality, since it does not look at the

relationship between multiple media, but at one medium that simply represents another medium. This becomes mainly meaningful when the represented medium is defamiliarized or transformed from its everyday outing. Schröter points out that not every reference goes; it should be an explicit representation of the medium. Mainly his fourth model '**ontological intermediality**' will be useful, since this departs from the notion that media always exist in relation to other media. This means also that part of describing a medium will also be examining how it differs from other media (Schröter 2011, 5). Schröter suggests researches depart from the idea that it is not individual media that lead to intermedial relations, but that intermediality is primal and that "the clearly separated "monomedia" is the result of purposeful and institutionally caused blockades, incisions, and mechanisms of exclusion" (Schröter 2011, 5-6).

Time and Space in Digital Media

Bay-Cheng concludes in her chapter *Temporality* in the book *Mapping Intermediality in Performance* from 2010 that theatre and performances with digital influences are not created in real-time, but in a way "extracted" from time. She hereby emphasizes the possibility of digital media that create a new level of space, (here called 'cyberspace', but in this thesis related to Elleström's virtual space) by doing so, also create new notions of duration (Bay-Cheng 2010, 90). Broadly the same goes for space, as Birgit Wiens further explains in her chapter *Spatiality*, since at an intermedial stage a platform is present in the real space, but the performance can show different actual and virtual spaces. This process is called 'telematic'. This makes the intermedial stage an interface where real, imagined and virtual spaces can follow each other up (Wiens 2010, 94). For videomapping, these theories of space and time on theatrical performances can be translated to space being the material on which the projections are directed, and time being digital and therefore however it is presented in the projections, disconnected from the real time.

To enable us to further explore space and spatiality as presented in videomapping, theories about screens by Anna Friedberg will be used, as presented in her book *The Virtual Window*. In the chapter *The Screen*, she explains two twin paradoxes that she recognizes in spectatorship within cinematic settings. The first paradox describes the tension between the material space of the performance, and the immateriality of the content (Friedberg 2009, 150). The usage of the material space is very important in videomapping, since the projections cast another layer upon these objects, creating an illusion.

Analysis of the Works

Videomapping as a Medium

Elleström's theory on the characteristics, or 'modalities', of media starts with defining the material modality of a medium, adds the sensorial modality, then the spatiotemporal modality and all of this is given meaning within the semiotic modality. In his book *Media Borders* from 2010, he describes how all modalities together build up every medium, but because the specific characteristics of each modality relies on the others, this system of modalities forms a good starting point to identify aspects of videomapping on different levels and how they impact upon each other. Later, this analysis can then help look at how intermediality occurs (Elleström 2010, 16). This section will be dedicated to answer the first subquestion: "What are the medial qualities of videomapping, using Elleström's mapping of modalities in media?"

The Material Modality

"The material modality concerns human bodies, demarcated materials, and "material manifestations of less clearly demarcated character such as sound waves and different sorts of laser or light projections" (Elleström 2010, 17). Since the modalities focus on the content of media, this does not include the technical media which are "any objects, or bodies, that 'realize', 'mediate' or 'display' (...) media" (Elleström 2010, 5). This would be the form that holds this content. Videomapping then consists of sound waves, light beams, and areas that alternately lit up. Videomapping is not a technical medium on itself, since it needs other technical media, like a projector. Neither do just technical media add up to be "videomapping", because the content is needed to be communicative. Different from motion pictures is that the interface does not need to be flat and most often is not. The beams are adjusted to perfectly fit a certain space. For *Ollo* and *Keys of Light* this means for the video to follow the curved shape of the building, and for *Gallery Invasion* to follow every edge of the walls, ceiling and floor, in order to convincingly beam moving 3D-creatures.

In a more paradoxical way does materiality also play an important role in *Gallery Invasion*. The point of videomapping is exactly to map the immaterial light beams perfectly on the underground, so that it looks like it could be part of the physical reality. This seeming materiality of the three-dimensional characters is found in the roundness of the monkey, the little man and the moving vehicles, whose angles change according to their movements through the space, and even cast convincing shadows. The immateriality then actually emphasizes the magical effect of videomapping. The tension of the immaterial so close to the material has been investigated by Anna Friedberg. When

discussing the semiotic modality, her theory will be used to illustrate how this creates meaning in videomapping performances.

