LIGHTS ON!
Light-based Art & the Making of Space

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ABSTRACT

In the recent years the increase of artworks made by artists who investigate the relationship between light and space has changed the aesthetic language and consideration of light in contemporary art. The use of light in artistic practices has contributed to a profound experiment that re-maps the boundaries of art while at the same time provokes us to reflect upon the qualities and limits of our perception. How we experience and physiologically respond to illumination and colour has been one of the most researched topics, which has arisen a significant amount of discussion about to what extent light participates in the making of space that directly calls into play our individual perceptual responses. One of the main issues that has not been sufficiently addressed yet is to what extend artistic uses of light may reveal the diverse potentialities of light in the making of space and human understanding of the world. The thesis provides an analysis of the embodied experiences in three immersive installations made by contemporary artists James Turrell, Anthony McCall and Olafur Eliasson. The empirical material was experienced in 2011 and during the summer of 2016. The study explores how engagement and interaction with a light-based work may influence the making of space and the viewer’s surroundings. Such analysis might suggest that artistic uses of light make space explicit, allow the visitors seeing themselves sensing and extremely heightens awareness in a dense, colour saturated environment.

Key words: light art, sensory perception, body consciousness, spatial awareness, colour saturation
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Art has the potential to move us. Encounters with works of art are just like life experiences: they do not leave us unaffected. They can even change us. Art is a ride on the rollercoaster of emotions. As Paul Cézanne’s famous quote states, “a work of art which did not begin in emotion is not art”. No visual art has influenced my way of looking at things quite as much as light-based immersive installations, a form of art that is somewhat controversial, and not easy to frame, describe, reproduce or conserve. Light-based art challenges the traditional conventions of museum or gallery display and, consequently, the visiting experience. It plays with the viewer’s sense of space and time and in so doing it implicates and empowers the viewer, forcing an awareness of, and interaction with, the physical actuality of the space. Light-based artworks encompass physical, psychological, architectural, biological and cultural aspects; and we cannot ignore the complexities and inherent contradictions of the present subject matter.

Art is also a practice through which vital aspects of society and life may be examined, challenged and renegotiated. Cultural practices such as art operate through ideas and reflections about the values that define society, about how experience and ethics are intertwined, and how subjectivity is defined (Eliasson, 2006: 4). Therefore, artworks have a great ability in challenging the ways in which we engage with our surroundings; it not only encourages critical engagement, but also includes a sense of responsibility in our engagement that has political, social and ethical importance. Space, time, and art, thus, are interesting values to examine when unmasking our potential as humans beings to reevaluate the settings or parameters that determine and influence our sense of subjectivity. In this sense, light-based

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1 In a letter to Giampiero Giani written on the 2nd of November 1949, artist Lucio Fontana described his creative language as “neither painting nor sculpture, not lines delimited by space but continuity of space in matter”. Crispolti, Enrico. Catalogo Ragionato di Sculture, Dipinti, Ambientazioni, Milano 2006, p. 116.
artworks may easily demonstrate their relevance in the renegotiation of the hegemonic values of the still prevalent Modernistic ideas about space.

According to Tim Edensor (2015:130), “artistic uses of light can address profound questions about the qualities of places, spaces, and landscapes. In addition, they may examine how spaces are perceived, symbolic meanings inhere in forms of illumination, and the affective and emotional resonances provoked by light that stimulates movement, solicits feelings and activates sensations. The present thesis focuses on how three artists working with light can reveal the different potentialities of light in making space and human understanding of the world. It aims to foreground some of the key ways in which light has been deployed by artists and teases out some of the central themes investigated by them. The artists that will be discussed in this thesis particularly highlight the human ways in which the visual system performs in making sense of the surrounding world, as their work explores how we sense space from the body to the landscape. James Turrell (b. 1943), Anthony McCall (b. 1946) and Olafur Eliasson (b. 1967) produce immersive atmospheres in which the sensual and affective experience of the visitor becomes decisive. Such works, which heighten the sense of disorientation, enable those entering to them question what they are feeling and sensing. They drive the visitors to renegotiate their balance by constantly shifting their posture, with only the fields of colour to guide them intuitively through the dense environment. The obstruction of one sense heightens the others, such as sounds, smells or textures. In short, their artworks drive the individuals to become aware of their moving bodies in space, and the process of re-making sense of it.

In fact, light has the unique ability to transcend the cognitive realm and move into the non-representational, affective and sensory world. If artists using this medium actually gain some benefit in revealing the capacities of illumination in shaping human apprehension of the world still remains controversial. Light operates here as a medium of perception besides already being a medium of representation. Light also melds sensation, affect and emotion, activating passions and instigating sensual pleasures or discomforts.
Unlike any other artistic medium, light is constantly in motion. Therefore, creating with light has much to do with directing and controlling its emanation. Artists have used different light sources and supports, each with distinctive aesthetic properties and spatial possibilities. The present thesis brings together a selection of artworks made since the 1960s that examine light’s potential as sculptural medium and tool to foreground human ways of spatial perception. Artists using natural or artificial light consider it a material in and of itself. Thus, the works discussed here both engage the spatial and sensory aspects of light, its aesthetics and its immateriality. By looking into what light is and how we perceive it, they draw attention to light as medium, one that requires an extreme level of spatial awareness and sensory acuity. Therefore, the following research is an exploration of how a group of contemporary, mainstream artists - Turrell, McCall and Eliasson- benefit from light’s potential through different approaches: as a perceptual phenomenon (Turrell), as a sculptural form (McCall) and as a medium that involves social engagement. All these approaches are diverse but not contradictory pathways to understand how their artworks focus upon the emotional, affective, and sensual capabilities of artistic uses of light, detaching the visitor from the ordinary experience of space.

Hence, this thesis aims to disclose how a sharp selection of installations, made by artists James Turrell, Anthony McCall and Olafur Eliasson, succeed in producing and heightening an awareness of how spatial perception operates and how we, as humans beings, respond and make sense of the raw materials and effects it deploys. Yet, the analysis will eventually trie to illuminate certain characteristics in artworks, by aid of phenomenological and spatial design theories, which affect the quality of the beholder’s perception and experience of light-based art.
The structure of light-based artworks is definitely not a result of contrasts in colour determined by an artist’s hand. This concept allows the total inclusion of space, rejecting the conventional wall or panel, and states that the focus is no longer based on the design of the surfaces but on the image-external realities of space, light and observer (von Hülsen-Esch & Pörschmann, 2013: 119). Light effects, intensity shadows and reflectivity have made possible a transition from the wall to the environment. Thus, the work itself is not an isolated object but all the surrounding space. Design instruments such as light, sound and space are determining factors that communicate with the observer upon all senses. Beyond the design of the artwork, the artists that will be discussed in this master thesis are highly concerned about the perception and interaction between the work and the spectators. Besides, artworks, previously limited to artistic spaces, have extended into the reality outside of the artwork, reinforcing their appeal to create living spaces in which to harmonise art and life. What began in the mid-twentieth century as a search for connections between art and life is performed today in the form of an aestheticisation of daily life. The interconnection between art, design and everyday life is a longstanding issue in which the boundaries have been renegotiated anew all the time (Weibel & Jansen, 2006:586).

Contemporary artists exploring the potentialities of lighting have understood that our physical environment is not a scenario on which we superimpose ourselves and which we can contemplate, describe and analyse from a distance, but a complete world with which we interact using all our senses and capabilities. The interaction is, thus, absolutely corporeal. The reader will find hereafter the main guidelines that the present study will follow.
1.1. MOTIVATION FOR THE STUDY

Light-based art presents a difficult but exciting feature for the researcher: there is no physical object. Unlike paintings or sculptures that can be dated and documented from the moment of their completion, light-based art has no beginning or end. These sort of artworks do not revolve around the formal integrity of objects but instead, around the human senses in its constantly changing environment. They reflect a new aspiration of art and art exhibitions to provide a perceptual and sensorial re-sensitising through direct experimentation. Atmospheric, perceptual, and spatially sharp, light-based art puts spectators in charge, encouraging them to enter a state of high awareness in order to see, move and inhabit space in a completely new way. It has, indeed, the potential to transform the experience of art on its basic and phenomenological level. The art of the last hundred fifty years has gradually abandoned figurative art, questioning “What do you mean by ‘painting’?” , “What do you mean by ‘reality’?” and so on. The whole creative process has been gently dismantled. Thus, light art, whose medium is purely natural or artificial light, is actually not about turning over the traditional conception of art. On the contrary, when focusing on the act of perception itself it embodies the very essence of art as pure image.

I certainly experience these artworks differently than to two-dimensional, ‘traditional’ art. I have been always attracted to large-scale immersive installations, and more specifically, to light-based artworks. In fact, I have followed Turrell, McCall and Eliasson’s art with interest for the past years. From the first encounter with their artworks, they have had a strong impact on my body, mind and spatial awareness. The curiosity on why this type of installations arise such a strong embodied experience has lead me choose this specific empirical material and apply phenomenological methods on the subject for this thesis. In addition, finding out what these artworks bear evidence of, or what kind of design and artistic practices they entail has challenged me for a while. Thus, I can state that this thesis is highly motivated by my embodied responses and astonishment when encountering the works discussed in the study, in an attempt to establish correspondences between the fields of art history and spatial designs. My academic background in art history plays a significant role in the motivation of this master thesis. Even so, my genuine interest in the spatial awareness that these artworks produce has determined the aim of the thesis.
1.2. PURPOSE, AIM AND RELEVANCE

Encountering an artwork is an action that entails perception, experience and engagement. Experience of artworks, as I suggest in this thesis, is not only performed through perceiving the signals received from the viewer’s senses, but includes a vast spectrum of physical and mental experience, and as a result, engagement. As will be seen later, light-based art enables beholders to experience artworks through their entire body, thus making their surrounding space - and understanding of the world - explicit. The artworks that will be discussed in this study appear to be models for space, genuinely defined by movement. In effect, they manifest our relationship with space. They welcome visitors by means of spatial hospitality and become radically inclusive. The spaces constructed in these cases are certainly defined through their atmospheres and agency: the expectations, memories and outlook on the world that people bring with them become part of the atmospheres of the works. Indeed, they reveal that spatial phenomena is a human construction. Contemporary artists James Turrell (b.1943), Anthony McCall (b.1946) and Olafur Eliasson (b.1967) attempt to saturate space with light, creating a surrounding light that annihilates spatial coordinates. The result of an increased stimulation of perception is an impalpable relation between observer and work. Artistic uses of light transform the material identity of the artwork and provide it with an energetic character. The present thesis aims to underscore the strength of illumination in making space and human comprehension of the world, i.e. the different potentialities that light - used as an artistic medium - has in mapping our sense of space.

American artist James Turrell was one of the artists who most seized the opportunity of using light as a medium back in the 1960s, remaining committed during all his career to the manipulation of light and space, and focusing on the spectator’s direct perception. British artist Anthony McCall has strongly developed throughout his career his *Solid-Light* film series, works made by projections that strikingly emphasise the sculptural qualities of a beam of light. In addition, Danish-Icelandic artist Olafur Eliasson is distinguished for transforming empty spaces into artificial environments which when encountered, heighten the viewer’s awareness of what one’s perception is undergoing by participating in such a work. Thus, the viewer is invited to enter a world of extra-sensorial perception whereby colour, light and architecture enable him or her to re-evaluate his/her relationship with his/her surroundings.
The works of these three artists are not a looking at, but a looking into; not the displacement of space with mass, but the working of space; not objects in a room, but the room. Their format is not a product made of things within a space, but space itself. I will depart my analysis from Maurice Merleau-Ponty’s notion of perception, which he refers to as our “kinaesthetic, prescientific lived-bodily presence of the world” (Johnson; Merleau-Ponty, 1993:8). The thesis suggests that every artwork has some kind of sphere around itself, which alters the engagement of the viewer through different mental and physical experiences. Furthermore, the analysis eventually aims to heighten particular characteristics in the selected artworks, which affect or alter the viewer’s perception of space and experience.

There are many publications and research about the mainstream artists Turrell and Eliasson and all of them draw attention to their ideas about the importance of the visitors and their active role in the perception of the artwork. Anthony McCall does not enjoy such a vast body of publications or popularity, but does have significant and interesting releases on his art practice. At the same time, there is large contingent of investigation on perception and lighting design. Taking this into account, the aim and purpose of the thesis is to show how three particular cases of contemporary light-based works may reveal the different potentialities of illumination in making space explicit and disclose our comprehension of the world. In addition, I suggest that in order to achieve this goal, artistic uses of light become: (1) an individual retrospective of the phenomenon of perception, performed by James Turrell’s *Wedgework Milk Run III*, 2002; (2) a sculptural but sensual form ‘in motion’, revealed by Anthony McCall’s solid-light work *Coming About*, 2016; (3) and a social space for collective and critical engagement, induced by Olafur Eliasson’s installation *Din Blinde Passager*, 2010. The thesis is relevant and innovative in the sense that it provides three different paths in which light-based works accomplish the main purpose of manifesting our individual and collective spatial awareness and sensing of the world.

The author argues that the experience of light-based works, performed via the viewer’s embodied perception and cultural background, constitutes an ongoing process in which light acts as a guide in the making of space explicit and modulating our understanding of the surrounding world. The study will provide philosophical discussions about the phenomenology of perception, investigations regarding spatial awareness, and lighting studies while integrating them with the author’s own experience of the empirical material and the selected artist’s approach to art.
1.3. RESEARCH QUESTIONS

In order to set the parameters to conduct the research, the present study will try to explore and provide an answer to the following research questions:

**Research Question:** To what extent can contemporary artists working with light reveal the potentialities of light in the making of space and human understanding of the world?

In order to clarify the main topic, the sub-questions will relate to the subsequent issues:

- **Sub-question # 1:** How can artistic uses of light display the phenomena of visual perception?
- **Sub-question # 2:** How can artistic uses of light generate an embodied sense of space through sculptural forms?
- **Sub-question # 3:** How can artistic uses of light encourage critical engagement through social spaces?

Following these research questions, the thesis will examine how contemporary light-based artworks, which do not present any sort of object, image or focus, drive us to look at us looking - thereby underscoring the particular human ways in which the sensory system performs when making sense of the surrounding world. It is necessary to clarify that the artworks analysed here are not about light or a record of light: they are light, the physical presence of light made manifest in a sensory form. Besides, it is worth mentioning that since spaces are shaped by the distribution of light, we can note that light fully enable us to experience a determinate space.

To accomplish the above mentioned and to adapt the subject matter to the boundaries of a master’s thesis, I have decided to analyse three contemporary mainstream artists: James Turrell (b.1943), Anthony McCall (b.1946) and Olafur Eliasson (b.1967) as my empirical
material. A sharp selection of their work will provide a clear overview of how they are concerned with exploring the different ways in which we, as humans, sense space at diverse scales, from the body to the landscape. Their analysis will be in terms of embodied experience and my own sensual and perceptual relation to them. The goal of the thesis is to demonstrate how each selected work provides responses about how light-based art enables: (1) Seeing oneself sensing - James Turrell -; (2) Sensing space in motion - Anthony McCall-; and (3) Engaging social space - Olafur Eliasson-. Light, thus, constitutes a (1) phenomenon of perception - James Turrell-; (2) a sculptural form - Anthony McCall-; and (3) a space for social engagement - Olafur Eliasson-.

In short, the works that will be analysed evidence the great capacities of artistic uses of light in making space explicit and mapping human understanding of the world. I must clarify that I will draw on my personal and affective reaction to the works. Sub-question #1 will be answered by the investigation on James Turell’s artistic career and specifically one of his installations, Milk Run III (2002), which belongs to the Wedgeworks Series. Sub-question #2 will be responded by the exploration of Anthony McCall’s Solid Light sculptures and particularly, the piece Coming About (2016). Finally, sub-question #3 will be resolved by the analysis of Olafur Eliasson’s immersive projects and his acclaimed installation Din Blinde Passager (2010). The order of appearance and analysis of the artists will be driven by a chronological hierarchy, meaning that their years of birth will establish the order. Besides, the artists’ order of appearance also follows the structure of the sub-questions topics. In all cases I will also identify the active role that design plays in determining our performance through space.

1.4. THEORETICAL FRAMEWORK

The main objective of the present thesis is not to produce an art historian research but to investigate and underscore the potentialities of artistic uses of light in the very human process of making space and understanding of the surrounding world. The analysis of the selected artistic uses of light serve, thus, as the empirical material to give response to the research question of this thesis. Even so, it will be necessary to contextualise the artists discusses in
the study, and make a brief account of their artistic practices and interests. Hence, the direction of the thesis will always be driven by a focus on theories in phenomenology, sensory perception and spatial awareness. As it will be argued in further sections, James Turrell’s installation *Milk Run III* displays the phenomenon of sensual perception from an individual perspective. On the other hand, Anthony McCall’s ‘solid light’ *Coming About* provokes an embodied sense of space through sculptural forms, which leads to questions regarding temporariness and sociability. Finally, Olafur Eliasson’s *Din Blinde Passager* encourages critical and collective engagement through the making of social spaces.

In the following research, I will use phenomenology as my theoretical framework, to elaborate on the experience of the artworks and the making of space. In short, phenomenology explores phenomena which is perceived directly by the senses. Edmund Husserl (1859-1938), a German philosopher who established the basis of the school of phenomenology, stated that “human beings experience the external world as objects of consciousness” (Emerling, 2005:214). That means that our understanding of the world always emerges from lived experience. The connection between our consciousness and the surrounding world then is essential. Maurice Merleau-Ponty elaborated on Husserl’s work and his main concerns related to the concept of perception and embodiment. According to Merleau-Ponty (1962), phenomenology aims to study social phenomena as they appear before any reflection of it, i.e. offering accounts of space as we are living them. Human experience takes then its point of departure in the sensing body. It is through our human and social everyday engagements with the environment that meaning is created (Ebbensgaard, 2013:63). Our subjectivity as humans beings is nourished by our physical bodies, and Merleau-Ponty states that that body’s influence is key in order to gain knowledge in how we perceive the world. At this point it is clear that the Cartesian philosophy where body and mind appear to be separated is rejected. Humans are not disembodied thinking minds but are connected to the world via our bodies (Emerling, 2005:215). I may suggest that artworks should be understood as phenomena, as if it is a thing of physical matter.

