The sound-walker in the street.

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"Walk to the beat, listen to the rhythm, feel the heat of music vibrating through the soles of you feet. Learn the vibe, learn to rhyme, appreciate your time in 'da hood."

- Soundwalk

Contents.

Introduction.

From the moment I plug-in my headphones, Farid Boukakar, a twenty-year-old starts, to talk. He grew up here in the *Transvaal* neighborhood; a part of The Hague I would never have gone to if it weren't for this GPS audio tour called *De Tapes*. On this Thursday afternoon in February, while standing at the corner of the *Hobbema* Square, just in front of the library, the city reveals itself. I discover the beauty, rivalry and gossip of Farid's hood. My pace and route defines what I hear and piece-by-piece the stories of the *Transvaal* quarter and its people come to life. This multi-linear story, combined with the direct connection to the physical location and Farid as the passionate narrator, creates a new sort of engagement with this part of town. I notice that I see things differently from the way I did before; I re-connect with the physical location and its memories. It brings about an engaging experience of the *Transvaal* neighborhood in The Hague.

De Tapes uses the predecessor of today's smartphone, a personal digital assistant (PDA), as technological device and it is part of the broad ecology of locative media. The term 'locative media' refers to the trend of the integration of location awareness (via WiFi, global positing systems (GPS), or cellular triangulation) in mobile devices; this makes it possible to detect the location of the device in physical space and to add a variety of digital content to these locations. The development of location-based and mobile

technologies intensifies media use in public space. With the result that how people move through space has radically altered in the last decade. The way people walk through the city with the use of these locative media changes the way they perceive their surroundings as well as the way they experience their relationship with reality and the world. Media theorist Eric Kluitenberg (2010) emphasizes this emerging trend as he notes that the city becomes an intensified mediatized space where the modus operandi is carried out almost without thinking: "customary patterns of spatial behavior, sometimes established over centuries have been obliterated in little more than ten years with the mass-adoption of mobile phone technology" (Kluitenberg 2010, p.238). Kluitenberg's main concern is that only when the operator is down, these new patterns of spatial behavior enter consciousness. He therefore calls upon artists, cultural theorists, producers and sensitive subjects more generally, with the request to investigate "how this new sensibility for an increasingly hybridized spatial multiplicity can be intensified, to such an extent that it can enter consciousness, that it can be re-imaged, poetically –possibly reconstructed or reconfigured" (*ibid*., p.238).

The aim of this research is to answer this call by showing that not only when the operator is down, as Kluitenberg mentions, this new modus operandi enters consciousness. On the contrary, this intensive hybridization provides new possibilities to engage with physical space and in doing so, it is able to re-image space poetically. The GPS audio tour described above provides an example of how locative media is able to establish a new form of engagement with the surrounding space. For that reason, I will focus this research on the investigation of GPS audio tours, an artistic niche within the locative media ecology. Audio tours are generally associated with museum and city tours where, in both situations, they replace a human tour guide in providing background information about

paintings or a historical site. However, this research will look at tours that specifically use location-based technologies, create a narrative and are audio dominant. These types of audio tours are more than a surrogate tourist guide and I will therefore refer to them as location-based audio walks. I focus on the significance of audio dominant walks because they involve an embodied experience. In addition, they move away from the visual dominance of augmented and mixed realities. Recent studies mainly focus on the social, spatial and visual characteristics of mediatized hybrid space and less on the use and role of audio in locative media. Audio in it self is able to re-construct space poetically and enter consciousness, in the same way as it plays an important role within the overall experience of urban space. In addition, the user does not have to look at a screen but is able to hear the stories of the city while walking. The power of location-based audio walks is therefore its aesthetic and poetic potential of layering new information over a physical space, while revealing the stories, memories and history of specific physical locations. In doing so, it provides the technological potential of engagement with the surrounding space.

This research therefore analyzes in what ways location-based audio walks mediate human experience and interpretation of reality, and how these technologies mediate human actions and the way humans are being involved in their world. To answer Kluitenberg's call, it is necessary to take a look at the poetics and aesthetics of media use in hybrid space. Hence, the first chapter of this research paper elaborates on the concept of poetic imagination in relation to hybrid space: what is hybrid space? What kind of ontological shift towards multiplicity does it bring about? What is poetic imagination? And what is its role within this notion of space? In answering these questions, I want to elucidate the role of imagination, memories and stories within the multiplicity of hybrid space. The second chapter then concentrates on how this multiplicity of space and poetic imagination relates to the use of technologies, and how these technologies in their turn mediate one's engagement and involvement

with reality. I will link the notion of poetic imagination, introduced in the first chapter, with the concept of engagement by Albert Borgmann. In doing so, I will adhere to the postphenomenological framework and vocabulary presented by the Dutch philosopher of technology Peter-Paul Verbeek (2002, 2005). Verbeek combines the works of Don Ihde, Bruno Latour and Albert Borgmann in his postphenomenological perspective, while he puts emphasis on the mediating role of technology in the human-world relationship. I will make use of this postphenomenological framework in the third chapter, after I described the media specificity of location-based audio walks and after the introduction of the three different case studies: *De Tapes, Westergas GPS audio tour,* and *iWhisper.* The final chapter then answers Kluitenberg's call with a more thorough postphenomenological analysis of the location-based audio walks presented, which focuses on the connection between poetic imagination, engagement and technological mediation. I will conclude with the understanding of the ability of location-based audio walks to retconfigure and re-imagine space poetically.

Poetics of hybrid space.

1.

The relationship between physical and digital space changes with the intensive use and integration of media networks in 'real' places. Kluitenberg's call towards theorists starts with this intensive hybridization of space. For that reason, this research will first focus on his notion of hybrid space and the shift it brings about in thinking about space and its relation to digital technologies. Secondly, I will show that the digital has never actually been separated from the physical (De Souza e Silva 2006, p.274). Consequently, the concept of hybrid space is a network constantly under construction that moves towards the ontology of a double becoming characterized by an in-between-state. Finally, this chapter does not only explore how the performativity of space plays an active role within this multiplicity of networks, but it also looks into the role of poetic imagination and the reconstruction of space.

1.1 From cyber to hybrid

When talking about hybrid space, Eric Kluitenberg refers to Elizabeth Sikiaridi and Frans Vogelaar, both architects and founders of the Hybrid Space Lab. They were the first to introduce him to the idea of hybrid space. Sikiaridi and Vogelaar (2006, p.84) show that the hybridization of space is part of daily life, as examples can be found everywhere, with the emerging digital information-communication flows modifying the physical environment as well

as the social, economic and cultural organization of societies. The communication space of mobile telephony, for instance, creates islands of private space within public urban areas. Other examples can be found in private environments, as homes become 'smart' and cars become networked spaces with, among other things, GPS navigation. These and other examples provided by Sikiaridi and Vogelaar indicate that physical space and objects should not be looked at in isolation: "They should be considered in the context of and in relation to the networked system to which they belong and with which they interact. These hybrid ambivalent spaces are simultaneously analogue and digital, virtual and material, local and global, tactile and abstract" (*ibid.*, p.84).

This quote by, Sikiaridi and Vogelaar shows how, within these types of spaces, social practices simultaneously occur in digital and physical spaces. This, combined with mobility and the use of mobile and locative media connected to the Internet, creates the concept of hybrid reality. Hybrid space is thus a conceptual space shaped by the merging of borders between physical and digital spaces, as well as the merging of mixed reality and augmented spaces, mobility, and sociality. This notion of hybrid space is further conceptualized by new media and communication theorist Adriana de Souza e Silva (2006, p.265). Differing from Sikiaridi and Vogelaar, De Souza e Silva pays particular attention to the role of social and communication issues in her thorough investigation of hybrid space, in which she links the development of hybrid space to the merging of cyberspace with physical space, due to the use of mobile technologies:

"Hybrid spaces arise when virtual communities (chats, multiuser domains, and massively multiplayer online role-playing games), previously enacted in what was

conceptualized as cyberspace, migrate to physical space because of the use of mobile technologies as interface. Mobile interfaces such as cell phones allow users to be constantly connected to the Internet while walking through urban space" (De Souza e Silva 2006, p.261).

Hybrid space, as described in the aforementioned quote, is conceptually different from previously used definitions for the merging of digital and physical space. De Souza e Silva criticizes concepts like mixed reality, augmented reality, augmented virtuality, or virtual reality because of their lack of social and communication issues (Milgram & Coquhoun 1999; Hiroshi Ishii 1999; Manovich 2002 cited in De Souza e Silva 2006, p.265). She criticizes Manovich's definition of augmented space, for example, because augmented space does not require communication or social interaction as component for its construction. De Souza e Silva emphasizes this role of communication and social interaction with the use of mobile technologies as social devices in urban space, because "hybrid space is not constructed by technology. "[But] it is built by the connection of mobility and communication and materialized by social networks developed simultaneously in physical and digital space" (2006, pp.265-266). With this quote she calls attention to this sociability of hybrid reality, as she sees it as the required component in the construction of hybrid space. De Souza e Silva gives useful insights in the social elements of hybrid space, because she moves away from a technological approach by focusing on social interaction.