The Sensorial Modality

How can these waves and beams used in videomapping be grasped by our senses? "The sensorial modality is the physical and mental acts of perceiving the present interface of the medium through the sense faculties. Media cannot be realized: that is, cannot mediate, unless they are grasped by one or more of our senses" (Elleström 2010, 17). Within this model, there are three levels. The first is that of sense-data, which originates from the media object and "can never be captured in isolation without a perceiving and interpreting agent" (Elleström 2010, 17). Our receptors are the second level, which are the cells that send nerve impulses when stimulated. The third level is the sensation, which means "the experienced effect of the stimulation. All our sensations consist of integrated experiences of the way a variety of receptors perceive and interpret an array of sense-data" (Elleström 2010, 18).

The performances of *Ollo* and *Gallery Invasion* contain light beams, which are visual, and sounds, which are auditory. The senses of tasting and smelling of the audience members will undoubtedly be active during the performance, but are not directly addressed by the performance. Elleström emphasizes that "the reactivation of memories of sensorial experiences" are important for the perception of new situations (Elleström 2010, 18). Although buildings can be felt, it is emphasized before that those are not considered to be part of the medium but of the technical media that are the form of the medium rather than the content. Yet, the memory of how material the space *feels* helps creating the illusion that the beams become part of the material surroundings. Without the understanding how the normal world will react, the details of videomapping become meaningless; when the little man from *Gallery Invasion* smacks his car into the wall, he by doing so emphasizes the (illusory) materiality of both a hard wall *and* a car, because only then it would make sense for the car to crash exactly where it hits a physical wall.

For *Keys of Light*, physical touch is important next to the visual and auditory stimuli. Here, the person that presses the keys of a piano is the one that sends light beams that shine on a building across the street. This also creates a corporeal experience of the rhythm, where physically playing the piano synchronizes visual, auditory and haptic experiences. For every performance of *Keys of Light*, the content is created live by the members of the audience (or hired professionals) who play Mr. Beam's special piano.

The Spatiotemporal Modality

This section will be dedicated to answering question 1b: “Exploring Elleström’s spatiotemporal modality: What is the role of time and space in videomapping performances?”

In order to grasp any sensation, the material modality has to emerge within some kind of time and space, Elleström argues. This structure of width, height, depth and time is captured in the spatiotemporal modality. A medium that lacks time would be static, for their content stays the same. (Elleström 2010, 19). In *Ollo* and *Gallery Invasion*, a video is played. This places the work in a certain timeframe that can be repeated for every performance. This means that these works have a fixed sequentiality. A change of background would indeed change the experience radically, but that would be a change of technical media and not of the material modality and therefore of the medium itself. In *Keys of Light*, the content of the work is created as the piano player goes. The lights react randomly, yet one at the time to the keys being pressed. Both the keys being played and the parts of the building lighting up are therefore rather random, but still within a certain frame. The visuals are therefore partially fixed sequential. Elleström names truly improvised music as an example for non-fixed sequentiality. Someone playing random piano keys would then create non-fixed sequential tones, next to existing music being played, which again have a fixed sequentiality.

When considering ‘time’ it is also possible to speak of ‘virtual time’ next to the actual passing of time. This means that within the content of the medium, a different time is represented and therefore perceived and interpreted by the audience, than the actual time as “the spatiotemporal state of the representing material modality considered through the spatiotemporal modality” (Elleström 2010, 21). An example goes for photographs, which are in their material modality found to be static, but can show blurs that show movement and movement takes place through time. This means that one frame can still show the passing time. *Ollo* seems to want to emphasize the movement of the blobs as well, since they leave a trail of light that slowly fades while they move around, as can be seen in *Image 1*. What can also be seen, is how fluid the blobs move, as it is very hard to take a screen capture without them being blurred. Even when hanging still, they move their big eye around and always shake a little, as if they are floating. This emphasizes their mobility, since they never truly hang still.