This practice oriented approach *understands* rather than *explains* social and cultural phenomena, thus giving primacy to people’s experiences explained in their own wordings. It seems viable for the present study to adapt this approach. Ingold (2015) draws upon Merleau-
Ponty to argue that when see an environment, we become part of the environment. In fact, visual perception is the experience of inhabiting the world of visibility and its qualities (Ingold, 2002, 2015). Therefore, our experience of space is partly unveiled through our own descriptions of our experiences. The analysis of the installations will also follow Mikkel Bille’s concept of atmosphere as something more than simply engine to shape what something is or feels like (2017:20). Atmospheres inform what it should feel or be like, and the expectations and ideals that people have, or which are embedded in the performance of spaces. Based upon this sensory experience, the thesis will uncover how immersive light atmospheres such as the ones to be discussed further, demonstrate the potentialities of light as an active agent of the process of making space and human understanding of the world.

1.5. THESIS OUTLINE

In order to provide the reader with a more understandable overview of the structure of the thesis, this section will comment on how my thesis is distributed. I feel compelled to do so because I think it will become easier for the reader to get a glimpse of the different sections and their purpose. The thesis will be divided into eight main chapters: (1) Lights On! Light-Based Art and the Making of Space, (2) Mapping Light and Space, (3) Making Space Explicit, (4) Seeing Yourself Sensing: James Turrell, (5) Sensing in Motion: Anthony McCall, (6) Engaging Social Space: Olafur Eliasson, (7) Discussion, (8) Conclusions.

As the reader will have already noticed, the first chapter, (1) Lights On! Light-Based Art and the Shape of Space presents a general overview of the thesis main guidelines: motivation for the study, purpose, aim, relevance, research questions and the basic theoretical framework for the research. The following chapter, (2) Mapping Light and Space, offers a deeper theoretical framework regarding the core concepts of the thesis that will be used in the further analysis: the world of perception, in which theories of light, colour, vision and phenomenology will be discussed; designing atmospheres, in which the concepts of light and atmospheres will be examined; and the historical development of light-based art, which aims to give a general view of the trajectory in time of this kind of art practice. The third chapter, (3) Making Space Explicit, will deal with the basis of the empirical material to be analysed, and present theories on sensory experience and the criteria for analysis. Chapter four, (4) Seeing Yourself Sensing:
James Turrell, will be centred on the popular figure of American artist James Turrell, his explorations on perception, how light art occupies space and the analysis of his installation Milk Run III, 2002. Anthony McCall will be examined in chapter five, (5) Sensing in Motion: Anthony McCall. An account of his investigation will be shown, besides an analysis of the concepts of temporality, how light constitutes both a sculptural form and an interacting space via the installation Coming About, 2016. Chapter six, (6) Engaging Social Space: Olafur Eliasson, will address Olafur Eliasson’s work and the configuration of critical commitment through social spaces. Din Blinde Passager (Your Blind Passenger), 2010, will support the mentioned analysis. A deep discussion will be provided in chapter seven, (7) Discussion, where the issues of perception, experience, interaction and spatial immersion will be reflected upon the empirical cases presented before. Finally, chapter eight, (8) Conclusions, will sum up the thesis conclusions, contributions and implications. Moreover, the conclusion will also discuss the positive aspects and the limitations that my study may have been subjected to.
The relationship between humans and things is core to most of material culture research. In fact, things are part of the intimate human inhabitation and experience of the world (Bille, 2007:2). Light (from old English *leoht*-, meaning luminous, from Indo-European *leuk*-, to shine, to see (Classen 1993:68) has been generally studied as *lumen* (light as objective, external matter) and *lux* (light as subjective, interior matter; as sight and mental sensation) (Jay, 1993:29). Scholars from the past and present times have ask transcendental questions regarding light’s status quo: How do people *sense* light? Do people sense space through light? How light is used? What does light do or mean? Naturally, this thesis cannot address an exhaustive study of light and space, but it offers an overview of some of the literature and implications of this research within a selection of specific case-studies. As it will become evident, light affects everything we experience.

The importance of light in our lives as human beings goes generally unremarked. As the Berlin-based artist Olafur Eliasson remarks, “we do not see a building, the sky or a fly. We see the light that reaches us from the building, the sky or the fly. We use this light to imagine a building, a sky or fly. We think it is obvious that what we see is the house or the fly. But what we see is only light from the house or the fly” (Eliasson, 2015: 21). In effect, visual perception is driven by light. Even though all that enters our eyes is composed by light, we tend to forget the lights, the sounds, the smells and everything we sense because we are usually more concerned with what it is we are receiving sensations from. We actually see *objects* rather than light as just *pure light*. Light makes vision possible. The world around us is revealed through light, and reciprocally light allows our vision to penetrate and take in the world. But light by itself remains invisible to us. When we admire a beautiful sunset we actually appreciate the scene more than the light that is *seen*. Mowing Kwon argues that “light exists as a primordial and all-pervasive element that is generally hidden from view. Light makes vision possible yet paradoxically remains beyond our vision of the
time” (Adorno, 2011:65). Eliasson agrees on this question, considering that “the only thing we sense is what we do not experience as seeing: light. The only thing we experience is what we actually do not see: the objects themselves. Or rather: our conceptions of them” (Eliasson, 2015: 21). As a matter of fact, we can see the light or we can see with the light - we can do both, but not at the same time.

Tim Ingold notes that in the search for knowledge about seeing we have “effectively lost touch with the experience of light” (Ingold, 2000:253). Following Merleau-Ponty’s theories, Ingold argues that “light is the experience of inhabiting the world of the visible, and that its qualities - of brilliance, shade, tint, colour, saturation -, are variations upon this experience” (Ingold, 2000:265). Light has direct impact on the physiology of our lives. Besides, we should also recognise light’s active role in social life. As Mikkel Bille clearly states, “light is more than just a medium, it evokes agency” (2007:3). Contemporary artistic uses of light are a social product, which, I suggest, might affect the experiences and materiality of spaces. In the following sections, it is my intention to discuss and remark three main areas regarding the understanding of the notions of light and space: the world of perception, the designing of atmospheres, and the foundations and development of light-based art.

2.1. THE WORLD OF PERCEPTION

In April 2010, the Ullens Center for Contemporary Art in Beijing, China, presented the exhibition *Feelings are Facts* (See Fig. 1), a large-scale site-specific installation by Olafur Eliasson and Chinese architect Ma Yansong. The piece took the viewer on an surprising path, challenging one’s relationship both with nature and one’s urban surroundings. Ma Yansong designed a fifty-four meter long space inside the exhibition hall of the gallery and Eliasson filled the space with artificial fog, reducing the visibility but enhancing its tangible quality. Besides, fluorescent lights were installed in the ceiling as a grid of red, green, and blue zones and at each colour boundary, two tones blend to create silver, magenta and yellow. Thus, the visitors created their own colour spectrum by walking through the installation. In *Feelings are Facts*; Olafur Eliasson and Ma Yansong outface our everyday patterns of spatial
orientation, thereby suggesting the need to invent new models for perception. Perhaps Eliasson is just telling us that we do not need to comprehend the real image of objects, and we just need to pass it through the body and let it experience the objects.

Guo Xiaoyan, the chief curator of the Ullens Center for Contemporary Art (Shi Jian, Ma Kin Chuen, et al. 2010) noted: “The role of vision is undoubtedly to forge a mentally established world of images, an intrinsic world of images, an intrinsic world of ideological activities. By means of observation we enable our minds to open up to the world that surround us. In our everyday experiences, we pay more attention to the external world that enters our eyes, arousing the light of vision, but it is not our eyes that see this light. Not only that, we also always add explanations according to a pattern of visual attributes. We are, for example, concerned about merely training sight on shining objects from which light emanates directly, such as the sun, lamps, etc; also on objects that reflect light, such as the moon; but no matter what, vision is our first step towards gaining awareness of the world”. *Feelings are Facts* is an installation that raises interesting questions regarding the nature of light and colour, how the visual system operates and Merleau-Ponty’s theory of phenomenology of perception, all issues to be discussed in the following sections.

![Fig. 1. Olafur Eliasson & Ma Yansong. *Feeling are Facts*, 2010. © UCCA Beijing.](image)
2.1.1. Deconstructing Light and Colour

The nature of light has been always at the leading edge of science, technology and art. In all cases, the use of light comes laden with cultural and symbolic signification. Besides, the meaning of light still remains not clear. Contemporary physics assume that light is a form of radiation that consists of waves or photons. This means to understand light in the sense of *lumen* (Ingold, 2002:256). Even so, most people compare light, as the thinkers of antiquity did, with the *lux*\(^2\) that illuminates the world of their perception. Thus it is said that light travels from external objects to the eyes, and that we can see because of this process (Ingold, 2002:257). For Sir Isaac Newton (1642-1726), light was understood as a ‘corpuscular’ element - meaning a stream of little particles. Instead, for English philosopher Robert Hooke (1635-1703) insisted that light must be a wave, a vibration.

Nowadays we generally understand that knowledge relays on perspective and that perception is not fixed. Historically, however, this was not the case. Renaissance artists utilised colours for its symbolism and to enhance the naturalism of their compositions, and in the seventeenth century, Isaac Newton defined the optical spectrum of colour in terms of absolute and universal wavelengths of visible light (Govan; Kim, 2013:14). In effect, how colour is produced by light was one of Newton’s main concerns. The English scientist gave the first complete account of how the rainbow is formed in his treatise *Optics* (1704), explaining not only its arc shape - a slice of a cone of light reflected from raindrops onto the observer, as René Descartes had previously explored - but also its chromatic bands (Lauson, 2013: 42). Newton examined the way how light enters and exists a raindrop, being refracted and thus altering the ray’s path. When light is refracted from different angles, the rainbow spectrum that the sun contains appears. He also established seven colours for the arc: red, orange, yellow, green, blue, indigo and violet. Today’s scientists only recognise six, so indigo and violet being blended into purple. White, then, is a condensation of all the colours of the rainbow. The colour of light depends on one thing exclusively: temperature. Thereby, the temperature determines the colour and quantity of the radiation.

\(^2\) *Lux* is the unit of measurement of light intensity.
Johan Wolfgang von Goethe (1749-1832) proposed a radical shift in the eighteenth century, presenting a theory of colour based on observation and the experienced qualities of phenomena as they are received. In doing so, he recognised that colour is a phenomenon, not just of light but of perception too: light has an effect on the visual sense, which is capable of creating results that could not be guessed by only considering Newton’s light ‘corpuscles’ (Lauson, 2013: 45). Our visual system has the potential to make us see light that isn’t really there, i.e. creating the effect of yellow, which is a mix of red and green light. It was not until the nineteenth century when the English physician Thomas Young (1773-1829) showed that a wave theory was needed in order to explain light’s interference effects. Young stated that waves are excited whenever a body becomes luminous (Lauson, 2013:44). As it would be proved later, waves are electromagnetic and the wavelength of light determines its colour. Theoretical physicist Albert Einstein (1879-1955), author of the theory of relativity, asserted in 1905 that light is quantised, i.e. it comes in packets of energy called photons. So, when an object glows, it emits a stream of these pieces of light. It is necessary to specify that Einstein’s quantum view of light did not replace Young’s waves with particles. Light is always just light, and its performance can be either understood as a particle (photon) or as a wave.

In the early mid-twentieth century, German-born American artist and educator Joself Albers (1888-1976) demonstrated that our perception of colour is entirely dependant on the context within which we can see it (Govan; Kim, 2013:15). Visible form is subject to the same relativity. Besides, the potential effects of colour mixing of light are explored in several Dan Flavin’s (1933-1996) artworks, in which diverse coloured fluorescent tubes are placed next to each other, modulating and changing another’s appearance. Tim Edensor argues that “the pioneering work of Dan Flavin reveals that illumination is always more than representational. Flavin’s supposedly minimalist work expanded the use of colour by artists, intensifying its application and mixing colours across space, tinting walls and floors and human skin, and melding with the illuminated colour cast by other lights and daylight” (2015:139). In fact, light glows and radiates, it transcends the cognitive and moves into the non-representational, the realm of the affective and the senses. Colours are more than a registration of light. Colours, as we experience them, are about relationships: the relationship between the light we receive from an object and the light that is adjacent to it in the remainder of the scene (Eliasson, 2015:137).
of the object we are looking at) the colour expresses the relationship between the light source, the object and our eyes and brain.

On the other hand, it is interesting to consider how our eyes adjust our perception of colour to accommodate changes in light intensity, an effect commonly named *colour constancy*. Our perception of the colour of an object remains constant even the lightning changes. It is actually a human biological ability. James Turrell’s *Dark Spaces*, made in the 1980s, exploit this adaptation of colour vision (See Fig. 2). Installed in extremely obscure environments, these works require viewers to sit down in order to adapt to the darkness. After a while, visitors can start to appreciate the faint projected light. One can’t be sure if what is seen is real of a trick of the retina, and light acquires a delusory category. As I will discuss hereinafter, Turrell’s *Dark Spaces* are not about what one is supposed to see but the experience of ‘seeing yourself see’. Besides, Diana Young (2004; 2006) argues that the use of colour profoundly changes the world and they way people relate to it. In this sense, “colours animate things in a variety of ways, evoking space, emitting brilliance, endowing thing with an aura of energy and light (2006:173). Even so, it may be argued that light is what creates colour, and different types of light create different experiences of colour. In addition, Tim Ingold (2015) avers, “as a phenomenon of light, colour lends a particular affectivity to the sensible world: an aura that overwhelms the consciousness of those who come under its influence.

![Fig. 2. James Turrell. Selene, 1984. © James Turrell.](image)
Modern colour theorists say Newton and Goethe were both on something important. Seeing, and particularly seeing colours, is about receiving light from the surroundings, but it is also about imagining whatever the light comes from (Eliasson, 2015:147). Indeed, sensing the world is as much about imagining a world as it is about receiving data from it. In words of Olafur Eliasson, “instead of regarding sensory perception as a kind of digestion of raw data pouring into us through our senses, we can perceive it as a conception of the world that we are constantly revising, and which we reject if it appears to contradict what we experience” (2015:147). Regarding darkness, we could say that it tells us something about ourselves. Actually, what we see in a dark environment is our own ‘hallucinations’. Darkness disturbs the balance between the input we receive from the outside via our eyes and the imaginings we generate from within (Eliasson, 2015:25). On the other hand, shadows, are an effective way to tells us about the world. In fact, shadows say a lot about the world that surrounds us: they may be a tool to seeing what’s out there, whereas darkness enables us to seeing what’s within us. Mikkel Bille remarks how shadows are “always be an extension of the physicality of the relationship between the thing it ‘belongs’ to and the light sources” (2007:6). Thus, shadows are an important aspect of experiencing the world. As a last note, it is clear to state that we are constantly simulating the world, but we never view it directly.

2.1.2. Vision Made Visible

Anne Wagner notes that “most recent light artworks seem to share the recognition that an audience possessed of vision is equipped with a faculty that is mutable and profoundly bodily, yet at the same time more than merely personal; it is also interpretative, situational, historical and cultural (Lauson, 2013:31). These qualities are supposed to have made visible light’s potential to acquire poetics to be put on active use.

Light began to be newly understood, produced and controlled in the twentieth century. Technological advances developed over the nineteenth century generate accessible illumination and the use of light as both vehicle of mass communication and, subsequently, as artistic medium. American inventor Thomas Edison (1847-1931) patented carbon-filament incandescent bulbs in 1879 as result of multiple trial-error testing of different materials.
There were earlier attempts of electrically-powered incandescent lamps, but Edison’s commercial success was due to finding the right design, making the device affordable and accessible. Incandescent bulbs have been adapted to artistic purposes in many ways. For example, neon light, which was discovered in 1898, acquired commercial, ready-made aesthetics in the 1960s. Artists working with neon tubes (Joseph Kosuth, Bruce Nauman, Glenn Ligon, among others), adopted a message along with the medium - a political statement, a challenge to authority and a depersonalisation of the artistic gesture.

It is a fact that art has been always beholden to technology and artists see opportunities than scientists and inventors rarely imagine. There are also other dimensions that explain this reality in the case of light. Light has a strong symbolic cultural repercussion that offers new insights into the nature of light itself. Besides, light is not just about electromagnetism and photons but about perception and illusion. According to Philip Ball, “there are many tricks of light, and they force us to question the relationship between the world that impinges the senses and the world that the senses reconstruct from that stimulus” (Lauson, 2013:51). Indeed, light’s science of effect makes it a highly powerful artistic medium. In former times, effects of light and space were essential to the general experience of, for example, religious buildings or public spaces. In the case of the fine arts, light was a formal and emotive tool to vivify surfaces and provoke dramatic effects. Light and darkness created the atmosphere of the art’s object, evoking illusions and the sensation of a physical depth. If the nineteenth century produced a ‘New Painting’ in the form of Impressionism, the twentieth century offered a ‘New Vision’, as a result of the pedagogical and technological awareness championed by the Bauhaus (Lauson, 2013:32). Indeed, the new century marks the shift from representation to optical experience, advocating for the creation of ‘active’ works tied to space and driven by speed, fragmentation, and disembodiment. This new way of seeing thrives on blindness as much as sight, leading its artists to experiment with projecting light and shadow in a determinate space.

