



# AUGMENTED REALITY AS MEANS OF TRAVEL – WHEN PICTURE CHANGES THE PLACE

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Article deals with the topic of travel in new and unexpected way. It analyses new technology, used in creating art or other products, that is called augmented reality and its usage on spatial objects. Author tries to find out how the operating with space in order to produce the experience of travel acts. This task is carried out by analyzing few video examples that are created on Vilnius Cathedral or we might even call it a tradition – each year the projection is being screened on Vilnius Cathedral building that always collects masses of the viewers who are watching it. Even if all projections differ at some point one from another, yet each of them have in common time (in December, before and after Christmas, topic (Christmas) and place (Vilnius Cathedral)). So article analyses what this projection does with the building and how its being percept by viewers, by audience.

Keywords: augmented reality, communication, contemporary art, ritual, travel.

## Introduction

Augmented reality is new fast developing technology, or media, that is becoming more and more popular in different fields of human activity. Its being used various ways. One way is to apply additional reality objects inside the monitor of photo camera or computer – this way reality remains virtual. But far more impressive way is to apply visual image on the space by using projectors, or other equipment (this specific way its called projection mapping). This way the space itself is becoming altered, changed, put in motion. Usually certain visual story is projected on building, sometimes as logical narrative, but commonly it is just the game of forms, shapes, and light. Such projections are becoming increasingly popular during city celebrations, festivals, etc. due to its big effect, almost every bigger town had such projections for certain event. Especially it is popular in towns that are aiming to become creative cities that want to demonstrate their ability to insert cultural products into everyday urban life. As Jūratė Černevičiūtė puts it, “in other cases, a more pervasive role of culture in the

creative city rests on the capacity of arts and culture to foster urban liveability, social cohesion and cultural identity” (Černevičiūtė 2011: 90). We can notice such projections becoming tourist attractions of the sort. No exception is Vilnius. It has already a popular tradition of three years on having projection during Christmas time on Vilnius Cathedral.

These projections every time are gathering big crowds of viewers to watch them. So we might research travel phenomena from the perspective of people, who are travelling every year to see this projection, to research the projection as the tourist attraction. But I would like to invite us to rather research and analyze travelling inside the picture, how viewers are supposed to travel inside the story, how narrative of the story makes the space travel, I would like to analyze the supposed movement of space while audience is watching.

### Augmented reality as technology

First we might start from finding out what this augmented reality is and how it come to play and be popular. As mentioned above, augmented reality is fast developing technology, or rather cultural field, or media that is now only started to being researched. First ideas of augmented reality as technology appeared around 1950, in scientific laboratories (Carmigniani, Furht 2011: 4), that later started to be used by military industry, as “military aircraft and helicopters have used head-up displays (HUDs) and helmetmounted sights (HMS) to superimpose vector graphics upon the pilot’s view of the real world” (Azuma 1997: 360). Latter it was adapted in medicine field, as octors could use augmented reality as a visualization and training aid for surgery” (Azuma 1997: 356) and other science fields. But only when it was found by entertainment and art industries it was popularised to its peak. As Ronald T. Azuma puts it, “Augmented Reality allows the user to see the real world, with virtual objects superimposed upon or composited with the real world. Therefore, Augmented Reality supplements reality, rather than completely replacing it” (Azuma 1997: 356). One of ways to use augmented space, is projecting it into spatial objects. The difference is obvious, as “Spatial Augmented Reality make use of video-projectors, optical elements, holograms, radio frequency tags, and other tracking technologies to display graphical information directly onto physical objects without requiring the user to wear or carry the display” (Carmigniani, Furht 2011: 11). Projection mapping is just one of the ways to use augmented reality in entertainment industries and art, and it is got its popularity just few years ago. Usually the projection lasts about 10 minutes and commonly (almost always) it is accompanied by sound. In projection mapping works big emphasis is usually given to surrounding space or the surface, on which the projection is shown, this way certain message is being communicated to the audience. Usually projections are shown at certain time, sometimes it is projected randomly or in loops, however, timing is also very important for the projection. Because AR technologies are becoming more mature and well established, AR applications are becoming more variable and popular (Chi *et al.* 2013: 116).