At the same time De Souza e Silva's analysis of hybrid spaces misses out on the aesthetics and cultural dimension of the experience and creation of (hybrid) space. Something Lev Manovich does note in his analysis of augmented space: "Augmented space is the physical space overlaid with dynamically changing information

[...] I want to re-conceptualize augmentation as an idea and culture and aesthetic practice rather than as technology" (Manovich 2005, p.2). Hybrid space is thus not merely characterized by the added value of sociability and mobile connectivity as mentioned by De Souza e Silva. The elements of aesthetics and poetics as mentioned by Manovich are part of it as well. In addition, hybrid space can also take shape without this sociability. Especially with the further development of location-based technologies, De Souza e Silva's definition does not provide a complete coverage of the multiplicity and poetics of hybrid space.

Hybrid space, as it is used in this research paper, therefore takes the concept of Adriana de Souza e Silva one step further and combines it with the definition provided by media theorist Eric Kluitenberg. He states that hybrid space is the continuing series of technological interventions in our lived space, characterized by the fusion of physical and media space. Different from Manovich and De Souza e Silva, Kluitenberg gives notion of the technological dimension of hybrid space, while at the same time he mentions that it is not limited to this technological dimension, as lived spaces have always been hybrid to a certain extent:

> "Their structure, their appearance, as well as the individual, subjective experience, but also the collective experience of these spaces, has been determined by elements that are not present in an outright physically embodied form. Social habits and behaviors, cultural patterns, aesthetic choices in urban and architectural design, economic flows – all these have a profound impact on the organization and use of lived space, and thereby also greatly influence the experience of the space" (Kluitenberg 2010, p. 238).

This definition provided by Eric Kluitenberg combines the technological blurring of spatial borders with the social and communicative interactions mentioned by Adriana de Souza e Silva, as well as the aesthetic, cultural and imaginary elements of space. In doing so, it provides a more complete as well broader concept of hybrid space. As a result, I will use this definition because it shows the variety of flows, entities and relationships that create hybrid space.

1.2 Multiplicity of space

Having established hybrid space as a multiple entity, it raises questions concerning the density and structure of these flows, because, as Kluitenberg mentions as well, space itself has always been multiple. In addition, virtuality has always been part of it, "accessible through its material portals and mediated by the memory and imagination of objects" (Kalaga 2003, p.103). Virtuality, as noted by literary and cultural theorist Wojciech Kalaga, is thus not necessarily conditioned by technology, because it has always been part of the formation of culture. However, Kalaga points out that technologies do intensify the access to virtuality: "Technology has immensely enhanced access to virtuality. It has greatly intensified the impact of virtuality on culture" (*ibid.*, p.103). Therefore, one can say that space and virtuality have always been hybrid entities in relationship to each other. However, the density of technologies in space intensifies and reveals a greater amount of connections and relationships. Eric Kluitenberg, with reference to the philosopher Vilém Flusser, gives notion of this difference in density due to the increased use of technologies in public space as well:

> "Media networks fuse in the greater network of intersubjective relationships, where subjectivities form at the intersection of the information channels (technical and non-technical) 'through which information flows (ideas, feeling, intentions and knowledge)'. The density of these networks differs from place to place" (Kluitenberg 2010, p.239).

Kluitenberg argues thus that these intersubjective relationships are most concrete and form stronger identities where the web is most dense, stating that the density of technology enables communication, information and media networks to interweave with the lived and embodied spaces. This leads to an increased density of intersubjective relationships in those spaces. Consequently, the discontinuity and differences of density determines the hybridity of intersubjective relations that can be established in space (*ibid.*, p.240). This means that the connections and relationships between these different cultural, economic, social, technological and imaginary flows in space form a dense web of networks. This argument shows that even though space has always been a multiple network, the use of technology intensifies this multiplicity to such an extent that it brings about shifts in behavior and experience.

In addition, it shows that the multiplicity of hybrid space consists of a dynamic flux of connections and relationships. Hybrid space is thus constantly constructed and reconstructed within this dynamic flux. With the result that it asks for an ontology of the 'double becoming', which is the process described by the French postmodern philosophers Gilles Deleuze and Félix Guattari (1987), where at least two terms or entities are swept up in a "fabulous process that transforms the both" (Deleuze & Guattari cited in Massumi 1987, p.93), meaning that these entities are always in a state

of becoming and get shaped by the connections and relationships with other entities. It is within the process of these relationships that they are transformed and reconstructed. Or in the words of postmodern literary critic Katherine Hayles (1999), the construction of space is an amalgam: "a collection of heterogeneous components, a material-information entity whose boundaries undergo continuous construction and reconstruction" (Hayles 1999, p.3). The multiplicity of hybrid space is constantly under construction and consists of a web of networks and flows connected to each other. Hybrid space is constructed within this multiplicity and is therefore an in-between-state. The aim of this research is, however, not to use the philosophy of Deleuze and Guattari as a philosophical exploration and analysis, but to use their ontology provided as a framework to understand the complex relationships between physical space, memory, digital information, locative media and experience.

1.3 Hybrid space and poetic imagination

Within the complex network of relations that form hybrid space as described above, I want to further investigate the role of memory and engagement, since these elements play a significant part in the experience of space. In addition, Kluitenberg's call, as mentioned in the introduction, evolves around the trend of disengagement with surrounding space and the lack of modern technologies to enter consciousness while the operator is still on. Kluitenberg searches for a new sort of involvement with space that is able to re-imagine, reconstruct and reconfigure space poetically. He refers back to the concept of poetic imagination of space, coined by the French philosopher Gaston Bachelard (1964), because this involves a certain engagement and performativity not only with physical space, but with the aesthetics of imagination as well. This paragraph will

therefore elaborate on this notion of poetic imagination in relation to space.

The concept of poetic imagination of space, as used by Eric Kluitenberg, refers to Gaston Bachelard, who looks at the poetry of space from a phenomenological perspective. He argues for an architecture based on experience and imagination, while describing the influence of space and architecture on humans. In his view space is not primarily a container of three-dimensional objects: "it is not a question of describing houses, or enumerating their picturesque features and analyzing for which reasons they are comfortable" (Bachelard 1964, p.4 cited in Ockman 1998, p.2). Rather, space is for Bachelard the abode of human consciousness as it shapes thoughts, memories and dreams. The concept of the poetic imagination and its relation to the production of space can be linked to the idea of 'walking in the city' by another French philosopher named Michel de Certeau (1984). For De Certeau walking through the city produces:

> "'An exploration of the deserted place of [his] memory', the return to nearby exoticism by way of a detour through distant places, and the 'discovery' of relics and legends: 'fleeting visions of the French countryside', 'fragments of music and poetry'" (De Certeau 1984, p.133).

The experience of space is thus not merely based on physical objects, but is an exploration of the soul and shaped by memories, thoughts and dreams. The key idea taken from these two philosophers is that space itself is performative and plays an active role in the network of relationships of hybrid space. While walking, traveling and interacting with space, it connects and shapes one's memory and in doing so, it can be seen as a poetic act.

The idea of the poetic act relates thus to the performativity of the space and can be clarified with a phenomenology of the imagination. By this Bachelard means "a study of the phenomenon of the poetic image when it emerges into the consciousness as a direct product of the heart, soul and being of man, apprehended in his actuality" (Bachelard 1964, p.xviii). Bachelard uses phenomenology thus to understand in what ways space shapes imagination and enters individual consciousness. He recourses from his scientific background towards phenomenology, as, in his opinion, only phenomenology "can help us to restore the subjectivity of images and to measure their fullness, their strength and their transsubjectivity" (*ibid.*, p.xix). He refers to this process as poetic imagination, in which the poetic act shows how this imagination enters consciousness. He shows how the poetics of space "resonates deeply, vibrating at the edges of the imagination, exploring the recesses of the psyche, the hallways of the mind" (*ibid.*, p.vii). It is this process of poetic imagination that provides an analytical tool to understand how location-based audio walks are able to reveal memories and dreams of physical locations and in doing so, how they are able to enter consciousness. The last chapter will further elaborate on this process related to location-based audio walks and in what ways this medium reshapes space poetically.

Before I will use poetic imagination in relation to location-based audio walks, Bachelard's strong antipathy towards twentieth century urbanization and technology has to be taken into account. Different from De Certeau, who relates his exploration of imagination and memory to urban space, Bachelard relates his idea of the poetics of space to imitate spaces like houses, shelters and nests. In doing so, he idealizes the rustic dwelling in the countryside and despises the urbanization in cities like Paris:

"[In] Paris there are no houses, and the inhabitants of the big city live in superimposed boxes…they have no roots and, what is quite unthinkable for a dweller of houses, skyscrapers have no cellars…For here, where houses are no longer set in natural surroundings, the relationship between house and space becomes an artificial one" (Bachelard cited in Ockman 1998, p.3).

Architect and planning theorist Joan Ockman associates, with reference to Henri Lefebvre, Bachelard's evocation of the rustic abode in Champagne with Heidegger's paean to the peasant hut in the Black Forest (Ockman 1998, p.3). They both share an aura of nostalgia which comes across as historically outdated (*ibid.*, p.1). It is this nostalgic and essentialist worldview that characterizes Bachelard's vision of intimate space. However, this dialectic of insides and outside in relation to intimate space, has in recent years been turned inside out, as these intimate spaces are carried into public realm with the current hybridization of space (Kluitenberg 2010, p.238). This research paper does therefore not relate to Bachelard's outdated vision of the countryside shelter, but to his methodology of the poetics of space, which is based on the interrelationship between science and poetry, experiment and experience (Ockman 1998, p.1).