Image 1: The visible movement in Ollo captured in a static screenshot.

When considering 'space' in videomapping, the exact size of the work seems to depend on the size of the space where the video is mapped. But the content of the work lies not within the distance of the projector and the background that the light beams bridge, but maybe rather depends on the



Image 2: *Keys of Light's* beams are mapped on the architectural shapes of the physical building.

size of the world that is shown by the content of the beams. Both *Ollo* and *Keys of Light* are mapped over the outside of three or four stories of a building. The 'physical' size of the projects are very big and can be seen by many people on the street. Both projects respect the physical borders of the building. As the description of the *Keys of Light* on Mr. Beam's website reads: "Each tone that is played, creates a pulse of light or visual element that represents the nature of that tone.

In doing so, it becomes an extension to the performance, challenging the player to explore harmony between music, projection mapping and architecture."¹ The parts that light up are indeed shaped to the crevices, windows and other architectural shapes of the building, as can be seen in Image 2. Since we associate architecture through the sensorial modality as being static, the changing, brightly colored lights creates a different, more mobile experience with the concept of 'building'.

For *Ollo*, the shapes of the building are interacted with as well. The edges of the building and the windows form the borders of the space that the blobs can roam. The blobs "pulsate" as they squeeze themselves between the windows. The blobs glow brightly on the dark wall. They shine past the window frames, but never over them, which suggests depth or rather a height that the blobs cannot conquer. The blobs move around like tadpoles, until one of them touches the "ceiling" of their area, which is yellow and sticky. The curious blob breaks through but is still stuck and because of his speed, he bounces back and forth against the windows through the boundary, creating a web of yellow goo. The other blob hides in a small unaffected corner. The way and whereto the blobs move is therefore closely related to the shapes of the physical building, which emphasizes how this work puts an extra layer on top of seeing the shapes of a building without this performance.

Where the lights of *Ollo* and *Keys of Light* shine on a static building and emphasize certain shapes of the background, tries *Gallery Invasion* to truly transform the surroundings. The space of *Gallery Invasion* is (as the name suggests) a room in a gallery. There are drawings and paintings hanging and standing in the room. Paintings are a medium by themselves. In terms of Elleström's

¹ Mr. Beam, <https://mrbeam.com/work/keys-of-light/>, last visited on: 16-01-2019.

spatiotemporal modality are painted art and sculptures static, since their content normally does not change. The video of *Gallery Invasion* starts by projecting a little man on top of one of the paintings which depicts a monkey, as can be seen in images 3 through 5. As he lets down a rope and slides down to the monkey's height, the painted monkey moves and smacks the little man! The surprise of making a fixed art work move emphasizes the assumed stillness of a painting. By making the monkey part of both the physical world and the projections, it bridges these two worlds. This implied, illusive depth as an effect of non 3D-media is called virtual space (Elleström 2010, 20).



Image 3: In *Gallery Invasion*, a little man emerges from behind the painting and brings movement to the scene.



Image 4: The man hangs still and spray paints the Anarchy-sign. This wakes the monkey from its slumber as an artwork



Image 5: The monkey slaps the man, who jumps away, starting a cat and mouse game through the whole space.

As we are thinking about the use of time and space in media, and getting more specific, I would like to bring in Professor of Theatre and Dance Sarah Bay-Cheng's & Professor of Theatre Birgit Wiens' chapters from the book *Mapping Intermediality in Performance* from 2010. Bay-Cheng puts a few theories together in her chapter *Temporality*. She names performance theorist Alice Rayner, who emphasized already in 2002 in *Escapes: Performance in the Time of Cyberspace* that a performance in cyberspace occupies no place, but "ontologically exists *only* in a time, the perceptual now" (Wiens 2010, 86 on Rayner 2002, original emphasis). This is in a way an alternative view on virtual space and time within the spatiotemporal modality of Elleström. Light beams considered through the material mediality might indeed be found to be non-spatial, but this is exactly why a medium must be considered through a multiplicity of modalities: because time and space in a digital performance should be approached from a view that time and space are very dependent on each other. This means that they sometimes even seem to be two words to describe the same phenomenon. For it is exactly this virtual space that carries a strong and meaningful power for the experience of time in a videomapping performance: through the addition of movement to a static situation, this movement takes up space and is only visible because it can be seen to change over time.