While describing projection mapping as visual technique, the construction of it is simple – certain visual material is being screened usually with the help of projector, but when it comes to attributing it or finding theoretical approach and categorisation in communication theory or visual art theory, we come across complicated situation. Of course we can categorise it applying term media, as its mediating certain information to us, and in terms of Marshall McLuhan, extensions of men, but what precisely it is extending? While looking at the senses its stimulating the most, first of all we must say visual perception is the most important, but also here comes the audio part of it, as it is also very important. Having to look at the projections themselves, or the effect of them, or what excites the crowds the most, we must take in consideration the effect of movement, kinaesthetic value of the projection – the ability to change the space, movement of the space is something that is a special added value of these projections. As most of the time, that is something, that mesmerizes the audiences and that is something, what is always described as the biggest impression maker? So to sum it all up, we must conclude the synesthetic nature of these projections being biggest value of them, and they do extend the ability of person to travel through space. From other hand, projection mapping is message itself, if we apply words of McLuhan. This could be said because it is changing human perception of space; it applies travelling through space attitude to it.

If we are trying to categorise projection mapping as visual art technique, we can apply the term of digital art. The way it is created, projection mapping is not that different from any other new media art, as its created using certain computer software. But essential thing here is space, on which generated image or its sequence is being applied. As Lev Manovich puts it, “the layering of dynamic and contextual data over physical space is a particular case of a general aesthetic paradigm: how to combine different spaces together” (Manovich 2006: 226). Projections are extending the space, and they are adding new meaning to it, new features. It could be said, that projection mapping is media of the media because it is applied to other media (architecture), and without it cannot exist.

Before going into further discussions, we have to clear distinction between augmented space and virtual space. Is it the same thing, or are they essentially different? Both of them has a digital dimension, both of them are related to our real world, its being created with same software, same principle, by creating something, that does not exist. So if we look from technological point, virtual reality is equal to augmented. But the differences apply. Main difference we can see in the fact, that virtual reality is only projected in computer screen, where it is creating separate reality, different from our reality, even if the shapes of it are similar. And augmented reality is adding to existing reality, thus perfecting it, altering it, explaining it, and giving new meaning to the existing space. Usually it stimulates our visual perception, but can also stimulate hearing or sometimes even smell. Both virtual and augmented space is filled with virtual objects, but in case of augmented space, they are created in order to expand and explain the space. Also in the case of augmented reality, real place, surface can be hidden, misinterpreted, and broken and so on. According to Gregory Kipper

and Joseph Rampolla, augmented space has these features: 1) it is combined from real and virtual information, 2) it is interactive and takes place in real time, 3) augmented reality is operated and uses 3D space (Kipper, Rampolla 2012: 3).

Here we must take into consideration that augmented space originated from virtual reality, so all together we must make a conclusion, that virtual and augmented space are similar in the process of creating, but differs in the process of perception or showing it.

Analyzing artworks that are in the field of augmented space it is important to question the quality criteria that are applied, while talking about augmented space works. First thing, that is obvious, talking about them, is their illusionistic aspect. As mentioned above, they all try to create illusion of space. To create visual illusion is not any ways novelty of our age, visual art had always tried to create certain spatial illusions. All traditional painting had tried to show an object as realistic as possible. But as Manovich states, “20th century art had declined purpose of illusionism, so important before, because it had lost its popularity. Creation of Illusionistic representations had now fallen into the field of mass culture and media technology (photography, video and cinema) fields. Creation of illusions had now been processed to the optical and electronic equipments” (Manovich 2001: 96). So as we see into creation process of virtual and augmented reality, here the aspect of illusion is important or even essential criteria. Why it is so, can be answered by Manovich: “perfectly created reality simulations is leading whole field of virtual reality” (Manovich 2001: 88). From the start, when 3D software appeared, the quality of its images was measured by accordance, likability with real prototypes “idea of illusionism was connected with successful representation of certain objects. <...> latter examples of art history is talking about fame of these artists, who due to their skills were able to simulate one more symbol of nature-human figure, so it is no surprise, that in computer animation history human figure simulation was the key criteria” (Manovich 2001: 53). So for most of augmented space works we can apply the term of visual realism. However we might guess that in visual art field this tendency is going to change soon, by the way its changing now, and soon we will see the works, that does not try to reflect reality as perfect as possible. However if we talk about the situation now, we must conclude that reality dimension of such artworks is an important, or even essential feature.