This methodology of the phenomenology of poetic imagination, in combination with the performativity of space mentioned before, are the main reasons to link Bachelard's theory to the concept of hybrid space, because the poetics of space, as mentioned by Bachelard, show how memories and dreams play an active role in the experience of space. In addition, as mentioned in the beginning of this chapter, the density of media use intensifies

the relationships and connections of the dynamic flux of networks within space. Having established this multiplicity as the postmodern ontology, the key questions that remain are "What is the experience of being in this form of intensive hybridization?" and "How can this new modus operandi enter consciousness in such a way that it re-imagines space poetically while the operator is still on?". The following chapter will therefore focus on these issues, using the idea of engagement and the technological mediation of reality.

Mediated engagement.

2.

Kluitenberg mentions that the experience and practice of space changes with intensive media use in public space. Hybrid space brings about a new modus operandi. How then does the multiplicity of hybrid space, which is constantly under construction, influence this modus operandi and the way people experience space? How do people move through space and how does the use of location-based audio walks influence the way people behave, act and experience? Or in other words, in what ways are human beings present in their world and in what way is the world present to them when using locative media? Dutch philosopher Peter-Paul Verbeek offers a suitable framework to answer these questions as his postphenomenology finds its foundation in the multiplicity of relations. It is based on the works of the American philosopher of technology Don Ihde, French philosopher and anthropologist Bruno Latour and German-American philosopher of technology Albert Borgmann, and can be viewed as an "offshoot of phenomenology that is motivated by the postmodern aversion to context independent truths and the desire to overcome the radical separation of subject and object" (2005, p.113). From this postphenomenological perspective, reality arises in relations, as do the human beings who encounter it.

Verbeek himself uses his postphenomenological perspective to develop a comprehensive framework to understand the role of aesthetics in design (*ibid.*, p.12). This chapter will therefore further elucidate Verbeek's postphenomenological framework to be able

to use his vocabulary to analyze the mediating role of location-based audio walks and to understand the role of poetics within the embodied experience of hybrid space. I will pay attention to the role of poetics in the same way as Verbeek focuses within his framework on the role of aesthetics. However, I will use the terminology of poetics, because the idea of aesthetics in general leans towards visual dominance. In addition, it excludes the role of imagination, memory and dreams within the overall experience. For that reason I will take Verbeek's framework a step further by connecting it to the concept of poetics by Bachelard, as described in the previous chapter. In doing so, I will first further examine the work of Albert Borgmann (1984, 1999), who concentrates his work on the way technology shapes the involvement of human beings with their surrounding world, and how these technologies help to shape engagement with reality. This engagement, in a certain way, relates to the poetic imagination of hybrid space. After this investigation, I will place the work of Borgmann within the context of Verbeek's postphenomenology to conclude with the explanation and understanding of the vocabulary provided by Verbeek, which I will then use in my analysis of location-based audio walks in the following chapter.

2.1 Focal practices and engagement

The aim of this section is not to provide a full analysis of the work by Albert Borgmann, but to extract relevant insights into his philosophy of technology for the analysis of location-based audio walks. However, Borgmann, as used in this research, is read within the context of Verbeek's postphenomenology, because Borgmann at the same time stresses the threatening aspects of technology. In doing so, he relates to the alienation thesis of the classical philosophy of technology, while Verbeek moves away from alienation with the

concept of mediation. Having taken this into account, I will focus instead on the power of Borgmann's analysis within Verbeek's framework that consists of his particular attention to the way devices invite certain ways of dealing with themselves, with the context in which they function and with that what they make available.

The power of Borgmann is thus that he approaches technology in terms of specific artifacts or in his words devices (Verbeek 2005, p.185). Given that technology, in Borgmann's view, "becomes most concrete and evident in (technological) devices, in objects such as television sets, central heating plants, automobiles, and the like. Devices therefore represent clear and accessible cases of the pattern or paradigm of modern technology" (Borgmann 1984, p.3). This device paradigm divides things into commodities and machinery (Verbeek 2005, p.178). Within this pattern, devices can thus be viewed as an entity that makes commodities available on the basis of machinery that remains concealed:

> "It is the division between the commodity, e.g., music, and the machinery, e.g., the mechanical and electronic apparatus of a stereo set, that is the distinctive feature of a technological device. An object that exhibits this central feature clearly is a paradigm of the technological device" (Borgmann 1984, p.4).

This quote shows that the reason for being of a stereo set is to provide music. However, this simple understanding of the stereo set conceals the characteristic way in which music is procured by the device. There corresponds, for example, an extreme concealment or abstractness in the mode of its production to the richness and variety of technologically produced music. Media theorist Chiel Kattenbelt mentions, with reference to Albert Borgmann, that this distinction

between ends and means is the notable characteristic of the devices of modern technology. As the end is the product and the means are exclusively in service of the product. Technology in this sense is a ubiquitous black box, which makes services available without imposing burdens on its users (Chapple & Kattenbelt 2006, p.32).

This can be linked to Eric Kluitenberg's notion of the changing modus operandi due to (locative) media use in public space that is carried out without thinking, as mentioned in previous chapter. This loss of consciousness within public space can be place in line with Borgmann's device paradigm and the loss of engagement with reality. As the device paradigm fits in seamlessly with the ideal of effortless consumption that carries within it the consequence that the increasing ease of consumption goes with less engagement (*ibid.*, p.34). According to Borgmann, this rise of consumption as a way of living forms the 'irony' of technology. Whereas technology promised to disburden and enrich people's lives, it in fact takes away people's engagement with reality (Verbeek 2002, p.71), with the result that people increasingly fill their lives with consumption instead of being engaged with reality. Kluitenberg notes that when the operator is down these modes of behavior and experience enter consciousness. Similarly, Borgmann stresses the importance of 'focal practices' centered around 'focal things': "Focal things are things that invite engaging ways of dealing with themselves. They ask people to be present in the fullness of their capacities" (*ibid.*, p.71). Borgmann refers with the word focal to its Latin origin *focus,* which means hearth, because in the pre-technological house the hearth or fireplace constituted a centre of warmth, of light and daily practice (Borgmann 1984, p.196). Like sitting around the fireplace, a focal practice is thus something that can centre and illuminate one's life. Other examples provided by Borgmann are gardening, music, the culture of the table and running (*ibid.*, p.197).

Borgmann's description of running as a concrete example of a focal practice is useful in relation to the analysis of location-based audio walks because it relates to walking through space as an act on its own:

> "Good running engages mind and body…the mind wanders as the body runs. But as in free association we range about the future and the past, the actual and the possible, our mind, like our breathing, rhythmically gathers itself to the here and now, having spread itself to distant time and faraway places. It is clear from these reflections that the runner is mindful of the body because the body is intimate with the world. The mind becomes relatively disembodies when the body is severed from the depth of the world, i.e., when the world is split into commodious surfaces and inaccessible machineries. Thus the unity of ends and means, of mind and body, and of body and world is one and the same" (Borgmann 1984, p.203).

Running, as shown in the aforementioned quote, is a focal practice because it is physically demanding, while at the same time it provides the experience of freedom and pleasure, and a special kind of involvement with the surroundings along the route. This involvement relates to the poetic imagination of space by Gaston Bachelard. Bachelard shows how space and the surrounding world involve memories and dreams, while the notion of the focal practice at its turn shows how one's memories and dreams are present in space. Focal practices as well as poetic acts involve thus an intensive way of being present in one's surroundings (Verbeek 2005, p.184). The use of location-based audio walks, is able to establish a similar kind of experience and can therefore be seen as much a focal practice as running. Although walking is not as physical demanding

as running in the context and use of location-based audio walks, it involves moving through space as an act on it own. While walking a location-based audio walk, one interacts with the specific location as it triggers the memories and stories of that certain place on the spot. In doing so, one does not only connect with the collective history and memory of its surroundings, but also with one's own individual memories and dreams. The act of walking in this situation is a focal practice, like playing the piano or running, as it is meaningful in itself. Focal practices thus "consist in an existential engagement with reality, which takes place for its own sake" (Verbeek 2002, p.77). Focal practices therefore counterbalance the disengaging forms of consumption that have come about in the technological culture. However, as the example of location-based audio walks indicates, technological devices are able to engage as well. In doing so, they are able to enter consciousness without breaking down.

In addition, with his analysis of information and communication technologies, Albert Borgmann relates his notion of engagement to the information that is made available by these devices as well. The reality provided by location-based audio walks is, for example, technological enhanced. The use of a smartphone or a PDA provides the aural experience of a certain physical location; one hears the narrative of the walk through the headphones. From Borgmann's point of view this threatens the engagement with reality as it provides information *as* reality. It replaces reality with technological information and in doing so it creates a new 'reality' that is 'easier to experience and qualitatively superior, but that is parasitic on reality itself and fails to engage us (Verbeek 2002, p.74). Thus instead of enlarging our engagement with reality, he states that technological information, different from natural and cultural information, replaces reality and creates a superior 'hyperreality'. The difference between these three types of information is their

relation to 'reality'. Natural information is information *about* reality, meaning that it consists of signs that tell something about the world. This type of information is closest to reality as it "pivots on natural signs – clouds, smoke, tracks. [While] cultural information centers on conventional signs – letters and texts, lines and graphs, notes and scores" (Borgmann, 1999, p.57). Borgmann therefore refers to cultural information as information *for* reality. These two types of information form the background against which Borgmann's third form of information, technological information, can be understood (Borgmann 1999, p.184; Verbeek 2002, pp.73-74). These three types of information result in different layers that fill up space:

> "Today the three kinds of information are layered over one another in one place, grind against each other in a second place, and are heaved and folded up in a third. But clearly technological information is the most prominent layer of the contemporary cultural landscape, and increasingly it is more of a flood than a layer, a deluge that threatens to erode, suspend, and dissolve its predecessors" (Borgmann 1999, p.2).