Light, vision and time have been key concerns of ambitious artists since 1960s. American artist Nancy Holt (1938-2014) exemplifies the centrality of this trio, putting an intense interest in visual perception. She created large-scale, land-based sculptures that, though fixed in time and place, are subject to the vicissitudes of changing environments, shifting light, and the position of the viewer. As one may notice, the act of seeing itself was integral to her art practice. In fact, to consider the light-based works produced since the 1960s is to see that the
viewer’s share has expanded. The viewer now moves, thinks, observes and remembers. The
viewers are asked to understand light and its sources not only as having a history, but also as
evoking the ways in which artificial light has been put to social use. Nancy Holt’s work was
parallel at the growing sense of light as a medium and the ‘concretisation of sight’. This is a
concept that is evident in her installation *Holes of Light*, 1973 (See Fig. 3), which channels
and shapes light’s fall. Two quartz lamps are on mounted opposite walls of a gallery space,
which in turn has been divided by a wall through with have been cut a diagonal line
containing eight circles. As a result, the holes of light become cloud-like, able to softening or
even obscuring our sight. This installation makes vision visible thanks to several laboratory
conditions which enable us to test out phenomenological questions of light’s incidence and
play.


The 1960s were also a time for a growing recognition of the metaphoric capacities of light
(Lauson, 2013:38). This means accepting that light not only illuminates, but also represents -
and often does so in a delusive way. The long-established association between light and
knowledge remained unfixed until the 1920s, and since that time, light has been revealed as
an untrustworthy agent, capable of misleading (Lauson, 2013:38). Olafur Eliasson’s unforgettable monumental sun at the Tate Modern Turbine Hall, *The Weather Project*, 2003, serves as a representative work. The monumental scale and artifice of the work enabled more than 2.3 million visitors to see themselves seeing - and thus sensing - because Eliasson’s design had replaced the hall’s ceiling with a mirrored skin. Technologically precise and socially compelling, *The Weather Project* (See Fig. 4), stands for presenting a new analytical and a new social aspect of light works, initiated in the perceptual awareness urged on gallery-goers since the 1960s, and increasing ever since (Lauson, 2013:40). It is clear, thus, that Eliasson reviewed in this project Holt’s potential of the self-conscious sight, evoking a form of vision highly spatial and sensual. Bringing together social, metaphorical, bodily and temporal effects, contemporary light art seems to aim to represent the complexity of the human powers of sight.

![Image](image_url)

*Fig. 4. Olafur Eliasson. The Weather Project, 2003. © Studio Olafur Eliasson.*
Phenomenological aesthetics has had a longstanding relationship with art, and the philosophy of Maurice Merleau-Ponty, who sought to establish a primacy of perception, has been of interest to both artists and historians of Light and Space art. Works associated to this trend have often been called \textit{phenomenal} - a kind of art that fosters an introspective practice that facilitates the means for experiencing ourselves as bodies rather than merely having them. Therefore, it is necessary to introduce Merleau-Ponty’s theories of perception next.

### 2.1.3. The Phenomenology of Perception

Maurice Merleau-Ponty (1908-61) is known as one of the most prominent philosophers of the twentieth century. He proposed a new way of thinking about the basic structures of human life with reflections on art, literature and politics which established on a new philosophy. Merleau-Ponty stated that “one of the great achievements of modern art and philosophy has been to allow us to rediscover the world in which we live, yet which we always prone to forget” (Merleau-Ponty, 2004: 7). The world which we are entitled to rediscover is the ‘world of perception’, which is the world as we perceive it. In his treatise on the \textit{Phenomenology of Perception}, dated from 1945 (trans. 1962), Merleau-Ponty wrote that “the body is the vehicle of being in the world, and having a body is, for a living creature, to be involved in a definite environment, to identify oneself with certain projects and be continually committed to them (1962:82). For Mereleau-Ponty, our knowledge of the body as a physical thing is based on our total bodily immersion in an environment. That means that only because we are immersed in the world we can imagine ourselves as existing separately from it. Thus, the body is neither object or instrument, but is rather the subject of perception.

Since our knowledge of the world can only come through perception, one might say that what we cannot perceive is perception itself. We can claim to see an object, but only by way of the light that reaches our eyes. And we can hear it only by way of the sound that reaches our ears. How can we know, then, that the object materially exists, behind the perceptual images, shaped in light and sound, that we have of it? In this sense, Tim Ingold reacts stating that “perception is not an ‘inside-the head’ operation, performed upon the raw material of sensation, but takes place in circuits that cross-cut the boundaries between brain, body and world (2002:244). The experience of our illuminated world is, according to Ingold’s words,
possible thanks to “a never-ending, two-way process of engagement between the perceiver and his or her environment” (2002:257). Thus, the phenomenon of light is generated in this nexus, constituting “a phenomenon of experience, of that very involvement in the world that is a necessary precondition for the isolation of the perceiver as a subject with a mind, and of the environment as a domain of objects to be perceived” (Ingold, 2002:258).

Maurice Merleau-Ponty recognised that vision is not just a matter or seeing things but is an experience of light. In fact, light is equivalent to what be experience, in vision, as an opening up of the body onto the world that surrounds us. Ingold elaborates on this point asserting that “the senses exist not as distinct registers whose separate impressions are combined only at higher levels of cognitive processing, but as aspects of functioning of the whole body in movement, brought together in the very action of its involvement in an environment” (2002:262). Merleau-Ponty compares this integration of the senses in action to the necessary collaboration of the eyes in binocular vision (1962:230). Our two eyes “are used a single organ by one single gaze, so the unity of a thing as an inter-sensory entity lies not in the mental fusion of images founded on different registers of sensation, but in the bodily synergy of the sense in their convergent striving towards a common goal (Ingold, 2002:262). Thus “my gaze, my touch and all my other senses are together the powers of one and the same body integrated into one and the same action” (Merleau-Ponty, 1962: 317).

Merleau-Ponty stressed that while there cannot be vision without movement, this movement must also be visually guided (1962:162). Besides, for persons who can see, light constitutes the experience of inhabiting the world of the visible. Light’s qualities such as brilliance, shade, tone, colour and saturations are just variations upon the whole experience. Since light is not an object, we do not see light as such. Light is “the ground of being out of which things coalesce - or from which they stand forth – as objects of attention” (Ingold, 2002:265). We do not so much see light as see in it, and for those who can see in it, the experience of light is perfectly real (Merleau-Ponty, 1964:178). The process of seeing in light is usually hidden by the products or objects of sight. Thus, Merleau-Ponty advises to reverse this perspective and recover the sense of vision that is original to our experience of the world. Art may have the power to show “how things become things, how the world becomes a world” (Merleau-Ponty, 1964:167). Following this concept we could say that seeing with or according to an artwork questions our ordinary perception of objects and awakens the astonishment of vision, showing us that there are things in the world to be seen only because we first can see.
For Merleau-Ponty vision is a mode of being. The visual world is given to subjective experience and it continually comes into existence around the perceiver. It is a fact that Western culture has traditionally limited the sensory experience of the world in order to highlight the objective knowledge. In any case, our engagement with the environment is purely immaterial, and the meanings and understandings of the world achieved through perceptual activity are expressed symbolically. Merleau-Ponty’s phenomenological notion of the ‘embodied perception’ is constantly present in the artworks discussed in this thesis. In addition, they demonstrate Merleau-Ponty’s concept of the “I” as demolished and remade by the course of time. In fact, this notion refuses the mind-body dualism of Cartesian philosophy. Merleau-Ponty theorised that perception, as physical and non-stop, disallows a stable and objective reality and, further, the notion of an outside world that is separate from the thinking subject who constantly formulates and reformulates the world (Feldman, 2016:49). The more predictable and familiar the environment, Merleau-Ponty (Feldman, 2016:50) argues, the more aware one becomes of one’s corporeal knowledge of the space:

“When I walk round my flat, the various aspects in which it presents itself to me could not possibly appear as views of one and the same thing if I did not know that each of them represents the flat seen from one spot or another, and if I were unaware of my own movements, and of my body retaining its identity through the stages of those movements”.

That could explain how for artists such as James Turrell or Robert Irwin, their studios became laboratories for their first experiments in looking and seeing.

As a last note, we should consider that the phenomenological task of uncovering aspects of phenomena can actually bring us closer to an understanding of the real phenomenon (Ebbensgaard, 2013:50). The materiality of an object is tightly related to the perception of it, because perception always acts as a whole and cannot be dismantled into parts of sensation and causal relations (Merleau-Ponty, 1995:11). Therefore, we are not only connected to space - we inhabit it, and definitely become part of the process of space. That is the reason why the corporality of the body and the materiality of the world are constantly folded in a relational inter-corporeality (Ebbensgaard, 2013:50). By participating in space, the body inhabits space and thus becomes space (Ingold, 2005:101). Merleau-Ponty’s phenomenology of perception stresses the importance of body-subjects and the experiential dimension of life. This is so true
that the body becomes a ‘container’ for experience, and the senses its actual organs. Spatial
designs, then, can only be meaningful when perceived and experienced. It is this perspective
that will conduct the following thesis.

2.2. DESIGNING ATMOSPHERES

Atmosphere is a tricky term and presents two different meanings by both connoting the
atmosphere around the earth (a meteorological phenomenon) and as well as a personal,
spatial experience engaging material things (Bille, 2013:2). In general terms, an atmosphere
is an elusive multi-sensuous in-between that has to be felt as a co-presence and immediacy of
subject and object (Böhme, 2006). Besides, an atmosphere is never stable or objective. Rather,
it is a genre of socio-material interaction that is activated and aims at – or has its premises in – cultural concepts, interpretations, and anticipations (Bille, 2013:2). In discussing atmospheres, it is crucial to recognise that atmospheres are not only shaped by light for its is one amongst many ingredients in their ongoing formation, albeit a particularly powerful element (Edensor, 2015:327). Atmospheres are co-produced by the responses of those who are experiencing them. Light expands from a source and cannot be delimited, as it blends with other form of illuminations across the space. This capacity remarks how important is light in the relational forces that compose the dynamic blend of atmosphere as it shifts and fluxes in intensity and in accordance with the surroundings (Edensor, 2015:327). Moreover, Casper Laing Ebbensgaard notes that “aesthetic effects are always already present in space” (2013:58). This concept implies that any sensory experience or perception is determined by the spatio-temporal situation. Hereby design and architecture constitute the specific spatiotemporal situation, which is always porous and temporary (Samson, 2010:142). Our conception of atmosphere of space relies on the ever changing and unstable spatial situations we are confronted with. Design, architecture and space are conceived as entities that affect our body.
2.2.1. Light and Atmosphere

Tim Edensor (2015:331) argues that “the ways in which light transforms space are complex and multiple. We see both with and in light, and move through and inhabit many levels of day-lit, illuminated, gloomy and dark space. Light conditions the ways in which we perceive – guiding what we are able to see, inflecting visible colours and informing our sense of the shape of space”. Likewise, light and dark are essential components in the formation and emergence of atmospheres of diverse intensity. It its important to emphasise that atmospheres are not formed out of one element, light for example, for they continually emerge out of an amalgam if forces, affects and happenings (Edensor, 2015:333). The elements that form atmospheres are distributed across space and cannot be considered property of just one element. Edensor believes that is crucial to consider atmospheres as relational phenomena that enrol different configuration of objects, technologies and human and non-human bodies in an ongoing emergence (Edensor, 2015). The affective potentialities of atmospheres emerge as part of this distributed rationality, and flow as a sequence of sensations, provoking immersion, engagement, distraction or attraction. Besides, atmospheres are also generated by the ways in which people respond about such effects through the affective transmission manifest through movements, gestures, voices or faces (Edensor, 2015:333). Even so, light shapes atmospheres (Böhme, 2002) and like other elements within the built environment is subject to symbolic understandings.

Within an atmosphere, we are immersed within a flow of experience in which affects, emotions sensations and meaning are inextricably mingled (Edensor, 2015:334). It remains evident then, how illumination and darkness contribute to the production of intense atmospheres. This potential has been grasped by light designers, architects and contemporary artists such as the case-studies for this thesis - James Turrell, Anthony McCall and Olafur Eliasson. Designers using light have the ability to tune and expand space: lighting can reveal texture, spatial transition, visual signals, security, perception of security, moods, among many other effects. Thereby, such effects produce atmospheres that might draw people in, provoke emotional engagement or sensory immersion. Edensor stresses how light designers and artists can expand the meanings, sensations and affective experiences of place through their skilful, inventive use of light, shadow and darkness (Edensor, 2015:347). Indeed, light can act as a powerful agent in the creation of a certain atmosphere. Contemporary artists are actually
expanding the ways in which light can transform the affective and sensual qualities of experiencing place and space.

On the other hand, Mikkel Bille remarks that “the emphasis on felt spaces as atmosphere is variously understood as temporary, capricious, and ‘quasi-objective’ (Böhme, 2006: 16, 26), as ‘half-things’ (Böhme, 2001:61; Schmitz, 1998), ‘inmaterial exceptional things’ (Hasse, 2002:23), something ‘always already there’ (Heidegger, 1993:29) or most recently with Tonino Griffero (2014), a drawing together of these positions, as spatialised feelings” (2017:14). The last notion highlights how the world consists of more than a binary distinction between things and people, but also of atmospheres, weather, wind, music, heat or light. The concept of atmosphere encompasses, according to Böhme, its understanding as a spatial phenomenon of what he calls ‘attuned spaces’ (Böhme, 2006:25), in which atmospheres are always present. In addition, Bille (2017:15) mentions how Böhme argues that our first subject of perception is precisely an atmosphere, which is something in-between subject and object that affects and effects people’s perception of the world:

“Atmospheres are neither something objective, that is, qualities possessed by things, and yet they are something thing-like, belonging to the thing in that things articulate their presence through qualities - conceived as ecstasies. Nor are atmospheres something subjective, for example, determinations of a physic state. And yet they are subject-like, belong to subjects in that they are sensed in bodily presence by human beings and this sensing is at the same time a bodily state of being of subjects in space”.

Atmospheres seem to present unclear borders or boundaries, beginnings and endings that are spatially extended, and while also being products of physiological states of mind, they are not confined to them (Bille, 2017:15). In addition to that, atmospheres appear to have a malleable character: “To some extent the character of a place is a function of time; it changes with the course of the day and the weather, factors which above all determine different conditions of light” (Norberg-Schulz, 1980:14). Taking this concept of atmosphere, the following section will discuss the perception of immersive light-based artworks.
2.2.2. Light Art and Perception

Tim Edensor clearly emphasises that “the ways in which we usually apprehend light – as a quality of daylight, season, time of day, and place; as bright, dim, glaring, glowing, animated or saturated; as a beam through which to discern the way ahead; as an attractor in spectacular displays or advertising; as a functional utility to illuminate homes, stadia, streets, shops, and workplaces – are rarely considered except when we witness forms of light or darkness that are beyond normative experience – or when we encounter works of art” (2015:130). In fact, there are few academic accounts of the ways in which how can light and darkness transform space in multiple ways. Artistic uses of light can address profound questions about the qualities of places, spaces, and landscapes. In addition, they are able to examine how spaces are perceived, symbolic meanings inhere in forms of illuminations and the affective and emotional resonances provoked by light that stimulates movement, evokes feelings and activates sensations (Edensor, 2015:130-131).

On the contrary, Mikkel Bille remarks the importance of seeing light as “a way of bridging material and social divides by showing how shedding light on people, spaces, and things may reflect, produce, or be integral to issues of morality, power, and identity” (Bille, 2017:9). Light offers a wide range of powerful social effects and meanings, and highlights the ability of a profoundly physical phenomenon to intermingle with traditions and cultural practices, where light is cast for and not just on the material environment (Bille, 2017:10). Besides, Bille continues stating that “more than just being endowed with cultural meanings, light as a material, yet intangible phenomenon, takes part in human practices and shapes the particular visual presence of things. The intensity, glow, brilliance, glare, and colour, as well as the shadows and darkness created by objects, all contribute to our perception of the world around us” (Bille, 2017:11).

Light-based art augments the sensory experience of place and reveal the diverse ways in which light can act on our senses and generate moods that include contemplation, play, astonishment, fear or wonder. Light is thus a rich media for contemporary artists to explore affective impact and sensory response. In the following section, I shall introduce the development of light art and its presence and incidence on today’s contemporary art scene.
2.3. THE DEVELOPMENT OF LIGHT ART (1960s-2010s)

Throughout art history, light has been subject of fascination and concern for artists. Leonardo da Vinci (1452-1519) wrote several volumes regarding the importance of light in nature; Romantic artists equaled the sublime with light; and modern artists used abstract forms to account for a inner light. As we all know, art is the field of the visual and it has been always tied to the universe of light. The use of natural or artificial light as a creative medium is, however, a more recent phenomenon, a characteristic product of the twentieth century. While until the end of the nineteenth century light was merely depicted, at the dawn of 1900 a paradigm shift took place away from the representation (of light) to the reality (of light): artists started working with real light (Weibel; Jansen, 2006:86). Natural light was not depicted in an illusionistic way, but artificial light was indeed used. Early attempts of light-based artworks were intimately related to the technological advances in electric light. In effect, as a result of the industrial revolution, light was no longer captured but diffused and the artwork became a ‘generator’ of real light. The Italo-Argentinean artist Lucio Fontana (1899-1968) was an early proponent of making art with light. His series Ambiente Spaziale (See Fig. 5), which he initiated circa 1949, are a clear example of this shift, including large-scale neons or ultraviolet light. The artworks contain Fontana’s vision of a more experiential art, one that benefits from new technologies in order to involve the viewer’s imagination and emotions. Light was transformed from being the issue of the image to being an independent means for images, material and thus the medium (Weibel, Jansen, 2006:97). While painting was driven by colour, real light took itself the place of the colour, before used to depict light. In doing so, light became the creative element in the image and, as a consequence, of space too.

