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Title:
How are media objects interpreted as phantasmagoria in the contemporary context?
Exploration of the integration of new media and technologies in spiritualist contexts

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Introduction

I have been VJing since 2012, starting in underground rave parties of Vienna and developing to club and festival nights. This year I took new steps in my audiovisual practice and was more interested in the conceptual and perceptual approach behind my visuals.
How can I play with space, brightness, time and perspective? How can I create a dialogue between the sound and the visual, while only using very minimalistic formal language?
This made me realise that I would like to explore more the power of light on human perceptions and to understand contemporary fear.

Therefore I am building the 21st-century phantasmagoria, called *Eigengrau*. My own design aims to adapt to a larger Media Archaeology discourse that I would like to centralise through this Thesis. Beginning at the ancient Greek and Roman era and moving towards the 1799's Robertson's Phantasmagoria until Brion Gysin's, William Burroughs' and Ian Sommerville's stroboscope apparatus, called Dreamachine in the 1960's, I will examine and compare several directions from the technological and perceptual psychological aspects of these media design objects, whilst creating a bridge to my own design. Through establishing this framework the project Eigengrau will become the reinterpretation of an audio-visual dialogue between science and illusion.

My project sets the goal to underline the phenomenon of famous magic lantern projectionists, who were driven by the metaphysical metaphors and the notion of Enlightenment, while promising the elements of demonstrating scientific facts, but paradoxically they were impressing and frightening the audience through black magic and charlatan instruments. If we examine the relationships between the specific time epoch and the content of phantasmagoria spectacles we become conscious about how strongly these shows were the reflections of the zeitgeist. During ancient Greek and Roman times, there was a strong belief that Gods heavily influenced the population, whose aspiration was to establish religious contact on a regular basis. These ritual gatherings took place in temples and with help of a concave mirror and fire the priest was able to reach out to the spirits. 1

Moving further to the violent years of Catholic Revival the German Jesuit, Athanasius Kircher was using his magic lantern as political propaganda and act to serve the Catholic church. With the aim to put the fear of God into their audiences by illuminating the devil. 2 Kircher implied the metaphysical symbolism of his time into his theatrical performances by letting his messages be interpreted differently by the lower and upper classes of the 17th century. During the Enlightenment times, where the influential role of the church and the state started to loosen, because of the growth in the importance of science, several magicians such as Schöpfer, Philidor and Robertson were claiming to be educative scientists. However their real goal was to frighten their audience and make a commercial profit through their "seance" performances. Their visitors had to go on a fast three days ahead before establishing the contact with their descended relatives, and were never made aware that in fact they had become victims of an optical illusion trickery. In the 1960's Brion Gysin, William Burroughs and Ian Sommerville got

inspired by cybernetics, hallucinations and alpha wave brain activities and they developed the stroboscopic apparatus called *Dreamachine*. New neurological after effects were achieved by using the dual structure of the shifting after-image and flickering interruption to produce a virtually experienced moving image.

In this thesis, I will refer to the zeitgeist of now as the 'Post-Digital Immersion Revolution'. Through research, theory and analysis I will explain my reasoning for how we have evolved into this revolution and in what manner my installation will aim to explore and potentially prove it. Nowadays we become travellers of our omnipresence in the physical and digital realm. Eigengrau is metaphorizing this phenomenon through the poetic narrative of using light, sound, and darkness.

This research is tracing the passage from the supernatural to the technological, and there-after the technological to the neurological: the phantoms move from outside to inside. The human nervous system becomes the apparatus through which the phantasm is produced.

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Chapter I
Supernatural

Uncanny

Uncanny is surrounding us in every aspect of our life and our society. The notion and the feeling of this phenomenon could be traced back to the existence of humankind. To understand this experience, first I would like to examine the ethnology of it described in the Merriam-Webster dictionary:
uncanny: a: seeming to have a supernatural character or origin: eerie, mysterious b: being beyond what is normal or expected: suggesting superhuman or supernatural powers. 3

Secondarily, I would like to address it from the psychological perspectives described by Sigmund Freud in his 1919 essay "Uncanny": "Animism, magic and witchcraft, the omnipotence of thoughts, man's attitude to death, involuntary repetition and the castration-complex comprise practically all the factors which turn something fearful into an uncanny thing." 4 (Freund, 1919)

Certainly, many people in the nineteenth century spoke of the "phantoms of the brain" as though they came from outside. As if there were, at the very heart of subjectivity itself, something foreign and fantastic, a demonic presence from elsewhere, a spectre-show of unaccountable origin. By the time of Freud, the rhetorical pattern had resolved, as it were, into a cultural pathology: everyone felt "haunted." That is to say, the mind itself now seemed a kind of supernatural space, filled with intrusive spectral presences, incursions from past or future, ready to terrify, pursue, or disable the harried subject. 5 (Castle, 1988) Murray Leader is recalling Tom Gunning words in his book *The Modern Supernatural and the Beginnings of Cinema*, that not all uncanny experiences are optical (or sensory at all) and that the optical uncanny is not strictly modern. Nonetheless, he holds that "in modernity not only does the optical uncanny become crucial and dramatic, but the modern scientific and technological exploration of vision and optics (such as the proliferation of new optical devices) multiply and articulate the possibilities of the optical uncanny". It is in this compulsive focus on seeing, that seeing things that may or may not be there, that we can recognise one powerful connection between the supernatural and early cinema. 6 (Murray, 2017)