Bay-Cheng therefor adds Associate Professor in Media Comparison and Intermediality Chiel Kattenbelt's view. He states in his article "The Role of Technology in the Art of the Performer" indeed that recording technologies have changed the traditional way time and space are received (Wiens, 87, on Kattenbelt 2006, 24). He explains that the presence of recording technologies in theatre

performances disrupts the traditional reception of time and space. Following Béla Balázs, a film critic from the early 1900's, Kattenbelt explains how in theatre each member of the audience experiences the totality of the space, holding a unique seating position relative to the stage. For cinema, it is the camera that mediates the view of the audience. Also, there is no spatial totality, but a series of fragments, put in sequence by editing. By following the changing angles of the camera, the seated audience does still experience a sensation of movement, shared with the other members. The difference for video recordings used in theatre performances as opposed to cinema, is that the video becomes part of a theatrical environment (Kattenbelt 2006, 22-23).

For videomapping, the video becomes indeed part of a broader meaningful environment and is not shown on a white screen to place the focus almost entirely on the content of the video. Instead, the video is only a part of the performance, creating meaning through the interaction between the content of the video and the background. Bay-Cheng then concludes her chapter *Temporality* by recognizing that digital performances are different from conventional performances where duration is the "real-time" passing and literal references to the passing of time. Digital performances (especially those with recorded elements) are rather, in Bay-Cheng's words, "culled *from* time" (Bay-Cheng 2010, 90, original emphasis). She means that in a virtual world with a set content, there is only a present moment. For *Ollo* and *Gallery Invasion* this means that the video can be played over and over again, without the content showing any moment in real time has passed. The video can be slowed down or sped up, and even pointed at a completely different background, and although this surely would change *our* perception of the medium, none of this will actually change this virtual world.

Videomapping adds movement to a static background by beaming changing images, which adds the element of time to the background. Even without physical changes that expose the passing of time, for example by movements of a performer, the passing of time of that background is now made visible, because we can see how the images change over time. This creates a "temporalization of space" (Kattenbelt 2006, 24). Kattenbelt quotes Kant to explain how we should understand this as how "different times are not simultaneous, but sequential (like how different spaces are not sequential but simultaneous)" (qtd Kant, in Kattenbelt 2006, 24). At the same time, a "spatialization of time" arises. This means that time gains meaning by a performance that shows different times in one space. For videomapping, I would say that temporalization of space is one of the most important features of videomapping. It adds a full new dimension which creates experiences that would not exist without directly involving the original background, transforming the space from static to mobile.

Before summarizing the importance of time and space in videomapping, I would like to add Birgit Wiens' thoughts on spatiality in the homonymous chapter in the book, to express a last new view in thinking of time and space. Wiens sees as well how digital media have involved "new concepts of, and new experiences with, actual and virtual spaces" (Wiens 2010, 91). She then uses the term

'telematic' to explain how the intermedial stage contains a platform that is (predominantly) part of the real space, but the media can make it travel "across different spaces, actual and virtual" (Wiens 2010, 94). For videomapping, the space is indeed grounded in the real space. The video's often don't travel to other places, but instead show what we can call an alternative universe, where that what is static *does* move. This is then again linked to the temporalization of space, since it is not implied that we look through a hole into a *different* place, (we can tell, because the video follows the curves and edges of *this* specific place) but we now see that same static space being able to move.

What mainly comes forth in considering the spatiotemporal modality in videomapping, is how the original space is given a new layer by addition of a virtual space. Our build up sensorial experiences are surprised by a static space can suddenly hold so much movement and liveliness. This extra layer also invites to look at the original space in a new way. The video redefines in a way the fixed spatial surroundings in such a drastic matter, that we can say that the background becomes part of the medium. In cinema, the screen is white to reflect the light beams in the clearest possible way. The rectangular shape of the screen is in service of the rectangular shape of the images. The screen blends in as much as it can with the surrounding walls, being flat, as not to disturb the shown images; the "real" content. For videomapping, the background is transformed and part of the performance. Not the size of the canvas is brought back to the size of the movie, but the video is shaped to fit the 'canvas'. The virtual space doesn't change the background fully, but follows in all three examples the original shapes and curves of the space.