Fontana, founder of Spatialism3, used to consider light as a privileged dimension, capable of making tangible a possible dialectic between concrete physicalness and conceptual dematerialisation. Throughout his artistic career, space became redefined as active corporeity in which light was continuously associated with the dimensions of the infinite and the

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3 Spatialism was an art movement focused on the spatial qualities of sculpture and paintings with the goal of breaking through the two-dimensionality of the traditional picture plane. Founded by Lucio Fontana in Milan in 1947, the main ideas of the movement were anticipated in the Manifiesto Bianco published in Buenos Aires in 1946.
absolute, the becoming and the eternity (von Hülsen-Esch & Pörschmann, 2013: 13). Besides, Fontana envisioned that art no longer had to be carried out with traditional materials - brushes and paint - but could be expressed with new media such as plastic or light. The transformation of the representation of light into reality of light was anticipated by the shift from the representation of movement (in Futurism and Cubism) to the reality of movement (in Constructivism and Kinetic Art) (Weibel; Jansen, 2006:95). This turn away from strategies of representation to reality programs was accelerated by the introduction of real utilitarian objects such as Marcel Duchamp’s readymades in the system of art (Weibel; Jansen, 2006:96). This crucial change, from representation (of movement, object or light) to reality, established the basis of contemporary light art. In order to present real light as a creative element in art instead of colour, the classical concept of the image as representation had to be redefined. It was however the widespread broadening of the category of sculpture around the 1960s - ‘the transition from “object-hood” to environment’ - that enabled artists fully maximise light’s potential both as sculptural medium and for altering the viewer’s perception of space (Lauson, 2013:17). This shift can also be understood if we consider the great emphasis of much 1960s artwork on vision as embedded within the body.

Fig. 5. Lucio Fontana. *Luce Spaziale*, 1951. © Fondazione Lucio Fontana.
As artists transitioned into an art that encompassed the space around it, they began to think about the relationship between the artworks and the viewer as an active exchange (Ruiz, 2010:28). The viewer, now a participant, became an essential component in the completion of the artwork. Lucio Fontana, like California Light and Space artists Robert Irwin and James Turrell, who I will discuss later, aimed to make the quality and sensation of light a tactile experience for the viewer. Within these works, the viewer is always re-negotiating the space. In short, the 1960s and 70s were times of intense professional activity for the artists experimenting with light as artistic medium. No other artist was more pioneering or influential in his use of light than American artist Dan Flavin (1933-1996). From 1960s, Flavin created crucial works using only standard fluorescent tubes in their ten available colours. Despite this limitation, the works produce infinite number of intensities and gradations of light by mixing colours and configurations across three-dimensional space and in relation to architecture. Since Flavin’s pioneering artworks, artists have continued to deploy light in architectural ways, in some cases assuming the forms of structural elements. Indeed, with Dan Flavin, light artworks expanded to constitute light spaces.

![Fig. 6. Dan Flavin. Untitled (To You, Heiner, With Admiration and Affection), 1973. © Artnet Magazine.](image)

Peter Weibel (2006:98) lists the following as sources of light art or art using artificial light: (1) Colour as the medium of light. The representation of light by colour in painting through to the design of images with light, (2) the material culture of Constructivist and Concrete Art and its immaterial thrust, which led early in the 1920s to light reliefs, light boxes and light
performances, (3) the trends in painting and music around 1900, which sought to find correspondences between sounds and colours, giving rise in the 1920s and 1930s the colour-light music, (4) the avant-garde film of the 1920s, and (5) the use of real movement and real light in the Kinetics and Op Art.

In any case, Jan Butterfield (1993) stresses that how we see has been a longstanding concern in art. The invention of one-point perspective in the Renaissance provided illusions of depth for the first time. Three hundred years later the Impressionist’s application of scientific colour theories yielded new sensations of colour and movement. The Cubists sought to convey an even more sophisticated visual concept: the simultaneous representation of multiple perspective of an object. Changes in the notion of space and time brought about by the new physics altered the thinking, leading to a deeper understanding of humans as metaphysical beings (Butterfield, 1993:10). These expanded attitudes conducted to an expanded, spatial art; it is no longer an art of illusion or even of abstraction, it purely takes shape only through the viewer’s direct perception.

2.3.1. The Integration of Space and the Avant-garde Art of the 1950s and 1960s

One prominent characteristic of the avant-garde art of the twentieth century was a new awareness of – and relationship to - space. Several avant-garde artists overcame the limits of the closed frame in painting and art succeeded to move from two-dimensionality to three-dimensionality. Sculptures, which already had a specific spatial dimension, incorporated their surrounding space as well. This expansion into space, which made its first steps at the beginning of the early twentieth century, was intensively developed in the 1950s and 1960s, time where light became the main creative medium for a selected group of artists. Space and light are two strictly dependent elements which do not allow any sort of disassociation. In fact, the integration of space (or emptiness) into artworks resulted into an integration of light. In that sense, avant-garde artists began to consciously integrate both aspects into their work. For the first time, light took on shape and emerged as a consistent body made of light. In effect, the newly conquered artistic space could not only be conceived as space as such, but
also as shaped light. The observer’s physical position creates shifting perceptions. Therefore, the work itself is no longer created by an individual artist, but instead becomes a present event emerged by an interplay of light and space.

Artists have traditionally focused on the formal composition of the image objects and the effect on the viewer has been only of secondary consideration. Since the second half of the twentieth century multiple artists have shifted their interest towards the perceiving subject. Thus, the previous fixed relationship between work and observer loses its restrictions; besides visual perception, spatial-bodily perception is encouraged. The viewer no longer needs to stand in front of an artwork, as with painting, or walk around it, as with sculpture, but can actually step into it and become fully engaged with it in a kind of sensorial exaltation. As artists have transitioned into an art that encompasses the space around it, the relationship between the artwork and the viewer has become an “active exchange”. The viewer – now an active participant – becomes essential to the completion of the artwork. These works have also changed the politics of spectatorship by introducing a new kind of openness and a multi-perspectival approach to art. Indeed, they are not self-sufficient or autonomous entities, but spatial structures laid out around viewers. Instead of communicating with the observer only on a visual level, these works operate upon all senses – becoming a poly-sensual, observer-oriented art. Light and space currently play a more significant role – to the extent of having the power to dissolve the material structure of the work.

By suspending the awareness of the physical dimension of the artwork, the experience of the ‘immaterial’ appears, and can be conceived as a sort of energy that envelops the work and expands spatially. To illustrate the process where the material and the immaterial flow into each other it is interesting to base the approach on reception aesthetics and phenomenology, both elements stimulated by the experienced and perceived artwork. Thus, it is relevant to consider how artists try to convey the ‘immaterial’.

In discussing this expansion into space, it is worth mentioning American art critic Rosalind E. Krauss (b.1941) and her influential essay *Sculpture in the Expanded Field* published in 1979. Krauss jumped in to reconstruct the foundations of what art practices were and were not and what they could become. Krauss attempted then to both locate and analyse vanguard sculptural practices of the time such as the work of Richard Serra, Robert Smithson, Mary Miss or Donald Judd, whose practices crossed outside of the limits of the traditional sculpture.
and entered into the realms of architecture and landscape through the production of sit-
specific works, earthworks or axiomatic structures. In this regard, Krauss (1979:41) proposes
a new term to qualify these new art practices:

“It seems fairly clear to think the expanded field was felt by a number of artists at
about the same time, roughly between the years 1968 and 1970. For, one after another
Robert Morris, Robert Smithson, Michael Heizer, Richard Serra, Walter De Maria,
Robert Irwin, Sol LeWitt, Bruce Nauman… had entered a situation the logical
conditions of which can no longer be described as modernist. In order to name this
historical rupture and the structural transformation of the cultural field that
characterises it, one must have recourse to another term. The one already in use in
other areas of criticism is postmodernism. There seems no reason not to use it”.

Besides, Krauss remarks that the expanded field which characterises this domain of
postmodernism possesses two features that are already implicit in the above description
(1979:42). One of these concerns the practice of individual artists; the other has to do with
the question of medium. Seems reliable to identify both of these points in nowadays light-
based art. Krauss insists in stressing that “the logic of the space of postmodernist practice is
no longer organised around the definition of a given medium on the grounds of material, or,
for that matter, the perception of material. It is organised instead through the universe of
terms that are felt to be in opposition within a cultural situation” (Krauss:1979:43). Krauss
analysis emancipated what has happen over the past three decades, where boundaries
between art architecture have been blurred, arising works know as installations whose
conceptual, spatial and material features generate new expanding relations between the fields
of architecture, interiors, sculpture and landscape. Installation art has definitely contributed to
the emergence of spatial ideas within the art domain, the inclusion of technological strategies
and to evident perceptual and experimental conditions without the obvious limitations in
traditional art practices.

That the integration of space came about during a period when artists began questioning the
context in which their art was shown cannot be mere coincidence. Once sculpture left the
elevated space atop the pedestal in the nineteenth century, artists naturally started looking
around at the broader from of art’s containment (Clark, 2011:81). Land artists such as Robert
Smithson (1938-1973) disengaged with architecture, placing their works in America’s open
landscape. A new ‘expanded field’ notion allowed artists to contextualise their work beyond the institutional frame of the museum or the commercial structure of the gallery (Krauss, 1979:30). As I will discuss later, Light and Space artists, rather than fight against architecture, explore and manipulate it, incorporating architecture directly into their art. Artists Bruce Nauman, Robert Irwin or James Turell - all associated with Light and Space - brought art and architecture together in order to explore the fundamental character of architectural containment in formal as well as phycological and social terms (Clark, 2011:82).

Furthermore, Gaston Bachelard’s (1884–1962) *The Poetics of Space*, published in 1958, stands as a key book among Light and Space artists, seemed to be written expressly for their installations. French philosopher Gaston Bachelard’s essay investigates the interaction between the physical space, the consciousness and poetics. It offers an exploration of the space people inhabit as means to analyse the human soul. In doing so, Bachelard show how our perceptions of, for example, houses and other shelters shape our thought, memories and dreams. In addition, Bachelard states that “as soon as an art has become autonomous, it makes a fresh start. It is therefore salient to consider this start as a sort of phenomenology. On principle, phenomenology liquidates the past and confronts what is new” (1958:32). Certainly all these art theories address the subjects of light and space. However, California Light and Space artists engaged these subjects as pure phenomena rather than representations or images. How they channeled these elusive phenomena may be the most interesting question. A brief introduction to the so-called art movement California Light and Space follows.

**2.3.2. California Light and Space Art**

*Phenomenal: adj (ca. 1852) relating to or being a phenomenon: as a: known through the senses rather than through thought or intuition b: concerned with phenomena rather than hypotheses: extraordinary, remarkable*

- Merriam-Webster’s Collegiate Dictionary, 10th Edition

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*http://www.merriam-webster.com* (Visited on September 15, 2016)
California Light and Space and New York Minimalism emerged at the same time in the mid-1960s under the rubric of Minimalism (Feldman, 2016:17). Light and Space has been often understood as a regional movement while Minimalist artists Carl Andre (b.1935), Donald Judd (1928-1994) or Richard Serra (b.1938) entered the art historical canon. Minimalist works strives to place itself in the same space as the spectator but only to behave like a modernist work (Feldman, 2016:50). On the contrary, Light and Space art does not revolve around the formal integrity of objects but, instead, around the human sensorium in its changing environment.

As I have mentioned before, during the 1960s and 1970s light became the main artistic medium for a selected group of artists working in the area of Los Angeles, USA, who were deeply interested in questions regarding human perception. They created artworks capable of heighten sensory awareness in the viewers by directing the flow of natural or artificial light, and playing with light through the use of reflective or transparent materials. Even though they shared common interests and artistic practices, they reject the notion that they were part of an organised movement. The artists who worked with light directly, or through the manipulation of reflective materials, included those who engaged architecture to create immersive environments (Robert Irwin, Maria Nordman, Eric Orr, James Turrell, Doug Wheeler); those who used light as a primary material intensely but briefly (Michael Asher); those whose practice has been strongly rooted in performance, both their own and that of visitors who became participants in the work (Bruce Nauman); and those who dealt with light over a long term through the use of materials such as glass (Larry Bell, Mary Corse) or plastics, including polyester, resin, Plexiglas, and Fiberglass (Peter Alexander, Ron Cooper, Craig Kauffman, John McCracken, Helen Pashgian, De Wain Valentine) (Clark, 2011:23).

Some of the artists related to California Light and Space arrived at their mature styles through the practice of painting. That is the case of Robert Irwin (b.1928), one of the most senior artist in the group, and who started his career making paintings in accordance to the Abstract Expressionism movement. In fact, Irwin moved from an emphasis on the images and meanings to an investigation of the whole process of seeing, and perception itself. Doug Wheeler’s (American, b.1939) mature works also lead to an immersive environmental experience (See Fig. 7), showing great interest in the contrast between sharply focused,

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5 Abstract Expressionism is post-World War II art movement in American painting, developed in New York in the 1940s.
precise, locked-in images and how they relate spatially to an indefinite field (Clark, 2011:29). Wheeler Encasements series – light paintings made from fabricated acrylic and neon – are his most recognisable works. By creating an individualised sensorial experience, Wheeler’s Encasements reverse the stereotype that art needs to contain a physical object. The encasements are created from large panels of vacuum-formed plastic with neon lighting embedded along the inside edges. They are displayed in white rooms bereft of any architectural detail and ambient light. Thus, the light paintings appear to de-materialise, immersing viewers in a light saturated space where lighting seems to have mass structure.

Visitors are absolutely encouraged to challenge their senses: the artworks appear to float off the walls and as one’s eyes adjust to the low-light conditions and the luminous effect of the neon, it appear as if a light fog is slowly rising from the floor. Wheeler’s works suspend viewers in time as one considers what is real and what is imagined, what is physically present and what is perceived in a phenomenological light path of the senses. Raised in the high desert of Arizona, Wheeler has stated that “the way you react to these works is that you have a sensate experience. If you quantify that, it is something like what happens to me in the desert with the sound and light” (Clark, 2011:31). Besides, Wheeler’s primary aim as an artist has been to activate space, and reshape and change the spectator’s perception of the seen world. His medium has not been light or new materials or technology, but pure perception (Coplans, 1968).

Fig. 7. Doug Wheeler. RM 669, 1969. © Museum of Contemporary Art, Los Angeles.
At the end of 1960s Larry Bell (American, b.1939), Robert Irwin and Doug Wheeler had left painting behind and they were fully engaged in creating environmental works. All three artists were, thus, invited to exhibit at the Tate Gallery in London in the spring of 1970 (May 5-31). Michael Compton⁶, curator of the exhibition, explained the challenges of showing their site-specific installations:

This is not a catalogue because there is no list of works. The exhibition will comprise three spaces in which three artists will have made their art. At the moment of writing we are not sure exactly what they will do - and we cannot know how what they will do will appear to us. Therefore we cannot attempt to help you perceive it. So this is also not truly an introduction to the art. It is not intended to be read until you have seen the exhibition.

Compton’s essay, produced ahead of time, did not discuss the actual content of the show, but later reviews showed its great success and the need to physically experience the works. As with light, the use of sound had the capacity to confront the viewer’s understanding of space as static, tactile, and formally structured (a dominant trend in art during this period in Southern California) with the notion of its temporality and dynamics (Clark, 2011: 50). Although not traditionally associated with the artists presented so far (Irwin, Wheeler, Turell), Bruce Nauman (American, b.1941) produced prominent works in the late 1960s and 1970s exploring light and its relationship to both architecture and the human body; Nauman’s work often revolves about perception, performance, subverting expectations and aim to produce a higher state of consciousness. With *Green Light Corridor* (See Fig. 8), a site-specific installation conceived for the exhibition *Body Movements* at the La Jolla Museum of Contemporary Art in March 1971, Nauman gave the role of performer - usually ascribed to the artist - to the museum visitor. In effect, Nauman has had a strong influence on the development of art that involves the viewer as an active part of the completion of the work. In the artist’s works one is bombarded with sensory impressions that can trigger feelings of claustrophobia, mental disorientation, fascination and even amusement.

In the encounter with the work, participants are faced with a choice: do you want to or do you dare to walk through such a narrow passage? The feeling of confinement is already there before you actually pass through the sideways of the corridor, experiencing physical contact

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with the wall at all points. Nauman challenges you to seek out your own boundaries as he himself has done earlier. The interior’s intense green fluorescent light appears to change to dazzling white after a few seconds. When coming into daylight at the end of the corridor, one can experience a pink or magenta afterimage. Sounds are of major importance when experiencing this work, as the hard surface of the walls reflects the sound and gives the interior a “live” feeling. Sensitive people might experience extreme claustrophobia while inside the corridor, and a physical sense of relief upon exiting it. Nauman’s work does not deal with the concept of space but with sensation of it, similar in the feeling to the impact of seeing but not recognising yourself at once in the reflected surface. Indeed, Nauman’s work offers the possibility to reconsider preconceived notions of the way one sees the world that surrounds us.