Gods and Ghosts

During ancient Greek and Roman times, the most successful and most common magic was practised with plane and concave mirrors. The projections of gods and ghosts took in place in temples and places of worship as described in 1829 by the French scholar Bacconiere-Salverte in his book *The Occult Sciences*. 7 Hermann Hecht is stating in his 1983 written article, *The History of Projecting Phantoms, Ghosts and Apparitions* that, concave mirrors were in fact used for projection purposes. Here he is referencing to the Jewish story of the Witch of Endor, who summoned before King Saul the ghost of the prophet Samuel. (1 illustration) A Jewish tradition says, that ghosts always appear standing on their heads, which would be of course be the case if concave mirrors were used without the image being reinverted. 8 Paradoxically the appearance of Samuel cannot be true, because he appeared before Saul standing on his feet. 'Gods' were temple workers appearing from hidden corners under the cover of smoke from the altar fires. 9

Writing about ghost and devil projection instruments, I would like to stress the influential characteristics of camera obscura. This apparatus allowed, in its simplest form, to project images through an aperture upside down on a surface opposite the hole. (3 illustration) Giovanni Battista Della Porta (4 illustration) revolutionised in 1589 the use of the lenses and projected the picture the right way round, above the aperture, by fixing a concave mirror inside the camera to re invert the image. 10 The mirror reflects an enlarged image in the right manner round on the screen by inserting a biconvex lens in the aperture and placing a concave mirror in its focus. In illustration 5 (5 illustration), AB is the inverted image received in the focus of the mirror from the lens, and CD is the projected upright image. Porta describes his 'Spectre and Magic Theatre' in his 1589 published book on natural magic in which his "delighted, and often terrified audience, hardly knew whether what they saw was the truth or only illusion. 11 Through the introduction of new technologies during the history of image projection, the audience has difficulty in establishing whether the image is real or illusory, and only once they became familiar with it the apparatus began a commercial media object, thereby the magic has faded away.

The seventeenth century described as an age of social uncertainty and anxiety, lead to a flourishing of illusionistic magic and stage plays, and influenced in the indirect ways the development of the invention of the magic lantern was developed by the Dutch scientist Christiaan Huygens in 1659. 12 (6 illustration)(6a illustration) Not without mention to Koen Vermeir who argues in his article "The magic of the magic lantern (1660–1700): on analogical demonstration and the visualization of the invisible", that it is somewhat anachronistic to pinpoint a 'true' inventor, as looking from a present-day standpoint, 'hybrids' were created; combinations of camera obscura, lanterns, magic lanterns, solar microscopes, projection microscopes, projection mirrors and projection clocks; therefore making distinctions difficult. 13
The cubical shaped magic lantern was an optical box made out of different materials such as metal, wood or cardboard and projected images painted on a glass slide. Through the help of lenses that consisted of a plano-convex lens, with its flat side facing the light source, which converged the light rays onto the painted slide, followed at the end of the lens tube by one or

two plano-convex lenses that enlarged the image and projected it the right way up. 14 (Mannoni, 2000) Inside of the box, an oil lamp with a silvered reflector was placed for concentrating the light beams towards the lens tube at the front of the lantern.

Huygens was not only occupied about the technological development of his apparatus but equally about the content of his pictures. On one of the manuscripts, he drew images which represented a skeleton, sometimes enclosed in a circle, removing its skull from its shoulders and replacing it, and also moving its right arm. In the penultimate illustration the skeleton, with its own head on its shoulders, is shown juggling a second head in the air. The sequence of images is quite remarkable because of its clearly indicated desire for artificial recreation of motion: dotted lines show the required movement of the skeleton's arm. This is the earliest known representation of a moving slide for the magic lantern. 15 (Mannoni, 2000)(7 illustration) To be able to realise his early animation Huygens used two plates of glasses: on the first fixed one the skeleton was painted without its skull and its right arm, and on the second movable one the skull and the right arm was depicted. On the contrary, the Dutch scientist never claimed the credit for making the first lantern device, because he had only seen it as an apparatus for superstition and entertainment.

Next, to Huygens, it is important to underline the influence of the German Jesuit Athanasius Kircher,(8illustration) its self-reclaimed inventor of magic lantern. Already in the early stage of his carrier, Kircher became acquainted with the influential characteristics of light and operated his instruments to serve the power structures of the Catholic church in times of Counter-Reformation. The Jesuit was a true master of performing a balancing act between mysticism and theology, since he never denied the existence of monsters and demons, knowing that these were substantial for Catholic beliefs.

Stepping into Kircher's universe. it feels like we enter his cabinet of curiosities museum in Rome (9 illustration), manifesting in his polymathic œuvre starting from his shadow-light studies till discoveries of harmonic compositions of sound.