This quote, as well as the analysis of information technology, follows in the same line as Borgmann's analysis of the device paradigm: "he considers it a threat for people's engagement with reality" (Verbeek 2002, p.81). What Borgmann however fails to see is the role information technologies actually play; they do not substitute reality but they mediate one's involvement with reality and with each other, within the multiplicity of hybrid space. Peter-Paul Verbeek therefore elaborates on the mediating role of information technologies and technological devices. In this elaboration, Borgmann's concept of engagement plays an important role. Engagement in this sense should be seen as a *dimension of technological mediation.* Whereas the concept

of mediation makes it possible to move away from alienation and to do more justice to the actual presence of technological devices and information technologies in everyday life. (Verbeek 2002, pp.70, 81).

2.2 Technological mediation

This concept of technological mediation is the central focal point of the postphenomenology of Peter-Paul Verbeek. In order to avoid the problematic connotations that got connected with phenomenology during the past decades, Verbeek defines postphenomenology as the analysis of the human-world relationships in their existential and hermeneutic dimensions. He sketches a postphenomenology to do justice to concrete technologies without abandoning the hermeneutical and existential questions that inspired it (2005, p.101). The hermeneutic dimension concerns interpretation and meaning. In relation to technology, the key question within the hermeneutic dimension of phenomenology is "the role technology plays in the way in which the world presents itself to human beings" (*ibid.*, p.111). While the existential dimension concerns the way in which human existence takes shape, where technology is described in terms of the role it plays in how human existence takes shape. Verbeek relates these two dimensions to the theories of Don Ihde, Bruno Latour and Albert Borgmann. The combination of the three creates the overall postphenomenological perspective. I will therefore shortly mention the work of Ihde and Latour, in addition to Borgmann to be able to provide a full understanding of Verbeek's postphenomenological framework of analysis.

Peter-Paul Verbeek places Borgmann's notion of engagement and involvement, as described above, within the existential dimension of his postphenomenology. As Borgmann's engagement can be

interpreted as a specific modus of the phenomenological concept of intentionality. Intentionality is the core concept of phenomenology, as it indicates the fundamental connection between humans and their world (Verbeek 2002, p.83). In relation to technical mediation, engagement represents a mode of intentionality of the device: "The "intentionality of artifacts" consists of the fact that they mediate the intentional relation between humans and world in which each is constituted. When human beings use an object, there arises a "technologically mediated intentionality," a relation between human beings and world mediated by a technological artifact" (Verbeek 2005, p.116). A train, for example, co-shapes the way in which a landscape is present to human beings and a telephone co-shapes the way human beings relate to each other. "This, therefore, are not neutral "intermediaries" between humans and world, but mediators: they actively mediate this relation" (*ibid.*, p.114). The use of technological devices involves thus a certain engagement with them, while at the same time these artifacts have a certain way of engaging its users as well. This engagement with the world, as Borgmann mentions, is made possible by actions and shape human existence.

In addition to Borgmann's concept of engagement, Verbeek uses the actor-network theory of Bruno Latour within the existential dimension of his postphenomenology. He refers to Latour to understand how artifacts as well as humans play an active role in human life and actions. Or in other words, how the actions of human beings shape the way, in which humans realize their existence. Latour's perspective deals with entities as being constituted in their mutual relation. Human beings are thus what they are by virtue of the way in which they realize their existence in their world, and their world is what it is by virtue of how it can manifest itself in the relations humans have to it (*ibid.*, p.163). Latour and Borgmann both shape the existential dimension, while

Don Ihde represents the hermeneutic dimension within Verbeek's postphenomenology. As Ihde centers on the manner in which human beings deal with concrete technological artifacts and with the praxes and interpretations that are made possible by them (Verbeek 2005, p.144). In doing so, he focuses on the relationship between human beings and their world in terms of experience, since this is the place where the mutual relation between humans and world can be localized. "Experience is, as it were, the interweaving of both: in experience, human beings and world – or subject and object for that matter – are not separated but are always intertwined" (Verbeek 2005, p.122). Ihde brings to light the many different ways in which human beings can relate to technological artifacts. Thus how these technologies are able to mediate perception, how they perceive themselves, and in which ways they are present in the background of human perception while at the same time they help to shape it (*ibid.*, p.144).

With the works of Don Ihde, Bruno Latour and Albert Borgmann, Peter-Paul Verbeek shows how the combination of these three provide a framework for understanding the role of artifacts in the practice and experience of human beings. With the focus on the mediating role of technology, his philosophical framework makes it possible for Verbeek to develop new implementations of the existential and hermeneutic perspectives on technology: "Both kinds of mediation, taken together, describe how artifacts help shape how humans can be present in the world and how the world can be present for them" (Verbeek 2005, p.195). Verbeek develops a table that translates the most important concepts from each perspective into a postphenomenological vocabulary. This vocabulary consists of three elements for each dimension, these are: the point of departure for analysis, the most relevant human-artifact relations, and the terminology to describe the characteristics of each

dimension of mediation, as the table below visualizes.

Hermeneutic	Existential

Experience
  How reality appears to humans
Perception
  Interpretation
  Amplification
  Reduction
	Existence
	  How humans appear in their world
	Action
	  Involvement
	  (efforts and focal engagement):
	   - with the artifact themselves
	   - with the contexts of artifacts
	   - with what artifacts make available

Most relevant human-artifact relations	
Embodied relations Hermeneutic relations	Embodied relations Alterity relations
Points of departure	
Artifacts mediate perception and context of interpretation Experience takes shapes as perception interpreted within a context of meaning	Artifacts mediate action and context of existence Existence takes shape as action involved in a context of existence

I will use this vocabulary in my analysis of location-based audio walks in the following chapter, because it makes a thorough investigation of specific technologies possible. In addition, it provides a framework to describe technologies not only in terms of their functionality but also as mediating the relation between human beings and their world (*ibid.*, p.197). The key concept in Verbeek's approach is thus mediation, as mediation helps to show that technologies actively shape the character of the human-world relationship. They are active actors within the network of multiple relations, where any

particular mediation can only arise within the specific contexts of use and interpretation. Verbeek uses this postphenomenological framework and vocabulary for the understanding of aesthetics in (industrial) design in the same way, as I will use it to analyze the role of poetics in location-based audio walks in the following chapters.

Location-based audio walks.

3.

How then do location-based audio walks mediate the human-world relationship? In what ways do they establish poetic imagination and how do they reshape or re-imagine space poetically? Technologies like location-based media mediate behavior and perception of space and in doing so, they actively shape subjectivity and objectivity. Or in other words, they mediate the way one is present in the world as well as the way the world is present to one. To be able to answer the questions posed above, I will first further elaborate on the significance of the aural element of location-based audio walks to provide the context of its media use, followed by the description of the medium itself: What is it and what is its origin? To finally analyze, with the use of three case studies, in what ways location-based audio walks mediate the human-world relationship in urban space and how they are able to poetically re-imagine space. I will thus, like Peter-Paul Verbeek, not only describe these technologies in terms of their functionality, but also as mediating the relation between human beings and their world (Verbeek 2005, p.197). In my analysis of location-based audio walks, I will therefore pay particular attention to three types of involvement as used by Albert Borgmann, which are the involvement with the technological device itself, its context and environment of use, and its commodity or that what it makes available (Verbeek 2002, p.84).

3.1 Media specificity of location-based audio walks

As mentioned in the introduction, location-based audio walks are part of the broader ecology of locative media. The significance of this medium is the integration of location-based technologies, like GPS, in mobile technologies. This makes it possible to create specific context for physical locations as well as to locate one's presence in space. As established in the first chapter, this leads to an intensive hybridization of space characterized by multiplicity. Within this multiplicity, locative media create dynamic relationships between media objects, its users and the physical surrounding (Kluitenberg 2010, p.243). An important characteristic of location-based applications is thus the creation of a doubled perception of space: "Users simultaneously see their physical surrounding space, plus a representation of that same space mapped on their mobile devices. The doubling of space creates an "augmented" view of reality, influencing communication and navigation in urban spaces" (De Souza e Silva & Sutko 2011, p.24). Although Adriana de Souza e Silva and Daniel Sutko provide a thorough theoretical framework for analyzing location-based technologies and applications, their focus is on the visual layering of information and communication on top of the physical surroundings. Whereas locations, defined by their co-ordinates in the positioning system, can be annotated with various forms of media content (Kluitenberg 2010, p.243). The aural element is one of these media forms as well, which is often forgotten by theorists like De Souza e Silva and Sutko.