As a bridge to the semiotic modality, is this also how the content of the video becomes meaningful. If *Ollio* would be screened on a cinematic white screen, the movement patterns that normally dodge the windows would not make any sense. Even if windows were projected as part of the video, the pulsating of the blobs would not feel as sincere, because there is no physical window with actual depth to pass by. In the same way would the artworks moving in *Gallery Invasion* not be as surprising if the gallery space was reduced to be projected on the two-dimensional screen. This would be different because the camera would have to show different angles of the room, instead of the audience being physically surrounded by the moving objects. Being surrounded by physical objects that normally do not move, but now seem to, is more surprising than seeing a projection on a white screen carry out this transformation. Using the space as (more than) a screen is what makes videomapping meaningful in a new way.

The Semiotic Modality

When we speak of meaning, we speak of the last of the four modalities: the semiotic modality. This is where a spatiotemporal outing through the material modality is picked up by our senses in the sensorial modality, and is now given meaning. Elleström emphasizes how meaning must be considered non-existent until somebody is there to perceive and conceive and “all meaning is therefor the result of an interpreting mind attributing significance to states of affairs, actions, occurrences and artefacts” (Elleström 2010, 21). Elleström then bridges to hermeneutics and Charles Sanders Peirce’s classic theory on sign and signifier, but I want to take a step back and stay focused in a broader way on that what is shown in videomapping (Elleström 2010, 22-23).

This is where I want to bring in Friedberg’s found tension of the material screen next to the immaterial beams as found in cinema. I would like to address both paradoxes, for they are closely related. Friedberg portrays her theory on these paradoxes in her book *The screen* from 2009. She explains how the frame of a cinematic screen “marks a separation – an “ontological cut” – between the material surface of the wall and the view contained within the frame’s aperture” (Friedberg 2009, 157). Taking old cinematic movies as an example, she points out how incredible it was to the audiences of the late 1890’s to see how film brought movement to a static background. Although the audience is seated and therefor immobile, the angles of the camera take the audience on a journey as they would identify themselves with the standpoint of the camera, following every move. A paradoxical relation of an immobile audience that yet experiences this feeling of mobility then emerges (Friedberg 2009, 157-158). The mobility that is experienced when watching a movie is a virtual one, while the material theater and members of the audience remain immobile (Friedberg 2009, 155-157). The second paradox recognizes an overall problematic relation between the materiality of the screen and the immateriality of the images. Then, these immaterial images create “a virtual mobility – the illusion of transport to other places and times for its spectators”² (Friedberg 2009, 160). The layer that videomapping adds to the real world can indeed be considered as being “virtual”, since the illusion is exactly how the immaterial beams are made to seem part of the material world. A tension between the images and wall can be translated into how the immaterial, mobile images are casted on, and transform, a material, immobile wall, pulling the paradoxes even closer to each other.

This tension of the paradoxes is visible in all three examples of videomapping, and might go for videomapping in general. The perfect mapping of the content creates a well working immaterial illusion of a second materiality on top of the material background. Where the cinematic screen is white, shines the three-dimensional background of the used spaces in videomapping always through the

² Friedberg detangles ‘virtual’ here from associations with for example being “immersive” (as would “virtual reality” imply). Instead, she explains in the introduction of her book her use of the term ‘virtual’ to “distinguish between any representation or appearance (whether optically, technologically, (...) produced) that appears “functionally or effectively *but not formally*” of the same materiality as what it represents” (Friedberg, 11).

images. Being able to see a physical reality behind the images, makes the illusion of adding only one thin extra layer stronger. It is the static background that is overflowed by the volatility of the light that emphasizes both the materiality of the space and the immateriality of the illusion; the immobility of the static and the mobility of the beams. The cut between wall and screen is no longer visible, because they are the same. Why would the monkey in *Gallery Invasion* not *really* be able to move? It was shown to be there before the performance started, and it sits in the exact same place when it ends, as if he is ready to jump up again.