Fig. 8: Bruce Nauman. *Green Light Corridor*, 1970. Installation view at Copenhagen Contemporary Art Center, Copenhagen, Denmark. Photo by author, September 2016.
At this point it is clear that something as ephemeral as light can only be *objectified* by that which contains and shapes it. Indeed, Light and Space artists became masters of parceling out light. The main feature in Light and Space installations not only make us be more conscious about space and how we perceive it in relation to light and architecture, but also becomes psychological in disturbing ways. Nauman brilliantly understood this situation and found really interesting ways to exploit it. While being aware of Maurice Merleau-Ponty’s theories of phenomenology, Nauman’s installations are deeply influenced by Frederick Perl’s (1893-1970) gestalt psychology (Johnson, 1993). Perl’s theories revolve around how human personality deals with spatial situations that not organised in expected or appealing ways (Clark, 2011:98). Nauman is intrigued by certain spaces that makes us feel uncomfortable, and what do we do and what emotions do we have when we sense them. *Green Light Corridor* exemplifies this interest, where the architecture controls our freedom of movement and the containment is a form of claustrophobic prison. The use of unnatural atmospheres of light enhances Nauman’s goal of complicating our perception of the installation.

The 1960s and 1970s were also intense regarding the exploration of transparent, translucent or reflective materials to make objects that would respond to the light conditions in the spaces they were shown. Peter Alexander, Ron Cooper, Craig Kauffman, or De Wain Valentine adapted industrial plastics or resins to their artistic practice. Thus, light reflects from the surface but also penetrates the surface and reflects from the white wall or white architecture behind the work. These hybrid pieces, not really paintings or sculptures, emerge with the architecture and the available light of the space in which they are displayed. De Wain Valentine (American, b. 1936) has been traditionally acclaimed as the master among the artists working in resin, demonstrating that resin sculptures are closely related to immersive light installations: they interact with their surroundings by pulling light in and by refracting it back out again, by being both transparent and opaque, and by being both solid and liquid (Clark, 2011:67-68). Valentine’s *Diamond Column* (See Fig. 9), like light environments of Robert Irwin, James Turrell or Doug Wheeler, constitutes an example of the ambiguity and wide possibilities of every phenomenological experience.

It is interesting to see how these works have influenced on subsequent generations of artists. The main guidelines and goals of works made by Irwin, Turrell, Wheeler and others, are visible today in the work of prominent younger international artists. As an example, Tara Donovan’s (b.1969) *Haze*, 2003, is a strongly engaging light and sound absorbent
environment. Moreover, Olafur Eliasson’s famous commission for Tate Modern, *The Weather Project*, 2003, treated the physical, symbolic and social properties of sunlight on a large-scale. For artists who started their careers during the 1990s and 2000s, engagement with light as medium and questions of phenomenology then to come bundled with a more self-conscious social practice than that of their predecessors, but they retain a focus on the environmental and the atmospheric hallmarks of Light and Space work produced in California back in the 1960s and 1970s (Clark, 2011: 76).

![Image of De Wain Valentine's Diamond Column, 1978.](image)

**Fig. 9:** De Wain Valentine. *Diamond Column*, 1978. © Collection Museum of Contemporary Art San Diego.

### 2.3.3. Towards an Embodied Art (2000s- 2010s)

Focusing on art of the current generation, we may recognise materials, methodologies and formal vocabulary pioneered in mid-1960s by artists such as Larry Bell, Robert Irwin, John
McCracken and James Turrell. The idioms of California Light and Space have entered into wide currency, its focus on subjectivity and the experiential serving as an apt model for today’s relational aesthetic-tinged, neb-conceptualist art (Feldman, 2016:18). Besides, the ideas that the artists mentioned so far investigated in the 1970s echo in works by Doug Aitken (b.1968) or Olafur Eliasson. Successful exhibitions *Primary Atmospheres: Works from California 1960-1970* at David Zwirner Gallery, New York in 2010 and *Phenomenal: California Light, Space, Surface* at the Museum of Contemporary Art San Diego in 2012 show critical and commercial attention to this kind of works. Besides, Light and Space installation may have influenced architecture to some extent, promoting a new dialog between artists and architecture. Light and Space revolves into the realm of perception by creating architectural spaces in which natural or artificial light has a palpable presence. Therefore, it is not hard to identify the influence of this tendency towards the phenomenological research in nowadays architects such as Tadao Ando (b.1941), New York City-based firm Gluckman Mayner Architects or Steven Holl (b.1947).

Olafur Eliasson, who emerged in the late ‘90s and is now one of the most prominent artists of his generation, stands as the first artist to extend the phenomenological investigations of Light and Space and acknowledges their influence. As an example, Eliasson extends investigations and artistic forms (*Your Black Horizon*, 2005), and introduces optical barriers into rooms (*Suney*, 1995). One of his most significant works relates to that might be *Seeing Yourself Sensing* (2001). Eliasson’s approach has had a great influence in nowadays artists and the public taste in general. California Light and Space works were designed for human interaction, advocate self-awareness and individual agency with the idea that the viewer can begin to apply these skills out in the world (Feldman, 2016:84).

Certainly the interrogation of traditional notions of subjectivity could not be more relevant today, and works reflect a new aspiration of art and art exhibitions to provide a perceptual and sensorial re-sensing through direct experience. Recent acclaimed exhibitions include: *512 Hours* at the Serpentine Gallery in London in 2014; Doug Wheeler’s 2012 *Infinity Environment*, Yayoi Kusama’s *Infinity Mirrored Room* (2013) and James Turrell’s retrospective at the Guggenheim Museum. It is worth mentioning the hit of Yayoi Kusama’s first retrospective exhibition *In Infinity* at Louisiana Museum of Modern Art in Humlebæk, Denmark (August 17, 2015- January 1, 2016). Approximately 340,721 guests visited the exhibition of the Japanese artist (b.1929), the third most visited exhibition in Louisiana’s
history. The exhibition presented some of Kusama’s works from more than six decades and featured a variety of many artistic media: from visual art to performance, film, literature and design. In addition, it showed installations from the period when Kusama was one of the earliest artists to develop the installation genre. One of the museum’s most popular installations, *Gleaming Lights of the Souls* (See Fig. 10), dated from 2008, presents a space of four by four metres, in which walls and ceilings are covered with mirrors. The floor is a reflecting pool, and you stand in the middle of the platform, surrounded by water. Hanging from the ceiling hundreds of lamps change colour in a rhythmic way, creating a whole new universe. Each of these seductive, multi-sensory spaces create dazzling and shocking sensual experiences for the museum-goers.

![Gleaming Lights of the Souls](image)

**Fig. 10.** Yayoi Kusama. *Gleaming Lights of the Souls*, 2008. Installation view at Louisiana Museum of Modern Art, Humlebæk, Denmark. Photo by author, December 2015.
3. MAKING SPACE EXPLICIT

Light is life. Light is space. Life is space.

Olafur Eliasson

Contemporary artists using light such as James Turrell, Anthony McCall and Olafur Eliasson are aiming at a space which is in the first instance brought forth by light. Light is a sculptor of space, and a medium of perception. Their installations, which I will discuss in the next sections, we are present at processes of becoming space. According to Daniela Zyman, the dawning of space is in it a dawning that takes place in viewers themselves (Weibel, 2006:466). Space is then, clarification: a perceptual process in which one can learn to notice, observe and sense the feats accomplished by light. That links light, space, and perception - a link that is usually forgotten in our everyday living. Chinese architect Ma Yansong (Shi Jian, Ma Kin Chuen, et al., 2010) notes that “space and light bring life into existence. There is no space, unless given light and boundary. Space has never existed, but rather exists only in the specific feelings it induces. Space in reality, exists only in sensuality”. James Turrell, Anthony McCall and Olafur Eliasson’s works have a unique quality: they are able to surprise us and raise critical questions regarding to the world we live in, to problems of control, and how we perceive and experience reality.

The emergence of installation art in the 1960s made it possible to discuss the interrelationship of art and the space surrounding it under the heading of spatial art. Works that operate with the medium of light are close to the concept of sculpting space and the quality of reflection

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between the work of art and the space surrounding it. Yet, light spaces must always be thought of as dynamic and should constitute itself above and beyond a possible ‘void’ as ambient and possessing atmospheric qualities (Weibel, 2006:467). The object-vower relationship is defined, apart from the sensual experience undergone by the viewer - via de corporal agency of light. Viewer’s movements in space are always significant, and form a process of embodied space. It is clear at this point that the concept of space used in this thesis requires cross-references into phenomenology and psychology.

3.1. HOW SENSING TAKES PLACE IN A LIGHT SPACE

Daniela Zyman stresses that light transforms and deconstructs space by marking, occupying, illuminating and dramatically staging it (Weibel, 2006:467). This transformational process is a crucial feature in light-based works - such is the case of the chosen installations to be analysed in the following pages. Artists working with light have, in fact, managed to create sculptural environments in which the space has been fragmented or multiplied, and thereby, subverted the Cartesian spatial model and positioned the sensing subject as self-reflective. Viewers become direct participant via purely sensual response. Their presence alters the installation, becoming aware of their own physical and spatial perception and of themselves perceiving (Weibel, 2006:473). As it will be shown further on, James Turrell’s main goal is to allow the beholder to see himself/herself sensing, whereas Anthony McCall and Olafur Eliasson’s work deal with the physical and spatial awareness. Even so, spatial organisation and configuration has also priority in Turrell’s art. McCall develops Turrell’s earlier ‘white cube’8 geometric projections via his film experiments of Expanded Cinema. McCall designs embodied spaces, i.e. spaces that become corporeal. Instead of a neutral white background, McCall’s black room constitutes an absorbent space (of cinema), which minimises light reflections and generates a central black and white sculptural form. On the other hand, Eliasson embraces light, movement and perception space.

Light’s power to deconstruct space lies in the fact that our response to it is not limited to perceiving the source of light but is rather invariably directed at the light emitted by it or the

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8 i.e. the white, neutral gallery space.
reflections of this light (Weibel, 2006:481). Besides, light works are about the process of seeing itself and focus on the phenomenon of perception, taking into consideration that is a highly subjective one, requiring a participant rather than a passive observer. Participants, then, see themselves seeing, sensing and experiencing themselves in the inner act of experiencing at the moment of doing so. All that matters lies on the conscious experience and reflection on what one is perceiving than rather what the artist has seen or thought. When discussing sensory perception, it is relevant to introduce in the next section Sarah Pink’s (2009) methods regarding sensory ethnography.

3.2. PERCEPTION, PLACE AND SENSORY EXPERIENCE

Current ethnographic research about the senses presents a strong focus on human experience. Examples of this include analysis of people’s sensory experiences of social interactions (Howes, 2003), their physical environments (Ingold, 2000) or memory (Sutton, 2001). In earlier discussions, sensory experience was often regarded as existing in two levels, tending to separate body and mind (Pink, 2009:24). Geographer Yi-Fu Tuan (born 1930) considered that “one level is experienced by the body; the other is constructed by the mind, the former being a fact of nature or an unplanned property of the built environment and the latter a more or less a deliberative creation” (1993: 166). The distinction between senses and intellect that is implied by the idea that one might define a corporeal experience by reflecting on it and giving it meaning proffers a separation between body and mind and between doing (or practice) and knowing (Pink, 2009:24). The concept of embodiment, which emerged in the social sciences around 1990s, partially resolved this controversy. Thus, the body is understood to be both a source of knowledge and agency, recognising that we are capable of objectification through intellectual activity. Besides, Ingold proposed the idea of embodiment as a process that is integral to the relationship between humans and their environment, stating that “the body is the human organism, as the process of embodiment is one and the same as the development of that organism in its environment” (Ingold, 1998:28).

At this point it is clear that the concept of ‘embodiment’ entails an interrelationship between the mind and the body. Thus, the notion of ‘emplacement’ suggests the sensuous interrelationship of body-mind-environment (Pink, 2009:25). Emplacement is understood
here as the experience that accounts for the relationship between bodies, minds and the materiality and sensoriality of the environment. In this sense, Sarah Pink propounds a sensory ethnography that encompasses the experiencing, the knowing and the emplaced body when researching a sensory existence (2009:25). Yet again, Pink remarks that Merleau-Ponty’s ideas are relevant to the formulation of a sensory ethnography because he placed sensation at the centre of human perception. For Merleau-Ponty, sensation could only be realised in relation to other elements (Pink, 2009:26). The body is not a collection of organs but a synergic system, all of the functions of which are exercised and linked together in the general action of being in the world (Merleau-Ponty, 1962: 234). We must also remember that our sensory perception is inextricable from the cultural categories that we use to give meaning to sensory experiences in social and material interactions (Pink, 2009:29). As human beings we are continuously and actively involved in the processes through which environments are constituted, experienced, and changed over time.

Concepts regarding the issues of space and place have highly concerned scholars. Social anthropologists have established notions of place in relation to the senses, demonstrating how senses may be a way to analyse people’s place-making practices. Sarah Pink proposes a more abstract use of the interdependent concepts of space and place as a framework to enable us to understand both these processes (2009:29). According to Pink, the phenomenology of ‘place’ contributes to understanding how ethnographic practices are played out. Places are not fixed and thus continually constituted by the links between locations, persons and things. Moreover, Ingold’s (2008) approach suggests that a concept of space might not be necessary, since we experience the world through a notion of entanglement (Pink, 2009:33). Pink comes up with a theory of place as experiential, open and in process, as event, which offers a way of thinking about the contexts of sensory ethnographic research and the processes through which ethnographic research become meaningful (Pink, 2009:42). Basically, this approach allows the researcher to be fully engaged with the situation and acquire knowledge through active participation in practice. Sensory ethnography is then, that which develops an awareness of how the ethnographer is involved in participating in a particular event, but also anticipating her or his co-involvement in the constitution of places. As it will be seen further, and in order to perform the analysis of the following light-based installations, I will inspire my arguments on Pink’s sensory ethnographic approach.
3.3. CRITERIA FOR ANALYSIS

To stay within the framework of a master thesis, I limited my empirical material to the analysis of three contemporary artists working with light, whose works I have fully experienced. For the main reason that I use my body as a device in the analysis, the question of including more artworks in this project would have been a hard task in terms of time and logistic difficulties. In any case, during the summer of 2016 I have been able to encounter the artworks I discuss in the present study, including trips to Aarhus, Paris and Barcelona. Olafur Eliasson’s *Din Blinde Passager* remains the only work I experienced five years ago, but for it’s significance and impact on me I decided to incorporate it in the analysis.

As I have previously mentioned, I have chosen three contemporary artists working with light - James Turrell, Anthony McCall and Olafur Eliasson - to investigate how light modulates our perception of the surrounding world and thus configures the making of space. A selection of three of their installations - *Milk Run III*, *Coming About* and *Din Blinde Passager*, respectively - act as empirical material for my discussion in much as they are considered to provide extensive possibilities of bodily experience. I will depart the analysis from the empirical material and conduct the exploration of the works from my own subjective perspective, while bringing in and connecting them to the theoretical discussions. Thereby, my own embodied and affective responses to these works drive the subsequent analysis. By using my own body as a platform and my bodily experience as a reference, I aim to investigate the theoretical focus of the thesis in a detailed and applied manner. I must clarify that the experience of these works is purely un-reflexive and is determined by unusual forms of illumination or darkness, which raise awareness to the human ways of making sense of the world. Moreover, the works that will be discussed here share a common feature: they drive the visitors to become highly aware of their bodies *in space*, and their process of re-making sense of it. These artworks, thus, show the different ways in which light can deeply influence the spatial perception of those experiencing them. Last but not least, they underscore the potentialities of the human sensory system.
First, I will focus on James Turrell’s *Wedgeworks Series*, specifically *Milk Run III* (2002), where the use of projected light creates an illusion of walls or barriers within the space. Since the 1960s, James Turrell has created an expansive body of work that offers profound revelations about perception and the materiality of light. Turrell has been associated with what is known as the Light and Space movement, which began in Southern California in the mid-1960s. Persistently researching about sensory deprivation (known as the Ganzfeld effect, in which viewers experience disorienting, unmodulated fields of colour), his art encourages a state of reflexive vision that he calls “seeing yourself seeing,” where we become aware of the function of our own senses and of light as a tangible substance. *Milk Run II* is currently shown at the exhibition *The 9 Spaces* (July 31, 2014- December 31, 2016). Second, I will look at Anthony McCall’s ‘solid light’ installation *Coming About* (2016), which is currently shown in the artist’s first exhibition in Spain, *Anthony McCall. Solid Light, Performance and Public Works* (May 31, 2016- October 30, 2016) at Fundació Gaspar, Barcelona. Throughout his career, McCall has sought to break the boundaries, appreciating the space as a visual and plastic element rather than a container of what is created. Thus, McCall’s space engages with art as an aesthetic experience rather than as an object of contemplation. Third, I will examine Olafur Eliasson’s work *Din Blinde Passager* (*Your Blind Passenger*, 2010) to discuss how orientation is constructed and how Eliasson’s works encourage critical social engagement. This site-specific installation, a ninety-metre-tunnel constructed of plywood and shown at Arken Museum of Modern Art in 2010, recreates the utopian potential inherent in an individual’s relation to the surrounding world.

In the process of analysing the empirical materials, I have been as reflexive as possible. Yet it is true that I actively got engaged with the works. I have been able to encounter Turrell’s and McCall’s works during the summer of 2016, and thus I have taken notes on my experiences. Nonetheless, I experienced Eliasson’s work some years ago, before I decided to use it as empirical material for the thesis. Furthermore, it is afterwards that I have made the connection between the experiences of these artworks and the theories presented.
4.

SEEING YOURSELF SENSING: JAMES TURRELL

I want you to sense yourself sensing. To see yourself seeing. To be aware of how you are forming the reality you see.