This research therefore pays particular attention to the role of this aural element in location-based applications, as the aural experience is able to tap into one's memories, dreams and imagination, while at the same time it is able to connect to the surrounding world. Its power lies thus in the potential of engagement with reality,

resulting in the poetic re-imagination space. The aural experience is a broad definition. I will use it in this research with reference to aural architecture theorists Barry Blesser and Linda-Ruth Salter (2007, p.5), who see the aural experience exclusively as the human *experience* of a sonic process. In addition, they refer to *hearing* as the detection of sound and to *listening* as the active attention or reaction to the meaning, emotion and symbolism contained within sound. This research looks at the aural experience from a broad perspective and does not pay particular attention to the difference between sound, audio and music. I see these three elements all as sonic processes that can be defined, with reference to sound and music theorist Jonathan Sterne (2003), as "vibrations perceived, and in more exact sense, sympathetically produced – by the functioning ear when they travel through a medium that can convey changes in pressure (such as air)" (Sterne 2003, p.10).

3.1.1 The aural experience

The aural experience plays an active role within the ecology of locative media to establish engagement with reality, because it has a long history of (personal) listening practices in urban space. This goes back to the development of sound-reproduction technologies in the nineteenth century, like the gramophone and radio, which transformed the fundamental nature of sound, the human ear, the faculty of hearing, and practices of listening (*ibid.*, p.2). It separated the listening experience from the actual performance. With the result that sound, mainly in the form of music, became an important part of everyday life because it provided the opportunity to listen to music at home in a private atmosphere. In addition to the enhancement of private sphere, music became a common good in the public surrounding as well. Communication and media theorist

Milena Droumeva (2005) mentions that, because reproduction technologies facilitate the easy transfer of sound and music *objects* into a variety of different surrogate environments – restaurants, concert halls stadiums, malls, schools, etc., it results in the acceptance of music-as-environment in both the private and public spheres of life. According to Droumeva, this leads to the blurring of line between the two (Droumeva 2005, p.164). Public as well as private space became thus fully enhanced with sound.

This blurring of the line between public and private space continues with the further development of sound reproduction technologies towards portable audio devices, which increased private listening in public space. Media and cultural theorist Michael Bull (2000, 2007) shows that with the invention of the miniaturized transistor and the hand-held, battery-powered radio in the 1950s, a new culture of personal mobile sound emerged, which was re-imagined in the 1980s with the Sony 'Walkman' (equipped with privatizing earphones) and ghetto boom-boxes (outfitted with loudspeaker-quality sub-woofers), which led to modern day iPod culture (Bull 2007, p.2). These shifts in listening practices and mobile music results in peculiar vernacular listening habits, as people spend a substantial portion of their time in cars, walking through the streets, and in public transport listening to music. Sound artist Raviv Ganchrow (2010) finds this very interesting because the sound of the motor, the traffic, and the music all blend in together. "An important flip of consciousness towards sound is happening now through our listening behaviors has to do with the contemporary use of sound technologies" (Ganchrow 2010, p.43).

Michael Bull further analyses this shift of listening behavior and the meaning of personal stereo use in everyday life. In certain ways he agrees with Ganchrow. However, Ganchrow, as a sound

artist, focuses on the blurring of the different soundscapes into one new form of listening, while Bull pays particular attention to the separation of the different soundscapes. He states that the listener's "headphones enclose the ears and substitute chosen and specific sound for the industrialized, Fordist and acoustically congested sounds of the streets" (Bull 2000, p.119). Hence, Bull pays particular attention to the development towards a personal auditory bubble of private listening in public space:

> "With its enveloping acoustics iPod users move through space in their auditory bubble, on the street, in their automobiles, on public transport. In tune with their body, their world becomes one with their 'soundtracked' movements; moving to the rhythm of their music rather than to the rhythm of the street. In tune with their thoughts – their chosen music enables them to focus on their feelings, desires and auditory memories…to create their own private mobile auditory world wherever they go" (Bull 2007, p.3)

When talking about mobile and personal audio use, the position of Michael Bull described in the quote above should be taken into account, because the notion of the acoustic bubble in public space shows that while wearing headphones, one experiences a single individual spatial experience which, according to Blesser and Salter, at the same time destroys the perception of external space and location. With the result that it does not provide the opportunities for hearing space. The acoustics of architecture gets shut off with the boundary between the smaller private and larger public acoustic arena, created by the use of headphones connected to portable audio devices (Blesser & Salter 2007, pp.191, 362). I consider these individual listening practices as a part of my analysis, because the use of location-based audio walks provide, in a certain way, an enclosed listening experience within public space.

However, having taken this into account, Blesser and Salter, as well as Bull, misses out on the integration of the different spheres and the hybridity of space. The above quote by Michael Bull mentions as well that personal stereo is able to relate to one's thoughts, feelings, desires and memories. It is thus not merely a boundary between private and public space, but as mentioned in the first chapter: Space is an amalgamation of public, private, virtual and imaginary space. This hybrid characteristic of space relates to the use of mobile personal stereo devices, as they are part of the constant flux of relationships.

3.1.2 Media specificity

Throughout the development of portable devices, the aural experience in the form of music and sounds has thus long become interwoven with and overlaid on the routines of everyday life (Rebelo, *et al.* 2008, p.16). There are, however, different sort of uses of this medium: The one described above, and analyzed by Michael Bull, focuses particularly on the use of personal music in public space. Because of this focus, Bull forgets to look further than the private bubble in public space. Whereas the music tracks, played by a personal device, are predetermined and created in the studio and therefore do not have a necessary link to the physical surrounding. There is a difference in experience of space between music and audio that is exclusively made for a specific location and general music tracks heard in the exact same place. The hybridity of the aural experience mediated by mobile music players intensifies when the connection to the physical surrounding is more direct. Whenever the link between the audio heard and the physical location is more direct, it is possible to establish an embodied hybrid experience of space that goes beyond a privatized bubble.

Audio guides and soundwalks are examples that do provide information and audio for specific locations even without using location-based technologies. The most common practice of an audio walk is its use as a tourist guide through a (foreign) city, like Farid Boukakar, the narrator of *De Tapes,* who serves as a personalized guide through the *Transvaal* neighborhood in The Hague. While telling his personal stories, he mentions the social, cultural and historical significance of certain locations. There is a broad variety within the genre of audio guides, from providing practical and tourist information to artistic and poetic experiences. I will particularly focus on the latter, because they provide more than solely tourist information. The aim of these types of walks is to provide an aesthetic urban experience: "mixing fiction and reality to provide an exclusive and poetic discovery of a city, on the bridge between Baudelairian stroll and cinematic experience" (Crasneanscki 2003). This quote from Stephen Crasneanscki, the founder of the international sound collective Soundwalk, shows how audio guides are used to create an immersive sound journey full of poetic imagination.

Soundwalk particularly develops tours in New York and Paris, where they combine characteristics of the neighbourhood with a narrative told by the central, often famous, narrator. A tour through China town in Manhattan is one of the many intriguing examples created by Soundwalk:

> "Allure to the mysterious ways of Chinatown, a city within a city where spirituality meets beauty in an intriguing manner. A community so attached to its roots it allows you to travel to a different time and place, where gamblers and mobsters rule over opium dens and sweatshops. Battle your way through the open markets and take a whiff of

the authenticity, taste their spices, drink their teas, feel their hard work and make sense of the helter skelter around you. Learn to be Chinese and virtually explore a life you never new, a life far away from home, a life you could have had…" (Crasneanscki 2003).

This tour, as well as the others by Soundwalk, were created for iPod and CD and provided a physical map to show the way around. Thus, originally they did not make use of location-based technologies. Although this application is now available on the iPhone as well, I will not use this audio walk as a case study for further research. First of all, due to logistic, I will limit my cases to the area of the Netherlands. But most importantly, the added value of GPS technologies by Soundwalk is merely for navigation and not interaction. However, I mention Soundwalk because they develop walks that are a good example of the artistic line of the evolution towards the full potential of location-based audio walks. The added value of location-based technologies plays a significant role in this development, as it makes the use and creation of these kind of tours easier, because it provides the possibility to connect to the physical space by extending mobile music technologies with sensors, GPS receivers and network capabilities. These devices now become aware of their own environment and in doing so, as sonic researchers Pedro Rebelo, *et al.* (2008, p.16) mention as well, these locative media do not only offer the chance of a re-integration of the everyday environment into listening, but they also provide an immersive and embodied experience of this environment. It is therefore no coincident that within the locative arts, there is a rise in the availability of location-based audio applications, which have the capabilities to establish non-linear and poetic relationships between participative audience and physical surrounding.

3.2 Case studies

Within this wide variety of applications, this research will use three case studies for further analysis. They are all based in the Netherlands: *De Tapes* by Dick de Ruijter in The Hague; *iWhisper* by Monobanda in Utrecht and *Westergas GPS tour* by UPlabs in Amsterdam. I experienced these audio tours myself by walking them between November 2010 and March 2011. All three are audio dominant, use location-based technologies for interaction and are created by different developers with different platforms. First, I will shortly describe their concepts and use to get a better understanding of their media specificity. Then, a postphenomenological analysis will help understand, in what ways these case studies mediate the re-imagination of hybrid space poetically.