The Qualifying Aspects of Videomapping

Elleström emphasizes that the modalities are closely related and reciprocally influence each other. Also, multiple modes can be found within one modality, like containing both a spatial and temporal mode, or both a visual and auditory mode. Yet, media do not stand on their own, but need to be contextualized. Elleström has formulated two qualifying aspects of media to distinguish different media based on how they are (and have been understood) and used, instead of categorizing the intrinsic qualities. The first is the *contextual qualifying aspect* which covers “the origin, delimitations and use of media in specific historical, cultural and social circumstances” (Elleström 2010, 24). The three examples I have used throughout the analysis can be considered as works of art, because of they were part of light festivals or mapped in an art gallery, using the other artworks. Videomapping consists of animated video and music, which are often found to be art forms as well, although they can also be informative. The second is the *operational qualifying aspect*, which “includes aesthetic and communicative characteristics” (Elleström 2010, 25). This means that “new media” can borrow the look of, or communicate like, an older medium, and it takes some time to develop into own recognizable media form. Even the name of videomapping shows how it is seen rather as video-with-a-twist than a whole new medium. Yet, communicating by transforming the real world, seems to be a new dialect in the language of cinema as art.

Intermediality in Videomapping

This section will be dedicated to explore subquestion 2: What kind of intermedial relations, as conceptualized by Rajewsky and Schröter, seem most important for *Ollo*, *Gallery Invasion* and *Keys of Light*, and how is Videomapping then placed in the intermedial discourse?

Elleström’s modalities come forth from the vagueness within the intermedial discourse surrounding the question of what a medium exactly is. The modalities formed a theoretical framework that would

enable researchers to explore the characteristics of a medium. Now that we have looked at the characteristics of videomapping as a medium, how does it relate to other (older) media, placing the medium in the intermedial discourse? According to Elleström, intermediality is “a bridge between medial differences that is founded on medial similarities,” for all media “are both different and similar” (Elleström 2010, 12). Irina Rajewsky also sees how media are always connected. Both therefore refer to Professor of Art History W. J. T. Mitchell’s influential view on media: “all media are mixed media” (qtd Mitchell 1994, in Rajewsky 2005, 48). The three projects are indeed, as expected, both different and similar and also share direct references to other media. I will first explore the intermedial connections of videomapping in a broader sense through multiple smaller examples. After that, I will perform a more detailed analysis of *Keys of Light*, where I will investigate its intermedial connection to Kandinsky’s abstract artworks.

Intermedial connections can be found for most categories introduced by Rajewsky and Schröter, which emphasizes how media are in many ways connected. An example is the way in which *Ollo*, *Gallery Invasion* and their characters relate to videogames. They stick to the shapes of the



Image 6: The direct contact between the material and the immaterial helps create the illusion of artworks that really have started moving.

building, keeping up the illusion that they are in fact, being projections, impacted by their material surroundings. This can be seen in *Ollo* by how the blobs hold in their body as they squeeze past the windows. They follow each other and cannot pass the other by flowing “over” him. This and the look of their world like a chart and the one-colored, ghost-like blobs, reminds of the world and characters in the game *Pacman*. As image 6 shows, in *Gallery Invasion* the tops and bottoms of the paintings are transformed into objects to run over and hang under during the cat and mouse game of the man and the monkey. Like the world of a platform game, where during a one vs one game the two characters keep trying to fight each other, but also keep running away. The difference is then that not everything is virtual, but the physical surroundings also play a role. This connection can be medial transposition, since the scenes shown in the videos could have been created while playing a videogame. That there is no interactivity is rather a limitation of videomapping as a medium than a choice.