In 1644 he published his book *Ars Magna Lucis et Umbrae*, "The Great Art of Light and Shadow", a true testament in pre-cinema history. (9a illustration) Here it is necessary to discover the connection between the texts and devices to be able to decipher Kircher's metaphysical worldview – the hidden Neoplatonic structures of the universe, which demonstrated the visualization of the invisible. 16 His magic lantern could be interpreted metaphysically. If the original light source symbolises God (lux), the lens and the slide symboliszes an angel and man respectively, the image projected on the screen is furthest away from God and properly depicts and symbolises Death, demons and Hell. This might be a step too far, however, in mind of Kircher's Neoplatonism. In Christian theology, the demons are furthest away from God, but in Neoplatonic philosophy, there is no distinction between angels and devils, and all 'demons' are superior spiritual beings located higher than a man in the scale of being. The proper place of demons is one of the thorny problems in every combination of Christianity and Neoplatonism.

Kircher's metaphysics is however flexible enough and contains enough ambiguities to make it possible to fit in most natural and artificial objects. 17 (Vermeir, 2005)

If we compare the two magic lantern designs of Kircher's (6a illustration) and Huygen's (6 illustration) we discover differentiations between the two. The design of the Jesuit does not enlarge as much the image than of the Dutch scientist. Different opinions are described in the academic circles around this phenomenon: Koen Vermeir is expressing that, in fact, Kircher was more interested in a projection process that did not enlarge the image, because he tried to transmit pictures over a long distance while keeping their size within limits. 18 Whereas Siegfried Zielinski is empathising that Kircher places the transparent strips of glass with the images in front of the lens instead of between the light source and the lens. Moreover, when two convex lenses are used, as he describes in the text, the projected images will be upside down. These errors are most likely the fault of the engravers 19. If we believe one or the other statement, the fact is that Kircher used the magic lantern himself for Jesuit theatrical productions and lectures. The dark room becomes a screening room, and the projection equipment is in a cubicle, invisible to the spectators. 20 (Zielinski, 2006)

Kircher's student and editor Gaspar Schott described magic as 'whatever is marvellous and goes beyond the sense and comprehension of the common man'. 21 Only the educational gentry from higher social milieux was able to decipher the concealed memorandum and adore the performance. This lead to establishing an incisive higher class and the common man was prone to superstition. 22 Henceforth Koen Vermeir argues in his article "*The magic of the magic lantern (1660–1700): on analogical demonstration and the visualization of the invisible*", that different kinds of 'illusion', however, refer not only to different social milieux; they are also conceptually distinct. The first - the delusion - presupposes that one surrenders to the image and loses oneself in the delusion. The second - the allusion - draws on a suspension of belief, a critical distance, a recognition of the joke as a joke. But often a joke is not just a joke, and one has the feeling of something really elusive, alluding to a deeper meaning. Only this third step really fulfils the possibilities of the rhetorical illusion. It is here that what I have called 'analogical demonstration' fits. This is not a demonstration in the sense of a mathematical proof, nor is it a direct experimental demonstration of a physical principle like the demonstrations of the anatomist, or the demonstration lecture. One can interpret it as a curious blend between the a-priori thought typical of rationalism and the experimental culture of empiricism. An analogical demonstration is a magical symbol visualiszing invisible and hidden processes in nature. 23

I would like to conclude that from a metaphysical point of view Kircher's instrument would definitely function better than the other version of the magic lantern, because the experimental, metaphysical and theatrical demonstrations cannot be clearly separated. 24

Phantasmagoria, an audio-visual dialogue between the dead and the living

Since the beginning, phantasmagorias were built upon mythological stories, political, sociological and religious propaganda as reflections of the zeitgeist. In the 18th century, the famous phantasmagoria stage magician Robertson performed the myth "The Opening of Pandora's Box" in one of his shows.

My installation aims to reimagine the metaphor of this myth and draws a link to our current times, where the dark web becomes the "Pandora's Box" as a reflection of our zeitgeist. Through the Post Digital Immersion Revolution people are becoming more individualistic and isolated – a shadow of their existence caught in filter bubbles and echo chambers, that are run by big corporations and governments.

The work aims to reflect upon this phenomenon, not as a solution but rather in form of a counter experience. Thus the storyline of experience takes the audience through different mental states and climaxes from fear to excitement, from individual to collective experience for rediscovering new ways of interactions of ourselves and reconnect to senses in form of a spiritual experience.

Eigengrau, the title of the audiovisual installation is derived from German origin meaning 'dark light' or 'brain grey'. In 1860 the German psychologist Gustav Theodor Fechner (1801–1887) introduced this term to denote the disorganised motion of greyish colour seen in perfect darkness. The project focuses on investigating the formal possibilities of the phenomenology of the dialogue between darkness and light derived through perceptual psychology. Here several aspects will be considered for an embodied experience such as; the perception of time in vision adjustment, spatial perception, and variations of darkness and light by crossing it with sound perception.

This performative work will communicate through atmospheres, and is designed to immerse the viewer into an unnerving experience; A multi-sensory abstracted space, that embraces our feelings of anxiety, invokes the power of the invisible and changes our perceptions through space, light, smoke and sound. Since the purpose of Phantasmagorias is deeply rooted in entertainment–I have chosen to position my installation in a contemporary entertainment context - the (night)club.