James Turrell

For over half a century, LA-based artist James Turrell (born May 6, 1943) has worked directly with light and space to create artworks that engage viewers with the limits and wonder of human perception. Throughout his career, Turrell has been strongly concerned with the basic interconnectedness between light and space within the visual perception. Besides, his artistic objective has been to change the condition of light into a proximate and bodily experience. Turrell is distinguished for considering light’s “thing-ness” and how the experience of light reflects the complex nature of human perception. Indeed, James Turrell has created an expansive body of work that offers profound revelations about perception and the materiality of light. As it has been discussed above, Turrell emerged as one of the foremost artists associated with the Light and Space movement, which began in Southern California in the mid-1960s. At a moment when American art in particular was dealing with extremely simplified forms (which were the beginnings of Minimalism), Turrell applied an approach to nothing - no object, only light and perception (Govan; Kim, 2013:13). From the beginning of his career to the present times, Turrell has endeavoured to isolate light, to detach it from the general ambient array, so that the basic characteristics of sheer electromagnetic flux can be seen directly, unsullied by the presence of anything else (Adcock, 1990: 1).

9 Artist’s statement. http://jamesturrell.com (visited on September 18, 2016)
Turrell’s artistic interests developed from working with perceptual environments through direct experimental psychology, rather than from a re-consideration of the traditional ways in which light has been used in painting, sculpture or architecture. In these terms, it is necessary to consider the influence of Pasadena, his hometown, and Southern California’s textures in Turrell’s works: its sunny climate, the open land, and the low horizons of the cities, among others. The seascapes with big skies and California’s distinctive nature determined his sense of scale. Besides, Turrell’s artworks deal with light’s untouchable essence in an intentional way: he encourages viewers to see as they could feel light with their eyes. Even though he has abandoned the use of physical objects in the creative process, Turrell’s use of light takes on substance. His medium is visual sensing, and he uses light not to disclose the observable structures of the world, but the demonstrate light’s own presence (Adcock, 1990:2). When referring to his methods, Turrell states that “I’m working with light, what is really important to me is to create an experience of wordless thought, to make the quality and sensation of light itself something really quiet tactile. It has a quality seemingly intangible, yet it is physically felt. Often people reach out and try to touch it” (Adcock, 1990:2). Turrell’s artworks are a product of the artist’s main interest in direct perception and his open mindedness about the kind of visual experience that can be transformed into art.

Holding a BA on psychology (Pomona College, 1965) and a MA on art studies (Claremont Graduate School, 1973), Turrell’s first attempts to use light and space were back in 1965 and 1966, using gas to create flat flames. The flames had no symbolic or ritual implications, and were just a means to achieve a glowing volume of light in space. His next works would be based on high-intensity projectors, creating in 1966 his first work using pure light, Afrum (See Fig. 11). From the initial small gallery-based light projections (Afrum-Proto, 1966); to one-person booths or apparatuses that invite individual to experience concentrate doses of sensory stimulation (Alien Exam, 1989; Close Call, 1990, Bindu Shards, 2010); to installations made of strategic cuts in walls or ceilings to frame natural light or direct artificial ones (Sky-spaces Series; Virga, 1974; Hover, 1983); to large-scale walk-in environments of either deep darkness or mysteriously gaseous luminosity (Wedgework and Ganzfeld constructions): to the ongoing transformation of an extinct volcano in the Painted Desert region of Arizona into a unique multi-chamber-and-tunnel observatory (Roden Crater, 1974-), Turrell’s goal has remained clear (Adorno, 2011:65). His overall production may be
organised in sets or series of works, but acts as a whole body of works which presents light, whether as found in nature or produced by the artwork, or a combination of both, as a palpable and encompassing physical reality (Adorno, 2011:66). In Turell’s works light is not so much a means to reveal things of the world, but is itself revealed as a thing belonging to the world.

Fig. 11. James Turrell. Afrum (White), 1967. © James Turrell.

Turrell’s commitment to light as his artistic material and subject begin in the mid-1960s, time when the dematerialisation of the post-World War II art-historical discourse was booming. Experiments with actions, bodies, sounds, environments, space, time, or simply ideas as artworks collectively rejected not only the established mediums of art, but also the conventional materials and techniques that pertain to their production (Adorno, 2011:66). In fact, the object basis of art was synonymous of the capitalistic market economy and art’s
status as a commercial product. Turell’s generation of artists embraced the notions of ephemeral, impermanent, temporal, contingent and immaterial, giving meaning to the artwork through the perceptual, bodily and social experiences produced in the viewer’s encounter with the work. The ‘radicalisation’ of art in the 1960s cannot be understood without this shift away from the former centrality of the artist meaning-maker by emphasising reception over production. Turrell’s conception of the artwork can be described as an all-encompassing physical, sensorial, environmental experience, serving as a window onto a word seen or imagined by the artist.

4.1. THE SENSE OF PRESENCE OF SPACE

Although a Turrell installation may seem a mere appearance, as a hallucinatory dream, his work is radically anti-illusionistic. We cannot deny that Turrell aspires to put the viewer in a state of daydream, hanging between a conscious sleeplessness and getting lost in a mental space which the artist names “wordless thoughts”. Even so, Turrell’s architecture of space is a means to access the space more deeply. Following Miwon Kwon, “to enter the space of wordless thoughts is to realise that our normal sense of reality is itself a kind of dream, limited by conventionalised thinking and habits of belief. (…) Turrell’s presentations are just light that occupies the artist’s unique architecture of space” (Clark, 2011:73). In short, viewers witness light as it envelops their field of vision while they can simultaneously see their own act of seeing. Turell’s works encourage us to not only see light in an altogether new way, but also to feel it through one’s eyes. In doing so, we are recognising that art’s context may extend far beyond the museum or gallery walls. Hence, it is fair to acknowledge the extraordinary results of his Wedgeworks Series or Ganzfeld installations, which will be discussed later. These works create dimensionless and scaleless sense of space, dreamlike and infinite, so powerful that one believes it is beyond us. Turrell’s architecture of space is definitely a liberation for the senses and promotes the expansion of our consciousness.

Reached this point, it is clear that Turrell’s formal methods aim not to deceive the viewer but to reveal. As a matter of fact, we never see the world with entirely impartial eyes; the
preconditions of our seeing and understanding are always present on our vision. Turrell’s art embodies this fact: the actual experience of light in Turrell’s installations enable us to consider the nature of our own perceptual apparatus as much as the thing we are actually perceiving. This is possible by design. Effectively, the greatest revelations borne by Turrell’s light installations are a deeper understanding of what it is to be a perceiving being and an awareness of how much our observation and experience is illuminated by the ‘inner light’ of our own perception (Govan; Kim, 2013:15).

Located in such an environment, viewers experience intimate sensations in a gradual crescendo, both uncomfortable and pleasant, letting the light envelop them in an all-encompassing way. Light becomes tangible, material, and bodies seem to melt. Again, these are not tricks to provoke illusionistic or dream-like realities, but instead, to bring light (as a physical law of the universe) closer to our consciousness in order to expand our sense of reality. Through this methods, Turrell demonstrates that light is a material thing of the world, and as a result, we are also things of the world. One of the most ambitious artworks ever conceived, representing forty years of ongoing work to convert an extinct volcanic crater in northern Arizona, Roden Crater (See Fig. 12) - through light - conveys the vastness of the cosmos within the tangible space of human perception (Govan; Kim, 2013:13). Roden Crater is an architectonic obscure room, rendering the images of bodies like the sun or the moon within the spaces we inhabit, e.g. bringing outside light ‘inside’. The obscure camera is constructed by puncturing a small hole in a sealed container, which renders the outside world as projected image within its dark interior space; the body, then, can be seen as an obscure camera in which the eye is an aperture for light to enter the body (Govan; Kim, 2013:16). The interior space allows to perceive subtleties of light that might otherwise be inaccessible on the outside.

By holding light as an isolated and almost ‘tactile’ entity, Turrell creates spaces to experience light as a primary physical presence rather than as a tool through which we see. We are encouraged to contemplate light’s nature itself - its transparency or opacity, its volume, its changing colour, and thus adding a sense of temporality. In effect, Turrell closes the gap between the thing perceived and the perceiving being as he plays with the very act of seeing itself (Govan; Kim, 2013:14).
4.2. LIGHT OCCUPIES SPACE: *MILK RUN III*, 2002

Around 1969, Turrell began to ideate series of immersive environments, best known as *Wedgeworks*, that benefit from architecture itself to frame light and directly address a viewer’s sense of perception. According to Christine Y. Kim, these works “seek to achieve with light alone what artists have traditionally depicted with paint: how light shapes our understanding of space” (Govan; Kim, 2013:89). In the *Wedgeworks*, fluorescent lights hidden behind partition walls within a inconspicuous space evoke the appearance of a
transparent light screen. The viewer navigates through space, soaked in a thick light. The more time the viewer stays in such an environment, the more heightened his or her awareness becomes; encounters with the *Wedgeworks* series cause to each individual’s perception a fascinating and singular understanding of the logic of the space.

Christine Y. Kim notes that the title of the series - and consequently, the effect that it seeks to evoke - directly derivates from a natural phenomenon that Turrell observed while flying (Govan; Kim, 2013:90). In this regard, it should be considered Turrell’s fondness for aviation\(^\text{10}\). Being an amateur pilot has enabled Turrell to find inspiration in the ethereal interactions of light and space observed in the air. Examples of this include the changes in light and colour that take place in the air, with a change of course at twilight, or the influence of fluctuating weather conditions on one’s perception of space. Mark Holborn describes the phenomenon as follows: “*Wedging* occurs with a cold front and ‘shallow wedging’ occurs with a warm front. As you approach a front there is a change of visibility, which happens very quickly if you fly towards it” (1993:34). Therefore, in *Wedgeworks* similar qualities of opacity, translucency, and transparency created by light simply inhabiting the space (Holborn, 1993:34).

Turrell’s *Wedgeworks* series present several variations in colour and scale, from white to intense green, violet or red and from small to large gallery spaces. The pieces do not aim to replicate the appearance of the mentioned airborne visual encounters, but give visitors de chance to elevate their point of perspective and access their inner perceptual experience. The source of light always remains out of view, and visitors can only see the projection of light. Turrell does not illuminate any object, but enables lighting to become an object itself. The colour changes as the light glides by. When encountering a *Wedgework*, one realise that we can know things without touching them, or even without being there. We can feel things strictly with our eyes, allowing our observation to be closer to thought than words would ever be. Besides, in 1973, Turrell started producing the *Veils* series, *Wedgeworks* in essence, but rotated ninety degrees, meaning works where light emanates from above instead that from the side. *Veils* create “subtle divisions of light with hidden fluorescent fixtures that drop down from the ceiling, rather than being positioned behind partitioned walls” (Adcock, 1990:100).

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\(^{10}\) Turrell received his pilot’s license at the age of sixteen. Furthermore, he graduated from Pomona College in 1965 with a bachelor’s degree in perceptual physiology and extensive coursework completed in art, math, and astronomy. Aviation is a clear source of inspiration, and the artist has often said that his airplane serves as his studio. For Turrell, the experience of land from the air is thus revealing.
These pieces do involve boundaries, demarcations between volumes that are occupied by light and illuminated spaces. The Wedgeworks Series are all about how our vision can penetrate those boundaries, just like the way lighting limits the penetration of vision into a space (See Fig. 13).


The Milk Run series might be the most successful of Turrell’s Wedgeworks. Concretely, Milk Run III (2002) is currently shown at AROs Aarhus Kunstmuseum, Denmark, in a designed exhibition space at the subterranean basement level named The 9 Spaces (July 31, 2014-December 31, 2016), a gallery in progress especially reserved to international light art, video art, and installations. James Turrell shares the exhibition space with the following artists: Tony Oursler, USA (Unk, 2004); Pipilotti Rist, Switzerland (Dawn Hours in the Neighbour’s
House, 2007); Olafur Eliasson, Denmark/Iceland (Surroundings, 2007); Mariko Mori, Japan (TomNa H-lu, 2006); Bill Viola, USA (Five Angels for the Millenium, 2001); and the duo Elmgreen & Dragset, Denmark/Norway (Too Late, 2008). Milk Run III (See Fig. 14) consists of a seemingly pitch-black room with recessed lighting to create a particularly eerie atmosphere.

In the following division of this text, with a phenomenological approach, I will reflect upon my own experience of Milk Run III. On entering the installation by way of a dark passage, I can see a multi-hued wedge of light that forms an illusory volume - a quality that shifts in relation to the viewer’s movements. Gradually, after my eyes adjust to the dark, it becomes clear that the far wall is lighted, but barely, by recessed fluorescent bulbs that give it an intriguing, faintly pinkish glow. The source of light remains out of view; and one sees only the projection. Thus, light does not illuminate an object; light has become an object itself. The term “Milk Run” apparently refers to the short flights pilots would make to pick up milk from farmers in rural areas. The interpretation of the piece remains open to the public. Yet, the fact is that enclosed in a dark room, the projection of light gives the illusion of a portal, visible only after the eyes adjust to the (absence of) light. In Milk Run III darkness becomes visible. The viewer confronts a smouldering red light field which is fractured by a blue and yellow light that cuts into it, thus introducing tridimensionality into a diffuse opal-hued light. The shimmering field of colour produces a sense of thoughtful and sometimes, uncomfortable drama. The intense fog causes a strong impact on my senses, which need to re-adjust against such an engulfing atmosphere.

Turrell once noted the following: “Light is a powerful substance. We have a primal connection to it, but for something so powerful, situations for its felt presence are fragile. I like to work with it so that you feel it physically, so you feel the presence of light inhabiting a space. I like the quality of feeling that is felt not only with the eyes” (Brown, 1985). At his point, it is fair to state the following: 1. light occupies space; 2. Turrell is interested in the architecture of space, in the form of the space and the form of territory, of how we consciously inhabit space. All in all, Turrell’s artistic uses of light offer viewers a retrospective perspective of one’s self process of sensing.
Photo by author, June 2016.
5.

SENSING IN MOTION:
ANTHONY McCALL

I find it more useful to think of the body less as something you look at and more as a verb, always in motion and constantly undergoing change. Our bodies are a bundle of code built around a clock, and our internal rhythms of sleeping and waking, and our cycles of growing, of maturing, of loving, of fertility, of aging, even our emotional states are connected to it.

Anthony McCall

British-born and New York-based Anthony McCall (1946-) occupies a relevant place in the configuration of recent contemporary art. Since making his first film, Line Describing a Cone, in 1973, McCall has mainly worked with sculpture, cinema and drawing. His latest works have explored the relationship between audience and artworks in three-dimensional spaces. McCall’s first solo show in Spain, Solid Light, Performance and Public Works is currently shown at Fundació Gaspar in Barcelona (May 31, 2016 - October 30, 2016). It features work from throughout his career, including a brand new site-specific installation, Coming About (2016), which I will discuss further down. The exhibition sets out to show how, in McCall works, the nexus has been performance and the film, conceived as the modulation of light in space and time. In an attempt to address the more immaterial aspects of light, McCall uses haze to make beams of light visible. The resulting sculpture is visible but extremely ephemeral. Light seems to take on tactile quality, an effect that McCall calls “solid

light”. The experience, the exploration of the process, temporality, the materials of art and the performance of the audience are crucial elements in McCall’s artistic practice.

Anthony McCall started out in the art world in the nineteen seventies, at a time when the cognitive aspect was the prevailing creative approach, with the resulting emphasis on the experimental nature of the artistic creation. The actual physical bodies and responses of artists and audiences were at the centre of the experience, while perceptual processes were poeticised. McCall began making experimental films in 1971 while living in London, as a means to document outdoor performances in which he worked with shifting configurations of small fires and landscape settings. He found out that what interested him was about what happened between the audience and the film at the actual moment of projection. This interest led him start his Solid Light series. Between 1973 and 1975, McCall made seven solid light works. In these ephemeral works, light is experienced as a three-dimensional presence involving movement which occupies space and time. These works are projections that strikingly emphasise the sculptural qualities of a beam of light. McCall deconstructs film to its principal components –light and time – removing sound, screen, and storyline. For 25 years he stopped making solid-light works. In 1990s he produced again new series, this time using computer algorithms and scripting to produce them rather than traditional film animation. The fact that digital projectors could be suspended from the ceiling meant it was possible to orient the solid-lights films vertically. The new works continue to occupy an ambiguous space between sculpture, cinema and drawing.

It is in the Solid Light works that the artist, through installations for specific spaces and continuous projections, explores the material properties of film and the mechanics of cinema in spatial terms. McCall remains committed to create new spaces. He is interested in the space itself and wants to stay within the real space: he wants the space to be a place - a place for the experience of our senses. McCall (2003:46-47) notes:

“These issues of scale and body, and of moving around a three-dimensional object in a three-dimensional space, are, of course, sculptural issues… however, unlike sculptural materials. (...) Light has no solidity or gravity. In addition, the explicit control of disclosure over time, the representation of movement, the interchangeability of forms through editing, and the fact that these works have to be
viewed in the dark - these are all properties of cinema. In the end, the experience of Solid Lights depends equally on their relationship to sculpture and to film.”

**5.1. LIGHTS IN THE MIST, PARTICIPATION IN MOTION**

Returning to his first solid light film, *Line Describing a Cone*, 1973 (See Fig. 15), it is worth mentioning that McCall has extensively reflected on his own work, allowing researchers to dispose from a large amount of material useful to be taken in consideration when analysing his art practice. Following his 2003 October article, *Line Describing a Cone and Related Films* (McCall, 2003:42-62), McCall states that his installation deals with projected light beam itself, rather than treating the light beam as a mere carrier of coded information, which is decoded when it strikes a flat surface. *Line Describing a Cone* was produced in August 1973 shortly after he moved to New York. Within an artistic context in which the values of medium-specificity and bodily engagement were being elaborated in the wake of minimalism and performance art, *Line Describing a Cone* had an immediate impact on the work of contemporary New York artists. The installation plays with the boundaries between film and sculpture, light and dark, materiality and immateriality. Christopher Griffin (2012) states that “by eschewing conventional narrative content it demonstrates film to be, in its simplest form, a durational process, which, coupled with an activation of the viewing experience, liberates the medium from the confines of cinema while foregrounding the temporal as well as spatial conditions of sculpture”¹³.