3.2.1 Three cases

The first of the three audio walks is *De Tapes,* which is an interactive GPS audio tour for the *Transvaal* quarter in The Hague, additionally, it is also available for the *Afrikaander* neighbourhood in Rotterdam. Urban anthropologist Dick de Ruijter (2008) worked together with the Hootchi Cootchie Media Collective to develop both these tours. They started with this project in 2006 in Rotterdam. The application runs on a Personal Digital Assistant (PDA) and at the moment it is only available for groups. The purpose of *De Tapes* is not to provide a tourist tour around the neighbourhood, but to specifically create cultural awareness; a necessary state of mind, needed for everyday life in a city of the future according to De Ruijter. After plugging in the headphones and pressing start, the PDA can be left alone in one's pocket. While walking, *De Tapes* provides local insights in the

culture and habitats of the multicultural population of this working-class quarter in The Hague. In doing so, it invites a new way of looking at the melting pot of cultures within this neighbourhood. Simultaneously, the listener relates to his or her own thoughts and concepts of multiculturalism. Dick de Ruijter, together with his team, thoroughly researched the neighbourhood for stories, memories, gossip and significant locations. He combined the cultural and ethnical characteristics of the *Transvaal* neighbourhood with the fictional narrative of Farid. Farid, a twenty-year-old from Morocco, is the protagonist and narrator of his own story. He wants to be a professional author. While walking through the Transvaal quarters, he speaks of the manuscript of his first book, which is about this neighbourhood, its people and his own life. The story of the walk consists of these three elements divided into different audio pieces. Dick de Ruijter placed these different sound pieces in two 'play lists'. The first list is location-based and consists of audio files related to the neighbourhood and its specific physical locations. These sound bites start to play whenever the listener reaches the connected physical location. The second list is 'time-based' and consists of Farid's own story. These files play whenever there is no location-based file available. The third element of Farid's story, the characters of the neighbourhood, is mixed into the location-based files as well as to Farid's personal story. Consequently, *De Tapes* provide a constant multi-linear aural narrative of the neighbourhood. It does not matter where, how fast, and how long one walks, *De Tapes* contains enough content and variation. When I experienced *De Tapes*, I walked around for two hours in a neighbourhood I would normally not spend more than ten minutes to switch trams.

Another example of a location-based audio walk is the *Westergas GPS tour* in Amsterdam. The Urban Park Laboratorium

(UPLabs) created multiple walks within this area using 7scenes[1] as a software platform. I will use one of these walks named "*Ontploffingsgevaar, kolen & cokes,*" (danger of explosion, coals and coke), because of its audio dominant characteristic. This *Westergas GPS tour* relates more to the common idea of a GPS audio tour, as it brings the historical side of the Westergas factory to life with the stories and memories of old employees. UPLabs interviewed old employees of the gas factory and these different characters tell their stories, adventures and gossip from the time the factory was still active. Each sound file consists of different stories by different people. However, they all relate to the history of the Westergas factory and its significance, with the result that piece-by-piece the old factory reveals itself. Nevertheless it is not one narrative: this walk is formed by multiple short stories with history as a binding element. While walking around, one moves thus from one story to another. The area of this walk involves the old factory square and the surrounding fields of the park. Like *De Tapes,* the *Westergas GPS tour* uses location-based technology as a interaction model. However, this is done on a different scale than *De Tapes,* as it is not the interface itself. The *Westergas GPS tour* shows a map on the screen with the GPS-locations of each audio file. Whenever the listener reaches one of the markers on the screen related to these physical locations, he or she hears a tone that indicates the availability of an audio file. One has to activate the sound file by pressing the play button. The files would not start playing automatically when one would reach a location. I noticed that I kept looking on the screen to see where I was, and if I already reached a point where I could hear an audio file. This behavior was further encouraged, as there were no soundscapes or time-based audio files in between the locations, resulting in a less immersive audio tour in comparison to *De Tapes* and *iWhisper.*

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1. 7scenes is a mobile story telling platform for locative media created by Waag Society, more information about this platform is available at: http://www.7scenes.com/

The third case study, *iWhisper,* is an audio tour platform in Utrecht developed as an iPhone application by Monobanda. They produced a variety of audio walks within Utrecht and *Domplein* is one of them. The audio experience *Domplein* (Dom Square) takes its user back to the year 1713 in Utrecht. This is the year of the peace treaty of Utrecht and the middle part of the Dom church collapsed in a big storm a couple of years afore. The Dom Square was at the time the gathering place for high officials, clerkly men, workers, civilians and European diplomats. The aim of this audio walk is to bring this intriguing part of history back to life. Walking around the Dom Square, it feels as if the listener is taken back to the year of 1713, standing between characters, while listening to their dialogues. The intrigues, gossip and the cultural memory of the city reveal themselves in these narratives. One's physical position triggers the different sound files of these dialogues. The in total eight points create the story together. It does not matter in which order one walks and listens to these tracks. The narrative is multi-linear due to the variety of dialogues, which in the end all fit together. The moment that the listener is not standing at a certain GPS-tagged point, he or she hears a soundscape, which includes environmental audio related to the scene presented. The location-based interaction model of *iWhisper* is thus similar to that of *De Tapes,* as one's physical position automatically triggers the start of the corresponding sound file. It is not necessary to press start to hear a certain track at a certain location. In addition, it provides sounds whenever there is no specific location-based file available. Different from *De Tapes,* this walk also provides a map on the screen of the iPhone with markers of the GPS-coordinates related to the soundtracks. With the result that, even though it is not necessary for the interaction, the listener still looks at the screen to find the location of the audio tracks. This behavior is similar in the *Westergas GPS tour* and differs from that of

De Tapes, where one was able to keep the device in the pocket of one's jacket. The Dom Square walk is restricted to the square around the Dom Church, with the result that the experience is restricted to square itself and the GPS coordinates are next to each other. There is thus not as much a stroll or a walk around as for the other two. However, the atmosphere and the location in combination with the audio files provide a fully embodied poetic experience of my hometown.

3.2.2 postphenomenological analysis

Each of these three cases makes slightly different use of the location-based technologies available. The *Westergas GPS tour,* for example, uses it mainly for navigation, while *iWhisper* and *De Tapes* use it as an interactive tool. In doing so, as I mentioned in the descriptions, each audio walk mediates my relationship with the surrounding world differently. My involvement with the device itself, with the urban space around me and with the different stories provided, mediates my perception, experience, actions and existence. In other words, the use of location-based audio walks mediates the human-world relationship from a hermeneutical, as well as an existential perspective. How then does this happen? The question coined in the beginning of this research remains: In what ways do these location-based audio walks mediate the human-world relationship in urban space and how are they able to re-imagine space poetically? The postphenomenology of Peter-Paul Verbeek offers a framework for answering this question using three types of involvement: involvement with the technological artifact, the context, and the commodities it makes available.

The technological artifact

First of all, the involvement with the technological devices, the machinery, relates to the PDA of *De Tapes* and the iPhone of the *Westergas GPS tour* and *iWhisper*. Both devices are pocket size, light weight and have the capacity and functionalities of a computer. Although, the PDA is in everyday life replaced by the smartphone, I will include it in this analysis because *De Tapes* is, for now, only available on the PDA. These devices are common goods and part of everyday life. Their functionalities invite a variety of uses, of which the location-based audio walks are one. The different uses also invite different ways of being involved with the device and with one's surroundings. Verbeek uses the terminology of amplification and reduction within the hermeneutical dimension of his analysis, to understand the level of involvement, and the mediation of perception and experience. My involvement with the PDA during *De Tapes,* for example, was reduced to the audio I heard through my headphones as the device itself disappeared to the background. After I press play, I could place the PDA in the pocket of my jacket and walk around. While walking, my physical location, my route and my pace defined what I heard. It amplified the embodied relationship and in doing so, it mediated my perception and experience of the surrounding space. *iWhisper* by Monobanda makes use of location-based technologies the same way as *De Tapes;* I could just leave my iPhone in my pocket as well. However, at the same time *iWhisper* also provides visual information about the location, including a map of the area with location markers on its screen. With the result that, even though this information is only supplementary, it still made me hold the device in my hands while walking around the Dom Square in Utrecht. I was slightly more involved with the device itself than I was with *De Tapes*, as I was holding it in my hands while looking at its small screen. This behavior is comparable with the case of the

Westergas GPS tour. This application also provided visual information on the screen in the form of a map with location markers, as well as historical photographic images of the location. The location-based technology used by *Westergas GPS tour* merely functions as a navigational tool, which releases certain audio files at corresponding physical locations. These audio files do not start to play automatically. On the contrary, they start when I press play myself. The interaction model is thus different from *iWhisper* and *De Tapes,* which both start whenever I reach the location with no involvement from my part with the device.

The way I experience the world, while using the PDA or the iPhone with a location-based audio walk, is thus mediated by the embodied and hermeneutic relationship with the technology itself. These technologies mediate the way the world is present to me and involve my experience, perception and interpretation of it. At the same time, location-based audio walks mediate my presence in the surrounding space. The technologies initiate, on different levels, a certain involvement with the device itself. This involvement influences my actions and behavior in urban space. All three of these cases provide the possibility to walk around freely; they do not have a linear route that has to be followed. However, the way I walk around, my pace, the amount of time I sit down or stand still differs per case. *De Tapes* invites to walk the most, as it covers a full neighbourhood full of content. Only once in a while, the audio file was a bit too long which made me stand still. This differs with the *Westergas GPS tour* and *iWhisper,* that both cover a much smaller area in their walk. Especially *iWhisper* covers a small area, with the result that I moved from one corner to the other to sit down at benches and sidewalks. How the technology is used in each of these case studies mediates my actions and the way I am involved with the device, which in turn mediates how I am present in my surrounding world.