The choreography of Eigengrau results from continuous experimentation formats through perceptual psychology elements with several LED lights, lenses, mirrors, smoke and spatial sound from the laboratory set up in a dark room of Willem De Koning Academy building in Rotterdam. Experiments were undertaken by test persons and their participation was noted in terms of:

- How did they felt during the several climax moments of light intensity?
- Did they experience Afterimages?
- Did they feel disoriented during the test?
- Were there moments where they had uncanny experiences?

The following perceptual psychology elements are implemented as technology of Eigengrau; mental cleanse, total darkness, perception of time in vision adjustment, spatial perception, variations of darkness and light by crossing it with sound perception, disembodied spatial sound, eigengrau, spatial disorientation, Afterimage - flicker effect and total brightness. These will be illustrated in depth through the 'mise en scène' a few lines below. Before understanding the relationships between Eigengrau within the history of Phantasmagorias and perceptual psychology we need to a closer inspection at the Media Archaeology of this phenomenon.

During the turbulent years of the French Revolution (1789 – 1799), the writings of Athanasius Kircher inspired the Belgian inventor, physicist, and showman named Étienne-Gaspard Robert, known as Robertson 25 described in his 1830–34 published book *"Mémoires récréatifs, Scientifiques et anecdotiques"*. He presented his first "fantasmagorie" at the Pavilion de l'Echiquier in Paris, whilst calling himself as a creator of this "scientific effect", however he never disclosed his discoveries. 26 The true fact is that he did no more than borrow and exploit a method used by several other skilled projectionists well before him. Although he certainly fine-tuned the technology and made it to a commercial success, which ended in a course of a trial due to plagiarism.

To be able to understand Robertson's "invention", we need to learn about the etymology of the word "Phantasmagoria" in Oxford English Dictionary: "a shifting series or succession of phantasms or imaginary figures, as seen in a dream or fevered condition, as called up by the imagination, or as created by literary description." 27 The term was derived from the Greek phantasma, 'ghost' (derived from Phantazo, 'I make an illusion') and Agoreuo, 'I speak'; an etymology which suggests a dialogue between the audience and the ghost called up by the magic lantern. An alternative derivation, indicating 'gathering of ghosts' (phantasma/agora) may also be possible. (Mannoni, 2000) 28

Tracing back to the time around 1774 to Leipzig, Germany, when the 'ghost creator' (Gespenstermacher) 29 and freemason Johann Schröpfer organised shows of necromancy, in which ghost of the departed was called up. He was a legendary illusionist, who used a special repertoire of tricks including projections with mirrors, thunder sound effects, assistants dressed up as ghosts and his audience had to fasten three days ahead before the contact could be established with the underworld. He took inspiration from the French projectionist Edme-Gilles Guyot, who has been using smoke instead of a textile curtain for projection purposes described already in 1769–70. Guyot's technique made the images float more organically and therefore more realistic above the terrified visitors. 30

Other German Laternist's such as Christlieb Benedikt Funk in 1783, Johann Samuel Halle in 1784, and Johann Georg Krünitz in 1794 adapted Guyot's technology. Halle had visited one of Schröpfer's ghost-shows and made a note about the performance:

"The supposed magician leads the group of curious persons into a room whose floor is covered by a black cloth, and in which is situated an altar painted black with two torches and a death's head, or a funerary urn. The magician traces a circle in the sand around the table or altar and asks the spectators not to step over the circle. He begins his conjuration by reading from a book and making smoke from a resinous substance for good spirits, and from foul-smelling substances for bad ones. In a single instant, the lights are extinguished by themselves, with a sharp explosive noise. At that moment the spirit called appears hovering in the air above the altar and above the death's head, in such a way that it appears to want to fly up into the air or disappear underground. The magician passes his sword through the spirit several times, which at the same time emits a plaintive howling sound. The spirit, which appears to rise up from the death's head in a thin cloud, opens its mouth; the spectators see the mouth of the skull open and hear the words pronounced by the dead spirit, in a husky and terrible tone, when the magician asks questions of it. During all this ceremony, flashes of lightning across the room . . . Shortly afterwards the torches relight themselves, while the spirit disappears, and its farewell perceptibly shakes the bodies of all members of the audience . . . The magic performance comes to a never forgettable shocking end." 31

Moving towards to mobile back-projection technique, it is significant to reveal the real inventor of it, who is the mysterious figure in the history of Phantasmagoria called Paul Philidor or Philipsthal. 32 It is unclear how many aliases he had, therefore it is difficult to draw a clear line about his existence. Philidor was driven by the philosophical ideas of the Enlightenment and the French Revolution and claimed to be debunking popular credulity towards sorcerers, prophets, visionaries, exorcists, and other charlatans (including priests, monks, and popes), although at the same time he was somewhat ambiguously exploiting the public taste for the occult. (Manoni, 2000) 33

Philidor always delivered the following 'scientific' speech before the beginning of his shows: "I will bring before you all the illustrious dead, all those whose memory is dear to you and whose image is still present for you. I will not show you ghosts, because there are no such things; but I will produce before you enactments and images, which are imagined to be ghosts, in the dreams of the imagination or in the falsehoods of charlatans. I am neither priest nor magician; I do not wish to deceive you, but I will astonish you. It is not up to me to create illusions; I prefer to serve education." 34