### Christmas’ projections on the Vilnius Cathedral as travel to the fairy tale world

In this part we are going to discuss a tradition of projection mapping on Vilnius Cathedral during Christmas time in order to analyze how they are shaped and in search of travel experience features in them. As we might notice, interventions in city space make differences in people perception of the city. As Jekaterina Lavrinec puts it, “Everyday interventions shape common space of shared emotional experience, bringing changes into an everyday scenography of city spaces and establish momentary citizen solidarities. Everyday creativity becomes a source of inspiration for art projects, which explore forms of communication and cooperation in public spaces”

(Lavrinec 2013: 29). Therefore using Vilnius Cathedral for projection brought completely new experience to the perception of the Cathedral Square, Vilnius itself. First time visual projection mapping on Vilnius Cathedral was created in 2011. That time it was called Christmas 4D projection “Magic Christmas”.

It was shown between Christmas and New Year, and it was situated on the east side of Vilnius Cathedral building. It was part of events for the Christmas time in the capital of Lithuania. The story was projected on the whole side of the Vilnius Cathedral (all together 1100 square meters), so that it is comfortable to watch for the audience from Cathedral Square, Vilnius. The difficulty of projecting that this side of building is not flat surface, it has niches, columns and even sculptures.

The whole narrative of the fairytale starts from congratulations in four languages (Lithuanian, English, Russian and Polish). All the fairytale consists of short scenes that are important for Vilnius history and culture or ones depicting Christmas tradition, such as Christmas decorations and Nativity Story. Vilnius history scenes include: angel sculptures, that were Vilnius symbol, for a whole, founder of Vilnius, Grand Duke of Lithuania Gediminas, whose statue is standing inside Cathedral Square, Vilnius and the legend of how Vilnius was found, mystical creature of Vilnius Basilisk, Vilnius landscape with both modern and famous old buildings, traditional Lithuanian folk decorations. In between, there are various visual effects inserted, where the building is collapsing, architecture is moving, etc.

This projection is created by *Gluk Media* group, the screenplay is by Mindaugas Meškauskas and the soundtrack by Deivydas Zvonkus. At some point even the smell option is added to the projection, as it appears the smell of clementines and cinnamon. This fairy tale was screened 3 times daily from December 25 to 30, and every time it collected big crowds to watch it. All latter projections were screened around same period with similar time intervals and the audience was reported to be around 250 thousand of people, even if local medias each year reported this number as kind of sensation.

Next year, 2012, Cathedral Square, Vilnius was again used form many Christmas events and one of them was projection mapping again. But this time the bell tower was used for the projection-it is much more simple space, as it does not have any columns, sculptures or other details, its white, and the only difficulty of it is a little bit rounded shape. This time the story of projection was simplified too, it was all about Santa Claus, who is living inside bell tower, and he was talking to kids in Lithuanian language, describing his life, and also he was inviting them to dance. The biggest difference of this projection was that it was interactive – Santa Claus was talking to kids real time; he was reacting and commenting on their remarks. Also besides kids, he was talking to Vilnius officials – Mayor Artūras Zuokas and others. The creators of this projection were *PM Screen Group*.

In 2013, Vilnius had projection again. This time it was screened on the side of Vilnius Cathedral. Also, it was named as fairytale about Christmas. The story this time evolves only around Santa Claus and its dwarfs, and how they are transporting gifts to kids. Whole scenario is very simple, and the sound is added to it too, all personages are very colourful and bright. The scenes are created using bright colours, and shapes

of Vilnius Cathedral are turned into various colourful, funny shapes. We might conclude it being strange choice, knowing this projection is taking place on the Vilnius Cathedral, that alone is already has classical and complicated shape, not to mention the spiritual significance of it. But this contrast might have let to such big popularity of projection. As Agnieška Juzefovič puts it, “One of the ways of visual expression that creates such tension, is a dissonance between what spectator expects to see and what he sees” (Juzefovič 2013: 122). Projection was created by company *We Create Magic*.

In 2014 projection was big event again. It had been screened as usual from December 25 to 31, three times a day. This time the biggest change was that fairytale was named “Nine horned deer has come”, it was animated story, created by famous writer Vytautas V. Landsbergis, 3D animation was created by *Video Architects*. This time narrative was about the deer that is bringing presents to the kids from Santa Claus, his trip to Vilnius, and meeting magic swan, their adventures in Vilnius. Projection did not have original music score, but personages were speaking. It used space as screen, and had just a few visual effects, that typically such projections have. But most importantly it had incorporated few times drinking coffee narrative as central to the story: the story starts with the big cup of coffee appearing in-between snows, another scene includes Santa Claus drinking coffee as it helps to regain strength, also one scene incorporates two rabbits drinking coffee and watching fireworks. Drinking coffee during Christmas time is not special tradition in Lithuania, so the reason why around one tenth of the plot was directly connected with it is because one of the sponsors for this projection was coffee company. In this case we have to conclude that Vilnius Cathedral had become place for advertisement, as whole plot of this fairytale was had to get and had not much logic.