The context and environment

The second type of involvement relates to the way I am involved with the surrounding world, which is mediated by the use of the device. The less I am actively involved with the device, the more I engage with the surroundings and context of the audio walk. The immediacy of the device itself results, in a certain way, in a reconnection with the physical location. In the case of *De Tapes*, for example, I connected to the cultural diversity of the neighbourhood. The *Westergas GPS tour* on the other hand made me re-imagine the times of the gas factory and its danger, and *iWhisper* brought me back to the intrigues, gossip and diplomatic lobby during the peace treaty of Utrecht in 1713. I reconnected to the surrounding space because each of these location-based audio walks tell stories and use audio that is linked to and made for these specific physical locations. They plug into the significant characteristics of the physical surroundings, and in doing so, they relate and add to my own memories, dreams, ideas and stories of those places.

In addition to the direct connection to my cultural memory, these audio walks also re-imagine space poetically because they involve engagement with reality as an act on their own. I walk, and from the moment I pressed play I decided to take a certain amount of time to just walk around and listen. The way I walk through space and the way I am present in the surrounding world and the world is present to me is strongly mediated by these location-based audio walks. During this experience I inhabit the surrounding space and I relate not only to my own personal and cultural memories of the space, but also to the stories of the audio walks. Hermeneutically, these technologies amplify the memories and stories of the physical location and they reduce the idea of space as functionality. Other people and the traffic around me continues to move, while I connect

with the space poetically. In a way this results into an aural magic circle[2]. Michael Bull talks about this personal bubble in public space with the use of personal audio players. However, the mobile music usage mentioned by Bull, is more a consumptive act, while the location-based audio walk is an act on itself. As the purpose of these walks is to connect with the physical location, which results in a more engaging experience of the surrounding space. In addition, when using the location-based audio walks, I re-connect with public space on the level of poetics, as described by Gaston Bachelard and mentioned in the first chapter. The cultural memories of the surrounding space come to light and interweave with my own state of mind. My own cultural and multi-ethnical ideas are challenged by *De Tapes,* resulting in not only a re-connection with the physical surrounding, but also with my broader perspective of multiculturalism in the Netherlands. *iWhisper,* at its turn, taps into my historical imagination of my hometown, while the *Westergas GPS tour* provides me with a fictional historical background, which connects to the area of the *Westergasfabriek.*

The commodities; what is made available

Finally, the description above also shows that the commodities that are made available by these walks play a significant role in the mediation of the overall experience of space. This relates to the third form of involvement, which is, in the case of location-based audio walks, the walk itself. The location-based audio walk produces a reality on top of physical space. This relates to Borgmann's idea of information *as* reality, where the audio walk is a hyperreality produced by information technologies. However, like Verbeek

2. Magic circle is a term coined by Dutch historian Johan Huizinga, who uses it in his 'game'-theory and describes it as a "temporary world within the ordinary world, dedicated to the performance of an act apart" (Huizinga cited in Nieuwdorp 2005, p.6)

states: "technological information *mediates* human engagement with reality" (Verbeek 2002, p.87). The augmented reality provided by these walks is part of this network of relations as well. The type of information provided by the audio walks mediates the experience and perception of the physical surrounding. The aural layer, as an augmented reality, plays an important role in the mediation of reality. By moving away from the visual dominance of the screen, the aural augmented layer of these location-based audio walks make room for the physical surrounding to become a part of the overall embodied experience. Each of the three case studies establishes this embodiment differently, due to the way they use the technological device, the contex of their walk and their significant use of audio in a variety of forms.

De Tapes, for example, makes use of the voice of Farid Boukakar as a constant element in the overall narrative of the walk. He does not only talk about his own story, but also about the characteristics of the neighbourhood, significant locations and the cultural differences. In addition to his narrative, different types of (background) music are added to each audio file to create a constant aural experience. This use of audio relates back to the time of orality and the aural story around the campfire, because it centers around one narrator who talks. The difference, however, is that the story is told while walking around the *Transvaal* neighbourhood. This audio walk does thus not only mediate my perception and experience of the hood, but also the way I move through the streets. I am present in the surrounding space and I am involved with the story of Farid, while at the same time my experience is reduced to this story and my relation to it. The *Westergas GPS tour* makes slightly different use of the aural element in their audio walk, as they use interviews with the old factory workers and their partners. The audio consists of people who tell their own story and of the surrounding sounds

characterizing the sounds of the factory. Different from *De Tapes*, the *Westergas GPS tour* does not provide a constant audio stream. *iWhisper,* on the other hand, is a combination of both, the aural layer of *iWhisper* is characterized by dialogues between different personages. In addition to these dialogues, Monobanda added surrounding sounds and soundscapes whenever there was no dialogue available. When comparing these cases to different media, one can say that the aural characteristics of D*e Tapes* is similar to an audio book; *Westergas GPS tour* to an audio museum guide; and *iWhisper* shows similarities with a radio drama. This difference is significant, as it characterizes the possibility of location-based audio. It shows that there is the possibility for different uses of audio and narratives. Although all three relate their narrative to the physical surrounding, and use the urban space as mise-en-scene and stage for performance, the types of stories differ from fictional to historical. This brings the urban space to life and connects it to the histories and memories of oneself.

Poetic re-imagination of space.

4.

Location-based audio walks thus, like many other technologies, mediate the human-world relationship from a hermeneutic and existential perspective. How does this relate to Eric Kluitenberg call for the poetics of hybrid space? And how then does this mediation lead to a poetic re-imagination of space? As mentioned before, Verbeek, with reference to Albert Borgmann, focuses on engaging devices. With engagement Borgmann, as well as Verbeek, refer to a certain kind of poetics and aesthetics. As illustrated with the analysis of the three case studies, location-based audio walks are engaging products.

> "Engaging products are present to human beings in ways that are neither entirely ready-to-hand nor entirely present-at-hand. While a ready-to-hand artifact completely withdraws from the relation it makes possible between humans and world, an engaging artifact remains explicitly present in that relation, but without demanding so much involvement that it becomes present-at-hand" (Verbeek 2005, p.229).

This engagement leads to an embodied relation with the artifact, the PDA and the iPhone in the case of *De Tapes, iWhisper* and *Westergas GPS tour*. How then do these engaging devices mediate the experience and perception of urban space? Verbeek's postphenomenological vocabulary provides two points of departure for this analysis from a hermeneutic perspective. The first is that artifacts mediate perception

and context of interpretation, and the second is that experience takes shape as perception, interpreted within a context of meaning. Artifacts, like the iPhone or PDA, mediate human experience thus by transforming perceptions and interpretive frameworks, helping to shape the way in which human beings encounter reality (i*bid.,* p.195). The structure of this kind of mediation involves amplification and reduction, meaning that certain interpretations of reality are excluded (reduction), while others are promoted (amplification). Location-based technologies move the machinery of the device and often even the device itself to the background. One's geographical position is registered by the device and is used as an interface. The result is that the use of a PDA or iPhone, in the case of location-based audio walks, becomes fully embodied; the device literally becomes an extension of the senses, as the physical location of one's body defines what one hears when walking one of these audio walks. The involvement with the device and the machinery itself is reduced and moves to the background, while at the same time these technologies amplify the embodied relationship.

In addition, Verbeek's framework provides two points of departure for the existential perspective. The first point is that artifacts mediate action and context of existence, and the second that existence takes shape as an action involved in a context of existence (Verbeek 2005, p.196). The existential dimension relates to the involvement or engagement with the artifact itself, the context or surroundings of the artifact, and that what it makes available. The involvement with the artifact itself is reduced to the technology of the device. In the case of location-based audio walks, it relates to the involvement with the location-based technology of the PDA and the iPhone and how this involvement influences actions and behavior. The physical location and the context of the surrounding becomes an integrated element of the artifact and the interaction with the

artifact itself. As mentioned above, from an existential perspective the way in which humans are present in reality is through their actions. Verbeek gives notion of this by stating that "these actions, on their turn, help to shape the ways in which humans can be involved with reality; their involvement can have the form of 'engagement' or consumption'" (Verbeek 2002, p.84). This involvement with reality takes form in the involvement with the technological device itself, as well as with the context of the artifact and the commodities it makes available.

In the case of location-based audio walks, the commodities that are made available turn the involvement of reality from a consumptive practice into a form of engagement with reality. First of all, the location-based technologies of the PDA and the iPhone, as used in the cases, evoke a new form of engagement with the surrounding space. When I was walking these different routes, they directly linked to the existing poetic imagination of specific physical locations and created an aural experience within the context of these locations. In doing so, they amplified the poetic experience of the surrounding space with the imagination and memory of the location. The surrounding world is present through the embodied experience of space consisting of the interactivity with the location-based technologies: the audio through the headphones, the story told, and its connection to the physical space. One of the most important elements in this mediation is thus what the device makes available. In the case of *De Tapes,* this relates to the cultural awareness of surrounding space beause of the fictional and realistic narrative of Farid, who tells his story with a comical flare. Meanwhile, the *Westergas GPS tour* shows how people worked at the factory sixty years ago, and provides a realistic historical layer on top of the surrounding space. It brings the personal and historical stories of a certain place to life. In addition, *iWhisper* creates a fictional historical

experience, based on certain historical happenings. The dialogues around the Dom Square are fictional, however, situated as realistic.