It is interesting to conclude how the elements of promising or demonstrating something scientific morphed into black magic and mysticism to impress and frighten the audience. Being acquainted to the black magic desires of his zeitgeist, Philidor advertised his ghost shows in Parisian newspapers asking the public; if they want to get in touch with their deceased ancestors? If new show visitors were interested, they should take a photograph or draw in two days advance to the magician. In the meantime, Philidor would let his assistants paint the portraits on the slides to be able to play and trick his audience in his upcoming performance. During the séance, he made his audience believe that he conjured up the spirits to establish contact with the deceased relatives. Philidor was performing his ghost-shows with his lantern mounted on wheels, that allowed increasing and decreasing the size of the projected image. The supernatural characters could be made to grow or

shrink in front of the frightened audience's eyes. Through the introduction of the Argand oil lamp, a significant improvement in artificial lightning, Philidor achieved that the spectators, who were sitting further were capable of seeing the projections still very clearly. 35 Probably at one of his Parisian shows Robertson was part of the audience, who adapted most of his tricks.

Immersion

Immersion is a model for the ''manipulation of the senses,'' as well as when art and image apparatus creates one consensus: 36 the viewer's perception totally blends into the artwork. The message and the medium form an almost inseparable unit, so that the medium becomes invisible. (Grau, 2010) 37 Grau established a thoughtful relationship between Phantasmagoria and immersion: Phantasmagoria connects with death through immersion and spiritualism to overcome the separation from one's ancestors through the medium. (Grau, 2010) 38

By diving deeper into Robertson's phantasmagoric shows we understand how he could be acquired in a short period of time the oeuvre of his predecessors and his work almost becomes a representation of mobile back projection history, which was the most popular media object until the arrival of cinema in 1895. A few years after his spectacular success in the show business of phantasmagorias, he understood the influential aspects of perceptual psychology, and the site-specific context of his performances, hence he moved them to the dark atmospheric location of a discarded Capuchin monastery. 39 Every aspect of his ghost-shows, with a parting speech and a macabre coup de theatre 40, was planned into the smallest fraction. By using thunder sounds, total darkness, eigengrau, projections onto smoke, flicker-, and strobe effect, which created After-images in the brains of his visitors. All these effects are referring to perceptual psychology and manipulated the audience to leave behind reality and to immerse with the supernatural subjects.

Starting with the entrance of his "ghost-monastery", which could be entered through a cemetery. 41 and entering a sombre room painted black, 42 the audience felt immediately disconnected from the real world. A feeling of disorientation since there was "no foreground, no background, no surface, no distance, only overwhelming, impenetrable darkness", as Grau described. 43 After a few minutes, the human vision adapts to the darkness and signals a specific dark grey tone of visual noise illusion to the brain called "eigengrau". This effect was later scientifically discovered by the German psychologist Gustav Theodor Fechner in 1860. 44

Multiple senses are triggered through sensory illusions by hearing the noise of thunder, a funeral bell calling forth phantoms from their tombs, and Franklin's Glass Harmonica, a form of musical, water-filled glasses, provided a haunting sound.45 After the music introduction, Robertson appeared in front of his curious audience recalling practically the same sentences of Philidor's speech:

"That which will occur shortly before your eyes, Gentlemen, is not a frivolous spectacle; it is created for the thinking man, for the philosopher who likes to lose himself for a moment, with Sterne, among the tombs." 46

Since the medium was hitherto unknown to the 18th-century society the magical effects appeared to be scientific. 47 Robertson produced electrical sparks, which he called Fluidum Novum, that "for a time could make dead bodies move." Thus, "the other side," the new medium of electricity with its utopian connotations was linked with sensory illusions so that the audience was in the right scientific and magical frame of mind as they entered the projection room. Here, Robertson announced, the "dead and absent ones" would appear. (Grau, 2010) 48 The Belgian "inventor" refined Philidor's mobile back-projection techniques to a next level for creating stronger illusions and disorientation for his guests. X. Theodore Barber is describing Robertson techniques in details: "While moving the lantern, Robertson not only had to be careful to adjust the focus so that the picture would always be clear, but also had to manipulate a special shutter mechanism over the lens that controlled the amount of light passing through the slide. Because the lantern had to be close to the screen to create a small, seemingly distant figure, the image produced was bright, contrary to the optic expectation that a far object would be faint. Therefore, Robertson had to cut down the light in this instance, and as the picture grew he had to increase the illumination. Robertson's slides were painted with transparent oils, and careful attention was paid to shading and detail that would show up fairly well when projected with the Argand lamp. An essential element to his slides was that each image was surrounded by blackness, so that, when screened, it seemed to float free in the air without any background or unnecessary light around it." (X. Theodore Barber, 1989) 49

At the climax of his words, demonic figures started to be visible on the smoke, and the crowd received little electric shocks through their chairs underlining the terror of the pre-romantic program. The rapid successions between the ghostly vignettes 50 evoked figures that continued to appear in the visions of the audience, called as Retinal After-images. Robertson created a metamorphosis, one shape rapidly transforming into another; an effect easily achieved by doubling two glass slides in the tube of the magic lantern over one another in a quick, deft manner. (Terry, 1988) 51 They seem to be so real that the visitors wanted to hit them above their heads and run out of the claustrophobic gothic environment but he locked the doors to achieve a stronger sense of fear and terror in the audience. A similar dramatic reaction was achieved almost 100 years later by the Lumière brothers in 1896. Their movie "The Arrival of the Train", where the perspective of the arriving train appeared so realistic, that the audience felt, that the train would almost break out of the canvas and run out of the cinema. Mostly his shows finished with cautioning, "Look well at the fate awaits you all one day: Remember the phantasmagoria!" 52