All together we can see that having projection on the Vilnius Cathedral had become a tradition in Vilnius, and it gather big crowds of people. But what we must note, watching the development of this projection, that it is becoming more and more simplified. If first one was attempting to narrate both Biblical Nativity Story and legend of Vilnius, also it was using symbols from this space, then next projections were not even intending to do so-they were only interpreting the story of Santa Claus, and were turning the Vilnius Cathedral into the house of Santa Claus, with final one becoming some kind of extended version of coffee advertisement.

So if we try to figure out the message, transmitted by these projections, we must take into consideration few things. It is obvious, that in contemporary world, media artworks can be read as texts and could be measured by quality of messages they transmit. But is the traditional transmissive model here the most useful? If we try to decode message this way, we must agree that in this case the sender is the artist (and the city government, who ordered it), who had created the story by 3D programme, and it was transmitted with the help of projectors on the side of Vilnius Cathedral to the receiver, who is audience, that gathered there. But this kind of interpretation is rather schematic, and it is not clear, what kind of effect these images have, if they have any. In this case, the logical structure of the message does not apply, there is no narrative as such. Therefore the audience is not going to understand or get the

message right way, so here we have the problem. In this case it might be better to apply ritual model of communication by James W. Carey. It states, that the meanings are created during communication. So in this case, when projection is being screened with square, full of people, each of them are creating their own interpretation, but the most important for them is this ritual, this ceremony, where they all take part in. They are both in Cathedral Square, Vilnius – place in Vilnius, but also in some sacred communal place, in specific ritual of contemporary people, watching the magic before their eyes. Even if Vilnius Cathedral is place for religious ritual and had been significant as such through out centuries, most of contemporary people do not consider it as such anymore, as they are not religious anymore. But as the projection is screened, and as crowds gather to see it, Vilnius Cathedral is becoming sacred place again and this time as the place of entertainment of the sort.

## Conclusions

As we can see, the tradition of having 3D projection on Vilnius Cathedral is already strong tradition, lasting 3 years, and it seems to have big potential for the future. From one hand we can see increasing of audience and popularity, to watch projection in the Cathedral Square, Vilnius had become a popular ritual. But at the same time we can notice, that the shapes, forms and especially the narrative of this projection is becoming increasingly superficial and simplified. If first one talked about travelling both in space and time and significant stories for Vilnius people – Vilnius founding story, Biblical Nativity Story, the following projections had only been attempting to travel in space, or rather only in fantasy world, as they talked about Santa Claus and were turning Vilnius Cathedral into Santa Claus house, or the whole story into coffee advertisement. Same goes for the shapes and colours – if first one was really artistic, and unique, then following projections were using very bright colours and cartoon heroes. So we have to make a conclusion, that this projection is going increasingly simplified and kitsch direction. Nevertheless augmented reality as a new kind of digital art had become more and more popular among contemporary creative industries, and its gaining more and more attention – among these who are involved in practical creation and among researchers too. And it is also interesting specific case of imitating travel.

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## AUGMENTUOTOJI ERDVĖ KAIP KELIONĖS PRIEMONĖ, KAI VAIZDAS KEIČIA VIETĄ

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### Santrauka

Straipsnyje kalbama apie kelionių fenomeną iš naujo rakurso, pasitelkiant naują technologiją, kuri naudojama greta kitų tikslų ir menui kurti bei vadinsi augmented reality erdvė, aptariant jos panaudojimą erdviniams objektams. Gilinamasi į tai, kaip šie kūriniai paveikia erdvę, kurdami kelionės pojūtį. Užduotis vykdoma pasitelkiant kelis pavyzdžius, kurie buvo sukurti ant Vilniaus šv. Stanislovo ir šv. Vladislovo arkikatedros bazilikos sienos, ir šiuos projektus jau galime įvardyti kaip tradiciją, kadangi kiekvienais metais projekcija surenka didelį žiūrovų būrį. Nors kiekvienais metais projekcijos šiek tiek skiriasi viena nuo kitos, vis dėlto jas jungia atsikartojantis laikas (tarp šv. Kalėdų ir Naujųjų Metų), tema (šv. Kalėdos) ir vieta (Vilniaus katedros dalis).

Reikšminiai žodžiai: augmented reality erdvė, šiuolaikinis menas, ritualas, komunikacija, kelionė.