In each of these cases the involvement, in particular the poetic involvement with the physical location, is mediated through the location-based technologies. The user is present in the surrounding space, and while walking around or standing still listening to these stories, one relates to and is present in one's own personal and public surrounding world. The connection between the embodied experience mediated by the audio walks is directly linked to the physical location, as well as to one's own memories, dreams, histories and ideas, not only related to that certain location, but in general. My knowledge of the multicultural society, the history of the Westergas factory and the history of the Dom Square are also part of this experience. At the same time, each of these case studies makes different use of audio and establishes in different ways an aural augmented reality. They amplify the aural experience through headphones, and in doing so, they reduce the sounds of the city itself. They mediate the experience, and the way the world is present as a fully embodied relation with the presented audio, the surrounding and the device.

The reason for being present in space is thus not functional in nature but poetic: it is to experience the audio walk. The action and the way people appear in their world, with the use of location-based audio walks, is therefore an act on its own. The technology invites the user to walk around and inhabit its surrounding. In doing so, it creates a certain involvement with the surrounding space, which is similar to Borgmann's notion of focal practice. Location-based audio walks engage the listener in the surrounding space. One is present in the world by one's footsteps, one's pace, one's route and connection to the surrounding. The action of walking around

involves the experience of the city, one's own experience and the memories presented by the narrative of the walk. Therefore, these audio walks can be seen as a focal practice: they draw together human involvement and invite engagement with reality. These "technologies do not alienate humans from reality, but help shape their relationship with it. In doing so, they amplify specific forms of engagement with reality and reduce others. Technologies are the link between humans and their world" (Verbeek 2002, p.91). Therefore, they do not have to break down to enter consciousness. As the postphenomenological analyis of the different case studies shows, location-based audio walks are capable to reconstruct, reshape and re-imagine hybrid space poetically, because they are engaging products that mediate the overall dynamic experience of the human-world relationship whitin the complex multiplicity of hybrid space.

Conclusion.

This research started with the concern of Eric Kluitenberg and his requests towards cultural theorists and artists, to investigate how the hybridized spatial multiplicity can be intensified to such an extent that it can enter consciousness. Throughout this research, I have taken this request into account and have used it to look further. Before I was able to answer this question, I wanted to elucidate how mobile and locative technologies intensify the hybridity of space, while at the same time urban space itself has always been multiple and hybrid. The use of locative media only intensifies the amount of connections and layers. Therefore, it makes the hybrid character of urban space more apparent. Hybrid space, as used in this research, is therefore referred to as the technological blurring of spatial borders with social and communicational interactions, as well as the intertwined aesthetics, cultural and imaginary elements and experience of space. Hybrid space is thus a variety of flows, entities and relationships, defined by its dynamics and multiplicity. Within this complex concept, I paid particular attention to the role of dreams, imagination and memory in the experience of hybrid space. In doing so, I used the concept of poetic imagination by Gaston Bachelard as my theoretical reference and framework for the understanding of the poetics of hybrid space.

   In the second chapter, I connected the poetic imagination of Bachelard to the concept of focal practice and engagement defined by Albert Borgmann. These concepts both involve a way of being engaged with reality. The poetic act and focal practice are

both acts on their own with meaning in themselves. However, both theorists stress that technologies threaten the possibility to engage with reality. I, therefore, used the postphenomenology of Peter-Paul Verbeek, to show that technologies in fact are very much capable of engagement and that they mediate experiences and existence in such a way that poetic imagination actually is an active part of this experience. I chose to look at an artistic niche within the broad ecology of locative media, the location-based audio walk, because this specific medium shows how location-based mobile technologies are able to establish a poetic experience of hybrid space.

The third chapter further elaborated on the media specificity of location-based audio walks, with the particular focus on the role of the aural experience in these walks, to conclude with a postphenomenological analysis of three case studies: *De Tapes, Westergas GPS tour,* and *iWhisper.* Location-based audio walks are thus able to engage one in one's surrounding space. The final chapter shows that they mediate the experience of hybrid space from an existential and hermeneutic perspective. The involvement with the technological device, the context or environment, and the content that is made available, shows that location-based audio walks engages its users. In doing so, it reveals the poetics and imagination of specific locations in urban space, for example, the *Westergas GPS tour* reveals the history of the Gas Factory; *De Tapes* taps into the multicultural tales of Farid and his hood; and *iWhisper* brings three hundred-year-old gossip to life in Utrecht. The describtion of the case studies shows that location-based audio walks are part of the hybridized spatial multiplicity Kluitenberg talks about. In addition, the postphenomenological analysis, confirms the mediating role of location-based audio walks in the human-world relationship. This medium is thus an active actor within the dynamic multiplicity of hybrid space. Most importantly it shows that location-based audio

walks are able to engage and connect to the dreams, memories and imagination of its listeners as well as the urban space around it. Although it is still an artistic niche within a broader ecology of locative media, the location-based audio, is able to provide Kluitenberg with an answer as it poetically re-imagines and reconnects hybrid space.

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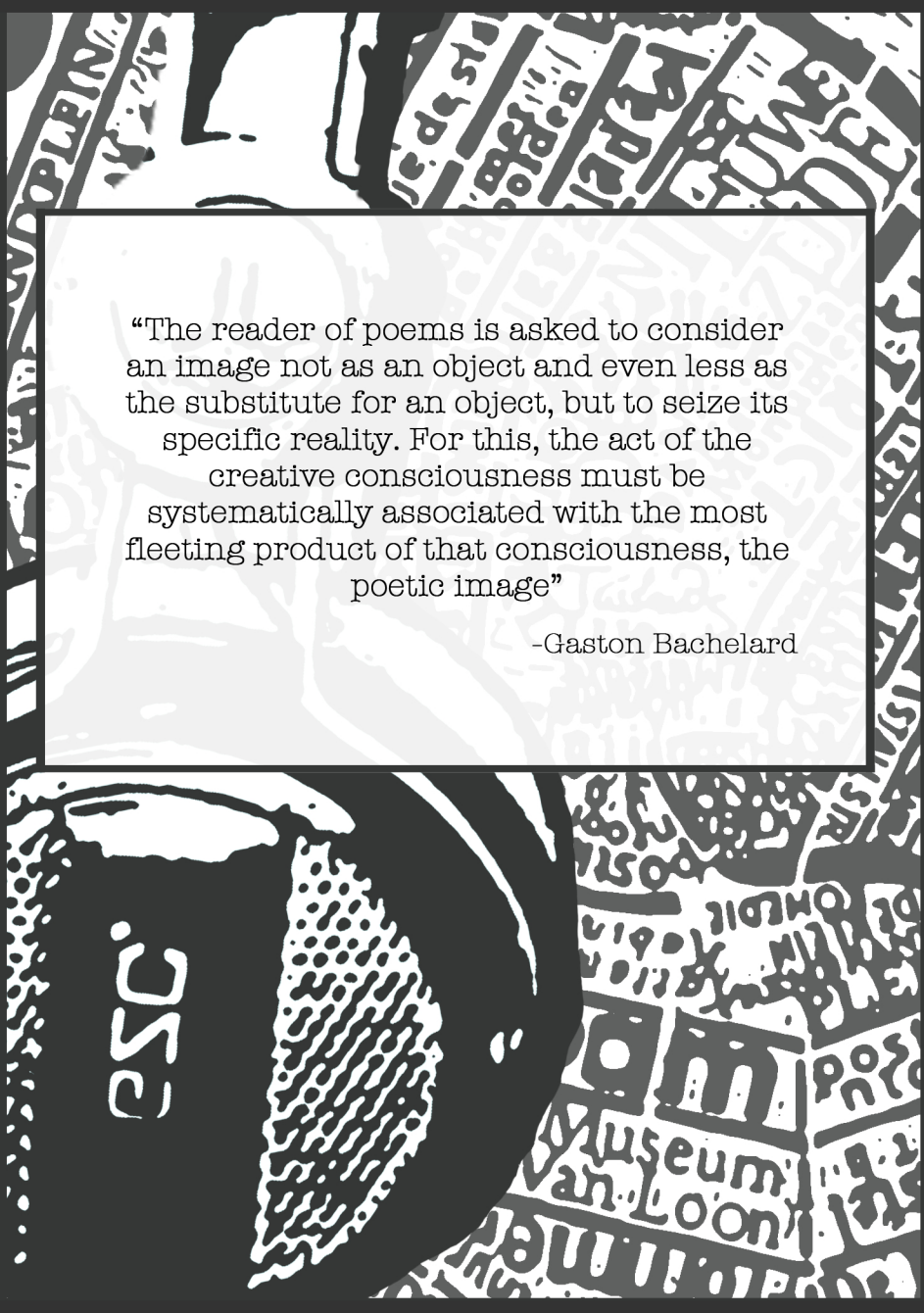
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My kind
familiy,
friends and
advisors,
I can no
other answer
make but
thanks, and
thanks.

"The reader of poems is asked to consider an image not as an object and even less as the substitute for an object, but to seize its specific reality. For this, the act of the creative consciousness must be systematically associated with the most fleeting product of that consciousness, the poetic image"

-Gaston Bachelard