Hallucinations for spiritual enlightenment

If we study the flicker perceptual psychology effects of Robertson's phantasmagoria, we can correlate it to Brion Gysin's, William Burroughs' and Ian Sommerville's stroboscope apparatus, called *Dreamachine* of the 1960s. Gysin, a painter, and poet, who become fascinated about hallucinations for spiritual enlightenment after reading the book of the neurophysiologist, William Grey Walter, "The Living Brain" published in 1953. He was researching about how intermittent photic stimulation is performed as part of the routine electroencephalogram (EEG) in order to establish alpha wave reactivity (occipital driving response) and test for a possible convulsive reaction or 'photoparoxysmal response' in patients with photosensitive epilepsy. (Bastiaan Coen ter Meulen, Denes L.J. Tavy, B.C. Jacobs, 2009) 53 During his stroboscopic light effects, he noted something interesting as some of his patients claimed to experience visual hallucinations. 54 It could be separated into three main parts: geometric patterns that are consisting out of strips and radial patterns; secondary autoscopic images coming from 'ramifications of retinal veins' and 'hexagonal cells of the choroid', and the last one of more complex illusions of animals created in the human brain.

Eigengrau

In the following, I would like to disseminate and describe a list of technological and perceptual psychological elements in order to establish a clear and understandable relationship of *Eigengraus* 'mise en scène' related to phantasmagoria in the Media Archaeology discourse [I have described above]. I will reflect it from several angles starting from the ancient Greek and Roman times and moving towards the 1799's Robertson's Phantasmagoria until the 1960's Brion Gysin's, William Burroughs' and Ian Sommerville's stroboscope apparatus, called Dreamachine.

The 13 minutes long installation circular staged takes its audience through a usual and non-traditional timeline through five mental states, which has been developed in correspondence with the French sound-designer Sébastien Robert, who is responsible for composing the spatial sound of the project.

Deep State

(00:00–00:30)

At the first state, the audience arrives in total darkness which creates a feeling of individuality. Unaware if you are alone in the space or surrounded with other viewers. Surrounded by total silence a feeling of excitement and expectation will build up, and after a few minutes, our brain starts to create eigengrau effects which cause us to see little grey dots. In this state the visitor goes through a "mental cleanse" while cleaning up his/her mind, leaving behind and disconnecting from the reality. After 10 seconds quick subtle noises arise in irregular intervals from different sites of the dark space filled with smoke that causes spatial disorientation.

In the 17th century, the magic lantern magicians used the element of darkness as a way of preparing the audience for excitement and to cut people off from reality. This happened often literally as the public at Robertson's shows heard the loud sound of somebody locking the door. One of the foremost fundamental components was the right regulation of the smoke. In antique times it served as a communication tool with gods, whereas its function moved on during the Enlightenment times to become a projection screen. It generated more organic movements in the projected images and the audience became more frightened through the dreamy and demonic landscapes.

For a modern audience the programed modulation of the haze transfigures the medium into a post-scientific experience. This immaterial interface opens up new dimensions for storytelling purposes in the relationship with my own design.

Anticipation State

(00:30–03:30)

During the second state, the light narrative slowly starts to unfold through irregular rhythm manifestations of the middle circle. A non-physical light cylinder appears in front of the audience whilst building up excitement that something will happen in the middle of the magic circle. Across the room, the audience discovers that they are not alone. The irregular sounds become more and more rhythmical, which has an effect on the light visuals on the light curtain. Light patterns increase in faster and faster intervals composing stroboscopic effects, an enlargement of the 'Dreamachine'. At the peak that the visitors begin to expect the next climax of the installation (if we would be following a traditional build-up the storyboard) instead the beat drops and for a few minutes, there is silence until the new state appears.

The cylinder shape is symbolic of the box in the myth of the 'Opening of Pandora's box'. The colour blue is a reference to the only remaining element in the box namely Hope. When researching the origins of the symbolic meaning of cylinder shapes and holders we discover that during Greek times the demons in the myth of the 'Opening of Pandora's box' had to come from a physical space, which holds and bonds them; a clay vase. In the 18th century, Robertson was also hiding his ghosts and demons in a physical space; in an abandoned Capuchin monastery outside of Paris. Through his spatial and light interventions, the boundary between real and headspace started to recline. In the '60s the demons appeared only in the in form of hallucinations through the rotative movements of the cylinder-shaped *Dreamachine*, which was practised individually. The physical shape of the

cylinder conveys subconsciously that the aftereffect will be achieved with the help of motion. For *Eigengrau* I am utilizing this through physical and collective experimental ritual. This magic circle (which keeps the devil inside and constructs a physical barrier between the inside and the outside of the light cylinder) the immaterial becomes material.