The film begins as a coherent pencil of light, and develops through thirty minutes into a complete cone. *Line Describing a Cone* deals with the phenomenon of projected light directly, and thus it is the first film to exist in a real, three-dimensional space. Besides, the film only exists in the present moment of projection. It contains no illusion and it is a primary experience: the space and the time are real rather than referential. Viewers, located in diverse positions, achieve a participatory role in the apprehension of the space: they slowly move around the emerging light form. Within the dark room, the audience needs to negotiate the

space in relation to one another so that they can all see the light form. The fact that viewers can interact with the work challenges the passive, *motionless* viewing experience of cinema, while the movement in the gallery space contrasts with the pre-determined geometry of the line of light. As a consequence, the emerging cone can be seen as either convex or concave depending not only on where the viewers stand but also on when they enter the space and on how long they spend there.

![Anthony McCall. Line Describing a Cone, 1973. © Anthony McCall.](image)

Regarding visibility, McCall (2003:47) remarks:

“Visibility is also an issue. These pieces are visible in three-dimensional space, because the projected light is reflected off tiny particles in the air. In the days when they were made, loft spaces were grittier and dustier than they are now, being then much closer to their earlier lives as sites for manufacturing or warehousing; the same was true of the downtown exhibition spaces. When I projected a film then, I could rely on the dust particles in the air, which would often be augmented by a couple of smokers. Since then exhibition spaces have become cleaner, and smoking has been
prohibited. Fortunately, technology has caught up, and we now thicken the air with a small fog machine, which actually does a far more effective job of making visible the planes of light”.

Despite or because its relativity, *Line Describing a Cone* pays attention to the fact conditions of the viewing experience, namely time and space, and thus on the essential dimensions of film itself.

The London Film-makers Co-operative, in which McCall started up in the late sixties, was a significant reference for his films. Back then, London filmmakers encompassed film production and exhibition, as well as distribution. McCall was also drawn to Fluxus artists George Brecht (1926-2008) and South Korean born Nam June Paik (1932-2006). These artists produced different forms of performance and used different mixtures of media, each being significantly influenced by the American composer and theorist John Cage (1912-1992). As McCall (2003:60) recognises, “I attended many events and performances conducted by John Cage in both London and New York in the early seventies. One particular event made a considerable impression on me. The piece was HPSCHD, which Cage originally realised in the U.S. in 1968. This version took place during a festival of experimental sound (“ICES”), which was held in a converted industrial space in North London called the Roundhouse, in 1972”. Cage’s methodologies suggested new ways to integrate different types of events, images, sounds, music, actions, objects or language, within a temporal structure based on principles other than those of literary narrative (McCall, 2003: 62). Given Cage’s cultural influence during the fifties and sixties, it does not seem rare to place him as key to developments such as performance and film and video installations, as well as work with the projected images such as McCall’s solid lights, which cross the boundaries between art forms and embraces the explicit manipulation of time.

Following *Line Describing a Cone*, McCall produced more solid light films, focusing his investigations on the sculptural potential of light by experimenting with different shapes,

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14 Founded in 1960 by the Lithuanian-American artist George Maciunas, Fluxus began as a small but international network of artists and composers who challenged accepted ideas about what art is. It characterised itself as a shared attitude rather than an art movement. Rooted in experimental music, it was named after a magazine which featured the work of musicians and artists centred around avant-garde composer John Cage. The major centres of Fluxus activity were New York, Germany and Japan.
modular progression and multiple projections. Examples of these are the works *Partial Cone* 1974, *Cone of Variable Volume* 1974 and *Four Projected Movements* 1975 (all at the Centre Pompidou, Paris).

In 1972 McCall conceived the work *Circulation Figures* (See Fig. 16 and 17), a performance in which 15 photographers, filmmakers and video artists milled about, shooting one another in a room strewn with crumpled newspapers and with a pair of large mirrors on opposite walls. The instruction was clear: the subjects of the event and your camera are the other photographers and filmmakers (Gallo, 2016:18). Forty years later he edited footage from the event into a 35-minute video loop. The gallery floor is covered by thousands of wrinkled newspapers, and there are large mirrors on opposite walls. Suspended in the middle of the room is a projection screen whose reflected images move away infinitely into the mirrors. The video alternates silent passages showing the photographers in action and freeze-framed moments during which you hear feet stirring the newspaper and shutters clicking. It is actually frustrating to watch as it seems that the photographers are focused on something you are never able to see. This suggests that the subject of photography is photography itself - an allegory of modern narcissism.\(^\text{15}\)

According to Robert Hobbs (Gallo, 2016:12), his work “broke new ground in the 1960s-1970s initiative called “expanded cinema” by advancing its goal to discover nontraditional spaces for screening films, thereby demonstrating this genre’s independence. McCall’s art did so by making viewers aware of cinema’s fundamental structure and by emphasising film projectors and the physical light they emit as its primary self-reflexive focus”. Recognising that there are certainly a number of valid ways to approach McCall’s work, the question the following section will address is how McCall’s solid light projections reflect upon spatial interaction, temporarily and movement. To do so, I will focus on my embodied experience of the installation *Coming About* (2016).
5.2. TOUCHING LIGHT, INTERACTING SPACE: 

COMING ABOUT, 2016

The second empirical case of this thesis is *Coming About*, 2016, a site-specific installation especially created for the gallery space of Fundació Gaspar in Barcelona. Again, I will direct the analysis of the work with a phenomenological approach and considering the notions of time, motion, and spatial and sensory interaction. In the same manner as I did in the previous empirical case, I will take my own body and my bodily experience as a point of departure to be able to investigate the theoretical focus of the thesis.

In a foggy and absolutely dark atmosphere, engulfed in the light beams - for the first time oblivious - viewers are confronted by a projection that acquires sculptural, and thus tactile, dimensions. As McCall\textsuperscript{16} stresses, “just as any other sculpture, *Coming About*’s experience depends on the spectators movements through the work, checking the space, feeling the physical quality of light - by means of which they can touch and interact”. Paraphrasing the artist’s words, the term ‘solid light’ is “shorthand for planes of light occupying sculptural space or something of the sort” (Gallo, 2016:15). Besides, the term also identifies the paradox that the planes of light appear to have solidity. In earlier times, McCall would show his solid light work in alternative spaces filled with particles of dust, haze or smoke. Nowadays, this effect is obtained through haze machines, which mixture of starch and water provide a medium in which light beams can be fully perceived.

As I commented before, *Coming About* is included in McCall’s latest exhibition, *Solid Light, Performance and Public Works*, housed on the second floor of the Fundació Gaspar in Barcelona, a fifteen-century Gothic palace once home to he mercantile elite. Well-worn steps lead to absolute white rooms, with their subtle medieval features conserved. McCall’s exhibition plays with their scale and details. Right in the middle of the exhibition’s route, *Coming About* suddenly appears to cause great impact to the viewers. The installation is the first of a new series of solid light works. Radiating within the darkened space, 3D arcs of

white light slant diagonally, casting a pair of 2D animated projections on the gallery floor\textsuperscript{17}. Over the course of 20 minutes, they slowly encounter one another to form an elegant architectural gesture – a signature of McCall’s work he calls a ‘footprint’. As the light divides the space, viewers are separated, either passing through the planes of light as abstract silhouettes or becoming rounded up in the gallery space. It is evident that McCall thinks about spatial architecture in terms of body and the way the body interacts or performs within the work. Viewers are integrated in the work, which becomes a space to occupy.

Fascination, delight and caution. These are some of the physical moods we may experience the first time we encounter a solid light work, which membranes of light move between McCall’s shifting spaces within the space. When inside \textit{Coming About} (See Fig. 18, 19, 20), we are forced to heighten one’s awareness on sight, smell, touch and hearing. In effect, my eyes needed some minutes to adjust to the intense dark; my nose rapidly noticed the thick, smelly and even uncomfortable dense atmosphere; my hands were impulsively driven to touch the beams of light; and my ear all of a sudden started to capture subtle sounds in the environment. We experience something new: Solid Light - a material light, a sort of radiant walls that induce us to move with caution and hesitation. The walls of light emanate from one single projection point at the ceiling of the room, the place where our gaze is directly directed when we set out to navigate through the layers of light. Even so, everything is in motion. Not just me or the other gallery visitors, but also the light itself: on the wall we can appreciate white lines slowly drawing a move, creating entire walls of light. Despite being a slowly process, we can fully perceive the movement. \textit{Coming About} also produces quite social spaces, viewers’s movements around the space, and viewer’s interaction: it creates a situation that seems born of the process of continuous cross-referencing between what’s happing here and what’s happening there, a back and forth.

Ever since his early works, McCall has created intensely sensual works - made to experience - while also imbued with a remarkable philosophical basis. \textit{Line Describing a Cone} was projected through the room by a 16 mm projector, slowly transforming into an arch, and finally defining a large cone of light in a dark room. This is in its foundation the same

\textsuperscript{17} \url{http://thespaces.com/2016/06/16/anthony-mccall-sets-barcelonas-fundacio-gaspar-aglow/} (Visited on August 29, 2016.)
experience we encounter today in McCall’s Coming About, despite these old works were 16 mm animations. In any case, the sensation of moving in darkness through light walls or membranes of light is highly exceptional.

The potential of social activity to constitute space is underestimated.

Olafur Eliasson

The Danish-Icelandic Olafur Eliasson (b. 1967) is an internationally acclaimed contemporary artist. Eliasson’s fame arises from his large scale artworks that combine natural science with art. Besides, Eliasson’s art is driven by his primary interests in perception, movement, embodied experience, and feelings of self. Eliasson strives to make the concerns of art relevant to society at large. Art is thus an essential means for turning thinking into doing in the world. Eliasson calls us to reshape and reconsider the experience of our surroundings, driving us to re-evaluate our notions of what it means to be and act in the world. How do we construct our environment, how does it affect us, and how else might we imagine it, are questions that often appear in Olafur Eliasson’s works. Inherent in his constantly ongoing investigation is the need for a heightened sensory awareness of what’s around us, and the acknowledgement that our experience and understanding of everything in our world, is of human construction (Eliasson, Behmann & Engberg-Pedersen, 2016:48).

Eliasson allows the means of his work to remain evident, with the idea that knowing how things are constructed makes us consider how they might be configured otherwise. Much of the artist’s work has challenged us to question how our spatial environment is organised and to ponder how it might be organised differently. More often than not we take our surrounding

18 (Shi Jian, Ma Kin Chuen, et al. 2010)
for granted, unquestioning of the effect conventional configurations of forms might have on determining our cultural interactions (Eliasson, Behmann & Engberg-Pedersen, 2016:49). Eliasson believes that our social engagement with the world is, in part, conditioned by our interactions with particular forms of spatial language, each of which has the potential to reinforce our undermine particular cultural, and therefore political and ideological, relationships (Eliasson, Behmann & Engberg-Pedersen, 2016:51). Thereby, Eliasson’s artworks are able to suggest new spatial rules and performative ideas as a form of criticism, to demonstrate that what we take for granted as being reality is always relative to our engagement. Moreover, by confronting the viewer with different physical experiments Eliasson challenges the sense of sight and makes our eyes see something which is not there. Just like that, Eliasson seeks to create a disorientation in how we interact with the world and how we create the idea of ourselves by interacting with the things that surrounds us.

Regarding his art practice, Eliasson generally describes it as a process or as the idea of progression. Most of his installations are composed of a sculptural use of light which enables him to re-stage an innovative physical and visual experience of natural phenomena. That is because Eliasson believes it is necessary to continuously re-evaluate subjectivity. By exploring the limits of our own senses, or by exploring the fact that our senses and our way of thinking is constructed by our culture, we can explore this construction critically. In this sense, Eliasson states that “if we can evaluate what it means to touch and feel something, rather than just take it for granted as being natural, if we can evaluate the consequences of what it actually means to be in a relationship with our surroundings, then we can also evaluate what it means to be critical, what it means to be responsible for the environment and towards other people” (Shi Jian, Ma Kin Chuen, et al. 2010). In doing so, we must bear in mind that our world is constantly transforming into another situation, and then we need to readjust our method of challenging the world.

Based in Berlin since 1995, where Eliasson set up a laboratory for spatial research, the artist collaborates with specialists in the fields of architecture, art history, engineering or geometry. Studio Olafur Eliasson has made a sustained research into how daylight and shadows
influence or perception of space\textsuperscript{19}, charting out they determine how we see objects, buildings, and, ultimately, ourselves. This draws attention to the never-ceasing variations in the relationships between bodies, things, subjects, and environments that inevitably make us perceive and understand the world spatially in multiple ways (Eliasson, Behmann & Engberg-Pedersen, 2016:58). Eliasson’s artworks are, then, a sensorial approach which gives people an incentive to become aware of their connection and responsibilities towards the environment. Eliasson’s structures focus on the viewer’s visual, physical and psychological perception, becoming part of the artwork itself. His use of artificial light performs different roles simultaneously: it might be an independent object (such a projection) or the source of light for the whole room, thus becoming an object, a phenomenon and an environment at the same time. Eliasson is also interested in the optical effects of the projected light and the after-image, allowing the viewer to complete the artwork through their own physical experience.

6.1. EMBRACING THE UNEXPECTED SPACE

Eliasson has been recently selected as the Palace of Versailles’ guest artist\textsuperscript{20} for the summer of 2016 (7 June-30 October 2016). The royal châteaux and its gardens, built during the seventeenth century and located in Versailles, France, are extremely rich in history, meaning, dreams and politics. As one may agree, Eliasson’s artistic intervention is thus highly challenging. It aims to shift visitor’s feelings of the place and offer a contemporary perspective on its strong tradition. Following Eliasson’s understanding of art as a co-producer of reality, Versailles re-evaluates our sense of now, society, and global togetherness. The artist himself notes:

\textsuperscript{19} An example of this research is the artwork \textit{Sunspace for Shibukama}, 2009, situated on the grounds of the Hara Museum ARC in Shibukama, Japan. The stainless-steel structure is an observatory designed to chart the path of the sun as it moves across the sky. The design derives from extensive sun-path studies of the location, making visible the progression of time and the motion of the earth around the sun.

\textsuperscript{20} For the last eight years, the Palace of Versailles has hosted a series of exhibitions from internationally-acclaimed artists, aiming to present a dialogue between their own work and the architecture of the French landmark.
“The Versailles that I have been dreaming up is a place that empowers everyone. It invites visitors to take control of the authorship of their experience instead of simply consuming and being dazzled by the grandeur. It asks them to exercise their senses, to embrace the unexpected, to drift through the gardens, and to feel the landscape take shape through their movement\textsuperscript{21}.”

Including his goal to stimulate reflection regarding climate change — as in his *Ice Watch* (2014), where the artist plonked 12 huge blocks of ice totalling 100 tonnes in front of Copenhagen’s City Hall Square (See Fig. 21) — Eliasson fills a fountain with glacial rock flour (a result of glacial erosion), constructs a giant artificial waterfall, shrouds the garden in mist, and plays with light and space inside the palace.

![Image](image_url)

**Fig. 21.** Olafur Eliasson. *Ice Watch*, 2014. Installation view at Copenhagen’s City Council, Denmark. Photo by author, October 2014.

\textsuperscript{21} [http://olafureliasson.net/versailles/](http://olafureliasson.net/versailles/) (Visited on September 24, 2016).
Eliasson’s spatial interventions at Versailles are organised in two main groups: a series of outdoor works located in the gardens, and works placed within the ornately-decorated palace. In the gardens, three monumental, large-scale installations deal with some states of water (fluid, fog or glacial rock). A vast cascade of water falling from a construction crane at the Gran Canal stands out on the central axis of the Sun King Louis XIV’s gardens (See Fig. 22, 23). The waterfall is partly a revival of Louis XIV's landscape architect Andre Le Notre’s unrealised grand fountain. Seen from the palace’s steps, as you approach the garden towering over the immense ground, the water itself seems to be falling from nowhere, as the cascading flow obscures the waterfall’s inner construction to produce a perceptual enchantment. It’s only when you walk around the waterfall that the yellow tower is exposed as an act of aesthetic transgression, becoming entirely visible. Inside the palace, the artist has created a series of installations mainly made of mirrors and light that aim to active the space.

Fig. 22. Olafur Eliasson. Waterfall, 2016. Photo by author, July 2016.
The Baroque-style interiors are enhanced through a multiplication of perspectives provoked by the mirrors and manipulation of light. At the famous Hall of Mirrors - made of seventeen arches each equipped with twenty-one reflective surface- visitors discover their own reflections in unexpected spaces, modifying their perception of the rooms, and becoming active participants of the reality that surrounds them (See Fig. 24). Here, Eliasson has installed *Your Sense of Unity*, a series of circular mirrors and LEDs that reflect and refract its hyper-mirrored environment. Eliasson’s atmospheric, immersive works, integrated into Versailles’s architecture, are intended to make the visitor question whether they are consuming or producing the experience.
In the same manner as I did in the previous section, I will again take my own body, and my bodily experience as a point of departure to be able to clarify my narration of phenomenology, and to investigate the theoretical focus of the thesis in a detailed and applied way.