But there are many other intermedial connections to be found: *Ollo* and *Gallery Invasion* are strongly connected through their narrativity. This is a formal intermedial link, since narrativity is a concept that can be considered to be almost independent from the specific medium. When analyzing *Gallery Invasion* next to *Keys of Light*, what jumps out is how the illusion of an extra layer on top of reality might work even better by making *recognizable* characters move, instead of staying abstract.

For it is the inclusion of gravity, sound-effects and natural movement that all fit a real moving monkey that enforces the illusion of artworks who have come to life.

Analysis: Kandinsky and Music in *Keys of Light*

How do the abstract shapes in *Keys of Light* that emerge when playing the piano link to abstract painting? The intermodal link between touch, vision and hearing in art has also been addressed by Wassily Kandinsky. He found when thinking about a modern form of theatre that the “elements of colours, sounds and movements” (Kattenbelt 2006, 31 on Kandinsky) needed to come together in harmony. Being abstract by nature, music has been an important force behind the development of abstract art. Kandinsky was a synesthete who experienced color when listening to musical tones. Being synesthetic means that there is a sensory overlap when experiencing something.³ The direct connection between colorful, abstract geometrical shapes and the music that is being played in *Keys of Light* very well summarizes how expressionist painters have tried to create abstract paintings while listening to (sometimes atonal) music. It might already be clear to see that the



Image 7: Wassily Kandinsky's *Composition VIII* is as colorful and might suggest even more movement than *Keys of Light*.

aesthetics of Kandinsky's painting *Composition VIII*⁴ from 1923 shares striking similarities with *Keys of Light*. Comparing images 2 and 7 shows a resemblance to a certain extent. The clear similarity would mean that the content of this videomapping performance is an intermedial transposition (in Rajewsky's meaning of the category) of abstract painting.

Yet, it is not as if this reproduction carries the exact same meaning. This work could be found transformational in Schröter's words. The *content* of abstract shapes is familiar from abstract painting, but seeing them pop up and disappear, and the synchrony with the tones creates a new encounter, since (sadly) these cannot be directly experienced together in a museum. The simultaneous experience of seeing while hearing is a possibility to show what a musical tone might have looked like, were it visual rather than only auditory. It is then the addition of a spatiotemporal modality to a normally static artform by using video, through which this process of hearing tones and seeing color can be shown. *Keys of Light* then also shows the other side of the coin: Schröter's ontological intermediality. This

³ As explored in: Amy Lone and Christopher Tyler, “Neurohistory and the Arts: Was Kandinsky a Synesthete?” *Journal of the History of the Neurosciences* 12, no. 2 (2003): 223-26.

⁴ Wassily Kandinsky, *Composition VIII*, July 1923, oil on canvas, 55 1/8 x 79 1/8 inches (140 x 201 cm), Guggenheim, New York, <https://www.guggenheim.org/artwork/1924>.

performance obviously can only exist in this way because of the meaning it acquires by referring to abstract art, and using filmic (or cinematic) technologies. And as predicted by Schröter has my main point indeed been that videomapping is unique in how it uses the background in a *different* way than cinema does.

Conclusion

This analysis has shown how all the modalities of videomapping together add to the meaning of the whole work. The material modality helped to see exactly how the immateriality of the beams are what is special about this artform. Friedberg's paradoxes from cinematics helped understand how this friction of the immaterial light next to material underground have been taken to a new level as the light creates an illusion of materiality. As pointed out in the summary of the spatiotemporal modality: when looking at the other modalities of videomapping, it is the transformation of a static space that is most meaningful in this medium. Even after the performance, the space still suddenly holds all these opportunities for movement. The intermedial links have found to be plenty, since especially new media have their roots directly in the combination of older media. Seeing its ability to transform a space as the most meaningful quality, it can be said that videomapping depends strongly on ontological intermediality. This is because transforming the surroundings is most of all how videomapping *differs* from cinematic projections.

Friedberg recognizing the immateriality/materiality paradox also pointed out how mobility will be felt by an immobile audience. What will be interesting to consider in further research, would be the exact role of the space that is being used. The audience is not seated while looking at any of the named works, implying an extra layer in the mobility/immobility experience. This friction might be amplified by looking at cases that already *do* have a moving background, but are still transformed by changing projections.

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