Comfortable Weird State

(03:30–05:00)

Confused and doubtful, the spectator enters the 'Comfortable Weird State'. We introduce harmonic sounds to let the audience breathe for a few minutes loosening the tension. The light cylinder moves in gentle speed the long light arrays. An moment for reflection on the experience so far.

Another fundamental element in Phantasmagorias was the right applicable light source. To be able to communicate with gods Greeks were using fire and mirrors as symbols of establishing the contact. Around the French Revolution, the Argand lamp was invented; the first step into artificial and mechanical lightening. This discovery allowed Philidor's and Robertson's Phantasmagoria shows a more precise control over the light and better visibility for the audience, who were sitting further away. During the '50s and '60s, William Grey Walter undertook the research about stroboscopic light effects, where he noticed the hallucination characteristics of digital light for the human brain. Nowadays, the programmable LED can be controlled preciously and directed to achieve specific effects on the individual. For *Eigengraus* light setup each second is perfectly calculated to be to achieve specific mental states for the visitors.

Higher State

(05:00–10:00)

All of a sudden, the cylinder light curtain disappears and immediately a round blue light beam shines from the ceiling. This is the climax state of *Eigengrau*. As the light makes contact with the rotative concave mirror, the moving reflections will appear into the smoke, symbolizing the opening of the *Pandora's Box*. It is important to note, that the human eyes perceive an environment within the blue light spectrum as less focused and therefore the blue space appears more diffused and immaterial compared to other colours. We are aiming for a new collective experience, in which everyone can interpret on his/her own manner whilst feeling the basic connective power of the senses. This effect

will be achieved through the natural interaction of moving in space. By opening *Pandora's Box* the audience will become curious and naturally move towards the middle of the circle and surround the mirror. Collective feelings will arise in the audience. Standing around the mirror circle and being surrounded by the reflections will create an intimate spiritual experience. Afterimages start to appear in the visitor's mind, not comprehending what is real and what is the illusion.

The history of afterimages can be traced back to ancient communication techniques of priests and shamans with the gods and underworld. During states of trance Priests and Shamans experienced hallucinations and have seen afterimages believing to get in contact with higher natural powers. During the 18th century, the belief in Enlightenment began to arise and the power in God started to loosen. This was the edge of the belief in the ability to communicate with gods as scientific rationality started to take over. Although on the contrary this allowed spreading the belief in Dark Magic and Shamanism. Robertson achieved his afterimage and stroboscopic effects through quick movements of his slides in front of his lenses of the magic lantern. In that way, he managed to fuel his audience to believe that they have seen a spectre. In the 1960s, hallucinagenic drugs increased in popularity and were desired to see afterimages, that were creations of the human brain. Nowadays afterimages can be programmed to be able to engineer transcend experiences decided by reason and rationality.

Relaxation State

(10:00–13:00)

Arriving at the final and closing state of the narrative the excitement builds down through the decreasing use of smoke that in turn reduces the reflections. The middle blue light beam starts to shrink until it dissolves into darkness. The audience is taken back to reality with a strong collective ritual experience in the back of their mind. While going through this journey Iindividualism and Collectivism played a key role. The ambient soundscape relaxes the human mind and lets them go back to reality.

Analysing the importance of sound, from the perceptual psychological point of view, we can conclude it already played an important role from ancient times at ritual gatherings through instruments and acousmatic sounds. This refers to the sound that is heard without an originating cause being seen. Through the use of glass harmonica at Robertson shows the notes were sliding into each other and the thunderstorm effects would melt and become part of the space. While using the *Dreamachine* it was mandatory to wear the headphones and listening to meditative music. For *Eigengrau* I am aiming to use spatial 4D sound for creating strong soundscapes for immersion purposes. The ghostly glass harmonica sounds of Robertson would also be present in the composition.

Chapter II
Zeitgeist

Post-Ritual Space

In *Communication as Culture: Essays on Media and Society*, the American communication theorist, James W. Carey details the ritual view of communication, a communications theory, wherein the ritual view conceives communication as a process that enables and enacts societal transformation. 55 Moreover, it centres on sharing, participation, association and fellowship, possession of a common faith or belief; community, consensus, communion. The ritual model does not emphasise the extension of messages in space, but the maintenance of society in time. It is not about imparting information but representing shared beliefs. (Carey, 1985) 56

If we examine the Media Archaeology more broadly, we discover that Phantasmagoria belongs withal to the ritual view of communication theory. Certainly manifested through diverse forms, with the main concern that the media of Phantasmagorias had bounding characteristics towards the audience. Underlining the mediums collective powers of the religious gatherings during ancient Greek times; 18th-century necromancer ghost-raising séances of Johann Georg Schröpfer; the Enlightenment science inspired black magic shows of Philidor's and Robertsons, withal the hallucination gatherings around the *Dreamachine* of the 1960s. By extension, *Eigengrau* correlates in such a manner to James W. Carey's discourse at the threshold to the Post Digital Immersion Revolution. Our senses are already automated of the synthesis of being contemporaneous in the physical and digital realm. This affects our human interactions in our society: individualism and isolation metamorphosed of this phenomenon.