6.2. LIGHT CREATES SOCIAL SPACES:

**DIN BLINDE PASSAGER, 2010**

You step into a narrow passage and are immediately enveloped in a dense fog. As you move through the passage, the fog gradually darkens until you find yourself embroiled in absolute darkness. Few seconds after, a constantly changing yellow luminous fog covers your
surroundings (See Fig. 25, 26, 27). With a visibility of just 1.5 meters you are forced to grope your path forward, trying to orientate yourself as you go. You might also bump into other visitors who unexpectedly appear to be right next to you\textsuperscript{22}. \textit{Din Blinde Passager (Your Blind Passenger)}, 2010, was Eliasson’s contribution to the exhibition series \textit{Utopia} at Arken Museum of Modern Art\textsuperscript{23} in Ishøj, Denmark. \textit{Utopia} was a three-year project where through exhibitions, research and education, the meaning of utopia in contemporary art was investigated. How we live, dream, act or image were key issues of the project, which proposed one artist each year to produce a site-specific work for the museum. Each of these three exhibitions staged the museum space and its capacity for generating a socially-oriented commitment. Eliasson’s installation, shown from November 27, 2010 to November 27, 2011, materialised and rendered tangible the interdependence between the individual and the surroundings (Gether; et al., 2012:17). Eliasson argued that this interdependence is a necessary foundation for thinking Utopia today:

“For me, Utopia is associated with the now, with the moment between one second and the next. It constitutes a possibility that is actualised and transformed into reality… Our sense of orientation is challenged, and the coordinates of our space, collective and personal, must be renegotiated. Change and dynamism are at the core of Utopia\textsuperscript{24}”.

Contemporary art is understood here as a messenger of radical social transformation. Eliasson believes that art can inspire us to think beyond the existing and towards better ways of living and being. Eliasson’s installation runs like a long, closed tunnel through the museum space. From the outside, the installation’s facade and construction remain visible, but when in the inside, your body is shrouded in mist, which provokes you to place your own body in relation to the surroundings - and in relation to any other people you might encounter. In your path through the tunnel, the thick fog’s colour gradually changes from white to darkness, and into a strong yellowish light. These changes occur only with our motion through space, telling us that we have in fact moved in relation to our surroundings. Besides, sudden and abrupt


\textsuperscript{23} The exhibition series \textit{Utopia} was shown at the Arken Museum of Modern Art in 2009-2011. The invited artists were Qiu Anxiong (2009), Katharina Grosse (2010) and Olafur Eliasson (2010).

\textsuperscript{24} Olafur Eliasson, artist’s statement in response to the Arken \textit{Utopia} exhibition November 27, 2010-11.
encounters with other people destabilise our surroundings, a fact that bridges the gap between
the individual observer’s bodily experiences and collective issues (Gether; Jalving; et al.
2010:50). The emphasis on participation brands new potential for rethinking the museum as a
place where the collective production of knowledge is integrated with the aesthetic, affective
and emotional experiences of the sensing body (Gether; Jalving; et al. 2010:51). Actually, this
idea goes hand in hand with the concept of the museum as *generator*, as a place for cultural
activity rather than the presentation of objects. The museum’s role as a generator entails the
development of a museum as a place that activates cultural meanings and thus generates new
narratives and identities. Thereby, contemporary museums should stand as a collective
framework able to establish social bonds.

Eliasson’s exhibit disorients museum-goers and invites them to pay close attention to subtle
environmental changes like sound or the continuous shift of light. *Your Blind Passenger*
includes several types of white light, bright daylight, golden sunrise, blues or deep twilight.
We usually take for granted these common environmental changes, but Eliasson’s work is
able to condense an entire day down to a unique and overwhelming experience. With our
surroundings absolutely denied and our visibility restricted, we are forced to sense light in a
complete new way. It is evident that this work stands as a reminder: we are constantly
surrounded by changing light, but not all of us can be aware of it as we go about our daily
lives. Once again, we are bound to use senses other than sight in order to navigate and orient
ourselves within the space. Once again, I will return to my own phenomenological account of
experiencing the artwork. I must admit feeling thrilled before entering the long tunnel, and
uncomfortable through the inside path. The eyes that seconds before could see clearly my
surroundings, were now disoriented and adapting to a new state of high sensory awareness.
My other bodily senses became extremely alert in order to locate the sound from nearby
visitors and the sound of my own body in motion, analysing the limited and available spatial
information. The lack of visibility made my walking undecided, astonished and slow-witted,
but in any case, I definitely felt like I had never been so aware of my whole being. The outer
world seemed to stop inside the installation’s tunnel. It is hard to say how long time it took
me to navigate through the tunnel, but this is a fact that indicates that the mentally and bodily
experience of being involved in such an artwork absorbs the visitors’ entity.
The tunnel is a densely fogged environment, which provides visibility at just 1.5 metres. This fact forces the museum visitors to use senses other than sight to navigate and orient themselves in relation to their surroundings. Consequently, Eliasson’s installation challenges the basic concept of visiting a museum to look at something. Here, we first see the reverse side of the work, and when we step inside we are enveloped in the work and become a physical part of it. Eliasson’s works are often described as experiments and, indeed, Your Blind Passenger does contain an element of testing. Instead of presenting us with a vision,
the work puts us in an unfamiliar situation. Our sense of orientation is challenged, and the
coordinates of our spaces, collective and personal, have to be renegotiated. When in the
tunnel, you have an irresistible urge to touch the fog with your hand, and instinctively but
irrationally expect to feel something solid. Yet you grope into nothing - into thick and thin air.
The realisation that what seems solid is actually empty makes you feel very alone, and rather
cheated. When you don’t see the space based on, let’s say, the lines, the perpendicular, then
the horizontal lines which defines the space the way the wall meets the floor, and the floor
and the wall, and so on – it challenges you and your way of creating maps.

Fig. 26. Olafur Eliasson. *Din Blinde Passager*, 2010. Installation view at Arken Museum of Modern Art, Ishøj,
Denmark. Photos by author, August 2011.

Kirsten Simonsen states that Merleau-Ponty’s phenomenology of practice (1962) identifies
the body as part of a pre-discursive social realm based on perception, practice and bodily
movement (2006:11). This means that the human body takes up a dual role as both the
vehicle of perception and the object perceived, as a body-in-the-world – a lived body – which
‘knows’ itself by virtue of its involvement and active relation to this world (Simonsen,
2006:11). Thus, the bodies of the subjects in case are in a world shared with ‘others’.
Merleau-Ponty’s notion of the ‘body-subject’ underlines this idea of embodiment. However,
the corporeality of social practices concerns not only this sensuous, generative and creative nature of lived experiences, but also the way in which these embodied experiences themselves form a basis for social action (Simonsen, 2006:11).

Eliasson himself believes that vital aspects of society and life must be examined, challenged and renegotiated by art. Since art is supposed to operate through ideas and reflections rather than by capitalistic values, defines subjectivity and discloses how experience and ethics are intertwined (2006). Eliasson’s spatial language is clearly a construction, but generates a critical perspective as well as models for the understanding and negotiation of space. As a final note, a brief summary of the discussion and conclusions follows.

7. DISCUSSION

In this section, I will draw on the core concepts extracted from the theoretical discussion and highlight their analytical benefits in the analysis. These concepts are, in short, that perception is an ongoing process of experience, a process where interaction and spatial immersion are core elements. Besides, I will reflect upon Bruno Latour’s text, *Air* (2005).

7.1. PERCEPTION IS EXPERIENCE, PERCEPTION IS PROCESS

Firstly, perception is experience. When we perceive an environment through our entire sensory system, the environment emerges as concept. Design spaces may be intended to be experienced in a particular way, but experience is absolutely indeterminate. Therefore, perceptions and experiences of a certain place develop a sense and meaning of space. Besides, the capacity of space to create agency is formed by design, perceptions, practices and experiences. Secondly, when approaching an artwork, we take part in an active process which conducts to a result, a result in which different philosophical perspectives may diverge. In any case, making meaning, making sense, perceiving, understanding, being or interpreting are all products of the process of experiencing artworks. I might also suggest here that the making of space is a result of light’s potential in configuring our boundaries and spatial surroundings. What I am interested in highlighting is that certain artistic uses of light are able to underscore different ways in which reveal our spatial perception.

Thirdly, contemporary artists playing with our sense of reality opens up for a discussion that originates from the work and strongly impacts viewers’ mind and body. I assume that this engagement establishes an spatial awareness in the viewers of how they are actually making
sense of the world. Furthermore, light-based works appear to have the ability of encouraging a better self-awareness than can be stimulated by the understanding of oneself by means of the world and the work of art. As an example, Eliasson’s installations promote viewers to take part in the artwork both as perceivers and perceived entities. He proposes a social dimension that is formulated through both perception and individual and collective participation. In doing so, the “very apprehension of other people and their movements gives the mood of being-in-common, or being-with, as opposed to being-in-solitude” (Grynsztejn, 2007:19). Eliasson then applies a sense of being alongside the primary sense of space.

It should be kept in mind that within the phenomenological perspective, experience and perception are not just produced by the visual system; perception is a multi-sensory experience that includes the human body as a whole. “In the interface between our bodies and the outer world, we have well-developed bodily tools which help us read and integrate with the world. We have the sensitivity of our skin; the extension and flexibility of our limbs; our sight and hearing; and our senses of smell and taste, which together make up our sensorimotor system” (Dahlin, 2002:166). We perceive as we exist, and we are embodied, as we exist. Emotions are, according to Merlau-Ponty (1962), situated corporeal attitudes, which means ways of being and acting in relation to the world. Emotions are inseparable from other aspects of subjectivity, such as perception or interpretations of the surrounding world. Emotion is, then, a way of relating to the world (Simonsen, 2006:12). Regarding my own sensuous experience of the works, I must note even though I have not discussed aspects such as the olfactory dimension, it definitely played an important role in my embodied experience. In both McCall’s and Eliasson’s installations the thick fog had a special smell, eventually unpleasant.

7.2. INTERACTION AND IMMERSION

Regarding the interactivity and immersion of the analysed installations in this thesis, I shall remark that Turrell, McCall and Eliasson’s works result effective because they induce a seething venue of interactivity in gallery or museum spaces. They are thus keen in fostering
sensors interactivity. They create atmospheres that transform the usual apprehension of place, deepening a sense of connection and widening the parameters of public performance (Edensor, 2015). The works discussed here all foster our dynamic relation to space and strengthens our phenomenological approach to the world. These immersive environments, through which artists reject the representational, and in which the sensual and the affective experience of visitors are the goal, devise setting in which those entering them are able to question what are they feeling and sensing. In focusing on the emotional, affective and sensual potentialities of light, light-based artworks are able to detach the visitor from the habitual experience of space, meaning the museum or gallery space.

Turrell, McCall and Eliasson appear to be interconnected and share common interests or goals. In short, for James Turrell, light serves as a necessary tool to reveal our own perceptual awareness and sensing of space. McCall uses light as a sculptural form which allows the artists to provoke an awareness of the actual fact of sensing in motion and the notion of temporarily. Eliasson’s use of light is driven for the objective of arising awareness of our surroundings and for the idea of creating social engagement. Besides, Eliasson enables you to re-stage an innovative physical and visual experience of natural phenomena. Turrell, McCall and Eliasson agree on the sculptural use of light and the promotion of social spaces for critical commitment. Even so, all them conform the idea of the need to continuously re-evaluate subjectivity, to think about identity, about being a person in the world. Based on this, we can re-establish the idea of collectivity. a

Everything, I believe, is situated in a process and everything is in motion and coloured by a certain purpose. When we deal with something personal such as how we perceive a given space, right here and now, or how we are interacting with another person, we see how these relationships are evolving: they are situated in time. Turrell, McCall and Eliasson reintroduce time as a constituent element of objects and our surroundings. Space is fundamentally inseparable of time. However, we have, to some extent, configured the space as a causal relationship. The fundamental question is thus, whether things are as they appear to be under our social construction. In any case, the artists analysed show that every space and situation are potentially able to reevaluate or renegotiate this condition. Moreover, the relationship between the individual and his/her surroundings - in constant movement - appears to be a co-production. As an example of this, we can clearly appreciate how Eliasson is interested in giving the individual subject a sort of toll that relativizes the to his/her existence, presumed
static dimensions upon which our conception of space is based (2006). To engage with space is ultimately to create vibrations.

The case of Eliasson is particularly interesting, as for the viewer, *Din Blinde Passager* makes the act of seeing intelligible as a complex cognitive process. The artist sets up devices to generate a vast mass of light that sparks the viewer’s imagination. Eliasson’s experimental approach meets ideas from the laboratory as formulated in the sociology of science, e.g. of Bruno Latour (Schneider; Boros, 2015:12). The essential factor here is the creation of a situation or order of human and non-human components that helps to achieve unpredictable results. Eliasson effectively implements this empirical method of research in his art. Hence, Eliasson regards the individual work not as a finished product of a discovery process, but rather as a tool of knowledge production that is unfinished by principle (Schneider; Boros, 2015:12). Latour’s text *Air* (2005) explores the “making explicit” of our perception and hence, it is relevant to discuss it the following section.

7.3. BRUNO LATOUR: *AIR*, 2005

Taking the notion of air as point of departure, French philosopher, anthropologist and sociologist Bruno Latour (b.1947) remarks that air did not count as something that had to come to our collective attention, but has been made now explicit: air has been reconfigured and it is part of an air-conditioning system that makes our life possible. The process to make air explicit has been hidden during the preceding century by revolutions, modernisation and emancipation. According to Latour, these movements describe our history in an insensitive way, moving out of the sensorium and nature as a stable object (2005). History has escape an explicit awareness of what Latour calls the *sensorium*: how to avoid being caught up by the inverse movement of attachment, of things becoming explicit. Air seems to be part of our daily routine, but should be re-considered. Bruno Latour (2005:104) notes:

“If you want to understand what it is to feel something, it’s not by rehearsing the tired old scenography of empiricism, the positivist protocols of sensation, the tiny repertoire of situations that philosophers like to use for their best examples:“Suppose
I see a rock.”“Let me touch a mug. (...) Look at this Manet. No, feeling is something much less direct than this face to face between a sentient being and some object to be felt. Feeling is more roundabout; it’s the slow realisation that something is missing. It resides, in a way, behind you, behind your back, or maybe even outside of you in an untouchable greenish cloud—something you don’t exactly understand and in charge of which are people you can only see through peripheral vision. (...) You are on life support, it’s fragile, it’s technical, it’s public, it’s political, it could break down—it is breaking down—it’s being fixed, you are not too confident of those who fix it. Our current condition merely relies on our more explicit understanding that this tentative technological system, this “life support,” entails the whole planet—even its atmosphere.”

In this sense, what does it mean to be ‘in’ some place? What is the envelope of this space? How do you become aware of our living conditions? What sort of air to you breath in it? Latour stresses that being ‘in’ a place entails being inside some sphere - atmosphere - hence it is needed to recast the philosophy of *spherology*. Latour (2005:104) argues that for the first time in philosophy it might be possible to get a different feel for nature:

“A feel a feel that would no longer alternate between the two present forms of escapism: “naturalisation,” on the one hand, this de-sensitised version of what it is to be thrown in the world; and, on the other, “symbolisation,” this strange idea that something “human” should be added to the sciences, as if those sciences were not precisely exploring what sort of life supports humans need to live in”.

That would allow us to reject the idea of a nature that could remain infinitely distant from the fragile life-support system that we are making explicit. Therefore, nature, and as result, art practices, may constitute a continuous *sensorium*. Artistic uses of light can definitely take on Latour’s notion of air, and open up new paths to making space explicit.

In order to sum up the content of the thesis and its results, next section will provide an overview of the conclusions, outcomes and challenges of this research.
8. CONCLUSION

The aim of the thesis has been to demonstrate how each selected artist - and as a consequence, the chosen artwork - reveals how artistic purposes of light disclose the process of seeing oneself sensing (James Turrell); sensing space in motion (Anthony McCall); and engaging social space (Olafur Eliasson).

Through the analysis of the selected works, I have been able to show that light has the capacity to make space explicit and map our surroundings, i.e. our understanding of the world. The artworks selected provide strong qualities for a rich embodied experience, and as a result, engage their beholders more, leaving a great impact on them. This means that they enhance our spatial and sensual awareness. Hence, the profound changes in contemporary art over the past decades have yield a new awareness of how context plays a crucial role in the process of perception.

I believe light-based art may enable us to understand better core questions regarding the phenomenon of perception and the making of space. Designers should be, then, fully aware of the great possibilities of artistic uses of light to influence, change, and modulate spatial perception. Design also may sharpen the understanding of this ongoing, never ending sensual process. The action of cross-crossing theories from the fields of art history and spatial designs may potentiate spatial research studies, as it is clear that artworks provide empirical material of high quality for further investigations.

Reached this point, one might question what role can art play in this extended discussion of space, perception and temporality. Actually, art has the potential to contribute with important reflections in society as whole (apart from the self-reflective subject), in spatial nature, or in aesthetical impact in non-artistic practices. Besides, the physical presence, movement and interaction of museum or gallery-goers define the spatial potential of these social spaces.
Having taken that into account, this thesis has also its limitations that can be object for further research due to time and length, I had to on the main topic of research. One of the main limitations that the reader of this thesis may encounter is the lack of face-to-face interviews with the artists themselves, which could have provided a broader and richer feedback to explore the intentions of their work. In addition, I could have increased the validity of my empirical data by analysing a broader sample of light-based art works, which could have contributed to enlarge the research or by realising visitors’ interviews or conducts research. Yet for the same reason, I had to keep my project focused within the boundaries of a master thesis. In any case, I think that these limitations can be turned into positive guidelines and inspiration for future research. As we have already seen, light’s ‘materiality’ has the ability to alter human perceptions of the space and to define several sensations, especially in the case of the contemporary installations discussed above. It would be, then, extremely interesting to find out further and deeper investigations regarding the perceptual impact and spatial extensions of light-based works.
9. REFERENCES


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### 9.1. INTERNET SOURCES

(In chronological order of appearance)


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