The project aspires upon a paradox in form of physical experience in a collective structure. Moreover recalling our ritualistic believes of our subconscious and engineering a heterotopic liminoid 57 non-material space. The first part of the term is derived from Michael Foucault's (*Of Other Spaces*) heterotopia concept describing the >> other << spaces. The second part is extracted from Victor Turner's (*Liminal to Liminoid; From Ritual to Theatre*) underlining the level of disorientation that occurs the climax of rites. He became aware that liminality "...served not only to identify the importance of in-between periods, but also to understand the human reactions to liminal experiences: the way liminality shaped personality, the sudden foregrounding of the agency, and the sometimes dramatic tying together of thought and experience". (Thomasen, 2009) 58

Drawn upon the term above I would like to conceptualise about techno club spaces such as the Berlin-based Berghain, Amsterdam-based De School, and Tbilisi-based Khidi, whose facilitates practices of sacredness and communitas — a sensation of collective oneness and

egalitarianism. 59 Here practitioners aspire to accomplish the state of transcendence through deliberating their individuality while engaging in collective public intimacy and spiritual elevation. Repetitive beats and darkness strengthens collective feelings. Techno clubs are becoming the spiritual temples of the 21st century. Émile Durkheim, whose concept of collective effervescence in many ways mirrors Turner's communitas, writes that during sacred moments of collective oneness and transcendence (or "effervescence"), the sense of sacredness is transposed or projected onto associated objects and people, for example, a guiding shaman or priest. By extension, we can understand that in hosting holy events, architectural spaces themselves become holy. They are imbued with the collective associations accrued inside their halls. Sacred spaces, in this way, are created, adapted, and animated as much by their users as their architects. (Graham, 2016) 60

Since Phantasmagoria was established for entertainment purposes, my goal is to position the installation into the club context for creating a transcendental space for body and soul, while establishing the notion of omnipresence. The constant flux of nightlife hybrid audiences and vital energy would take the involvement to a deeper level.

Metaphoric displacement

If we examine the metaphorical displacement of *Eigengrau* at the Higher State (05:00–10:00), where the spectator experiences in a magical circle the reinterpretation of the myth '*Opening of Pandora's Box*' an allegory of the Post Digital Immersion Revolution. Magical or ritual spaces are other spaces we may physically or conceptually occupy. A common example of a magic circle wherein a ritual is to be performed, which can be achieved in a variety of ways; rearranging a physical space or actually drawing a circle there with some instrument, or to simply visualise the circle in the mind's eye and perform an activity to activate it. (Kiesel, 2012) 61

The myth symbolises several levels of the brain by experiencing contrasting hallucinations and afterimages. The goal is to keep it at an abstract level so each visitor could individually interpret it in his/her manner in collective practice. The reasoning for not implementing film projections or recognisable images in the installation is because of the zeitgeist of the Post Digital Immersion Revolution, whereby we are in the constant flux of being on and offline receeving a massive overload of visual information. Whereas the experience of *Eigengrau* hyper-stimulates the senses whilst creating distinctive atmospheres for a deeper perception, creating a new way of storytelling through a non-material space only accomplished with stripped back elements of light, sound, and smoke.

On the contrary Robertson's story about the "*Opening of Pandora's Box*" is a metaphor for the French Revolution (1789 – 1799) and the brutal aftermath marsh of it. In "*The Great Art of Light and Shadow - Archaeology of the Cinema*" Laurent Mannoni establishes a list of Robertson's projected subjects from his advertisements in the Parisian press. As well as the unending

procession of spectres and phantoms, the Fantascope projected the Witch of Endor, the Three Witches of Macbeth, the Opening of Pandora's Box, the head of Medusa, the Sybill of Memphis, the ghosts of Cagliostro, Voltaire, Rousseau, Condorcet, Lavoisier, Beaumarchais, Franklin, and Marmontel, the Ghost of the Plenipotentiary Claude Roberjot, the Prophet Daniel, the ghost of Héloïse, Nymph Egeria and the Peacemaker, Brumaire and Napoléon Bonaparte, Belshazzar's Feast, Mohammed and his Pigeon, Mohammed Overcoming the Angel of Death, and Young Burying his Daughter. 62 To conclude the only links were thematic, each image bore some supernatural, exotic, or morbid association. 63 (Castle, 1988) In the tradition of Phantasmagoria's the content of *Eigengrau* will become correspondingly the reflection of the 21st-century zeitgeist.

Conclusion

If we underline one of the main aspects of Phantasmagoria shows of promising or demonstrating something scientific, that morphed into Black Magic and mysticism to impress and frighten the audience we are able to draw a parallel to several trends of contemporary audiovisual art-science installations. Meanwhile these experiences become a generally technological manifestation of certain hardware or software, and nevertheless short-come strong research and conceptual foundation. As at the shows of Robertson or Philidor, the technological apparatus was concealed in front of the audience eyes. The same tendency still dictates nowadays. By demystifying the technology does it means that the quality of the experience becomes less?

For the *Eigengrau* lecture I would like to play with the idea of scientific discourse by sharing parts of my research and the source code, whereas in the installation, I take the less scientific approach. My own position is that I am sceptical of the Phantasmagoria but also in a position to question it and play with the ambiguity. In one sense this is like the enlightenment position, in that it stands on the threshold of spiritualism and enlightenment. But which direction? From Phantasmagoria spiritualism to enlightenment or from enlightenment to spiritualism…

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