

An Ethics of Light: The Affective Turn of Contemporary Practices

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Abstract

This thesis proposes an understanding of light in terms of ethics through an analysis of light-based practices. The practice of light designates a technology-based art developed in the 1990s, resulting from a debate on the dematerialization of the artistic object and post-media practices. This research proposes an understanding of practices of light and questions whether these practices reflect a new sensibility which emerges from experience as opposed to metaphysical systems of representation. An ethics of light questions the ways through which practices of light renegotiate the relation between the subject of light and light as a sensuous material that imbues one's living experience. The work of artists Mary Kelly, Ann Veronica Janssens, and Magdalena Fernandez, among others, is emblematic of a repositioning of light at the basis of a discourse that imposes an investigation of the relation between experience and ethics. Through an analysis of these artists' practices of light, this thesis investigates how light acts as an affect and challenges the system of artistic configuration to open up to an experiential dimension of light. In particular, this research examines an embodied experience of light, focusing on the sensorium of these practices. This study draws on affect theories and feminist ethics, specifically on the ethical thinking about light by Luce Irigaray and Karen Barad, to examine the agency of light in relation to practices and experience. In so doing, this thesis argues that an ethics of light provides a useful system of analysis to rethink light in the contemporary artistic context and contributes to a feminist critical understanding of artistic practices of light.

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Introduction

This thesis deals with the subject of light and examines how advanced technologies have informed an understanding of 'practices of light' (Cubitt, 2014).¹ With the term 'practice of light', I intend to give evidence to an approach that is not guided by the aesthetic preoccupation for the artistic object but it is driven by practices and procedures as shown in the evolution of mechanical, technological, and ultimately digital practices. However, rather than focusing on the modes of experimentation and innovation of these practices, this thesis aims to give evidence to an affective and material approach to light, suggesting the emergence of a new sensibility and a new level of engagement with artworks. Whilst acknowledging the artistic contributions to the genre of 'light-art' which arose in the late 1960s (Lippard, 1967; Rosenthal, 1967; Burnham, 1968), this research intends to propose a critical and constructive framework of inquiry which takes into account how from the 1990s, practices of light have posited new configurations in support of an experiential dimension of artworks. By employing a methodology informed by affect theories and new material studies, this thesis discusses the role of light through an analysis of a choice of works produced and realized in the timeframe 1996-2016, with the aim of suggesting a feminist ethical reading of light of these practices.

My interest in the subject of light emerges from my reading and writing about artworks. Whilst acknowledging the historical and critical relevance of the subject of light in the history of visual arts, my experience and engagement with the work of artists Grazia Toderi, James Turrell and Rosa Barba, among others, suggested to me the necessity of an inquiry into the affective and sensuous qualities of light. I suggest these works reject any formalist and aesthetic categorization traditionally connotating the artistic object and give importance to light and technology to convey an emotional and empathetic experience. In other terms, these works put into question the classical division that separates the artistic object from the viewer's experience and through light, they establish an unmediated relationship. This specific relationship, I argue, contradicts the categories

¹ By introducing the term 'practices of light', this research refers to a category coined by the film and media theorist Sean Cubitt as posited in *The Practice of Light. A genealogy of Visual Technology*, 2014, a category concerned with a classification of materials and techniques of the commanding visual technologies – e.g. photography, film, digital video, - that informed artistic discourse in the twenty-first century (Cubitt, 2014, p. 3). In the Introduction of his book, Cubitt observes how the human relationship to the subject of light has been historically characterized by an entropic preoccupation for the excess of light as a natural phenomenon to which humans urged to give control. In this view, Cubitt adds, visual technologies should be understood as an attempt to solve this dialectic (ibid.) and departing from a questioning of this dialectics, this research addresses an investigation of the sensory experience of light.

of 'medium', 'metaphor', 'symbolic form' traditionally founded in classical divides, and posits the argument that light can be experienced as an 'affect'. With the term 'affect', I intend to demonstrate a non-representational use of light, a strategic use which contrasts the aesthetic preoccupation of the specific art object by renegotiating the relationship between the work of art and the viewer in terms of immediacy. This imposes further questionings of the procedures, the practices, the experience, and the reception of art works which I intend to examine in sensuous and material terms in this thesis.

With reference to the work of these cited artists, this research investigates the contribution of practices of light, focusing on a curated selection of works produced and exhibited by artists between 1996-2016. In a wider view, I suggest that this timeframe is indicative of the emergence of a second trend for the use of light in visual arts which extends the category of 'light-art' into the potential of light and new media technologies in designating a practice and an experience. This argument is suggested by a number of significant exhibitions, namely *Light From Artificial Light*, curated by Peter Weibel and Gregor Jansens, 2006, at ZKM Karlsruhe, *ILLUMInations*, curated by Bice Curiger, 54th Venice Biennale, 2011, *Light Show*, curated by Cliff Lauson, Hayward Gallery, London, 2013, which in the 2010s, both from a curatorial and a critical viewpoints, all contributed to address both retrospectively and thematically, a debate on this artistic genre. This argument is further supported by significant contributions in the field of art criticism and visual culture studies (Bolt, 2000; Bal, 2007; Cubitt, 2014; Magli, 2010), in parallel to a wider debate on the immaterialism of art (Lyotard, 1985; Flusser, 1987) and post-media practices (Guattari, 1986; Krauss, 1999; Weibel, 2005).

All these areas of investigation suggest the emergence of a new system of configuration and a new sensibility regarding light and by situating my analysis at the intersection of these fields I aim to discuss the affective turn of contemporary practices of light. A non-representational use of light emerges from the practices identified by this research which departs from a critique of the classical metaphysic system of representation and signification of light to posit the argument that light, as the primary source of energy of these works, designates a sensuous material. This proposition is in contrast with the aesthetic interest in the specific art object as a fixed category and draws onto the impact that new media technologies have in redefining processes of production (Cubitt, 2014) and contexts of emplacement (Bal, 2007) by foregrounding light as an event and an experience. In particular, I intend to provide a framework for investigating

the *sensorium*² of light by rethinking the relationship between light, human and non-human subjectivity in terms of affect, agency, and connectivity.

This research posits the following questions: To what extent it is possible to rethink the subject of light distinct from the system of representation and signification in classical metaphysics? Which principles can be drawn from an understanding of light in relation to technology, subjectivity, and experience? How does this proposed use of light affect perception, experience, and knowledge?

This research questions what constitutes the experience of light in practices of light and thus, posits a feminist critical and constructive framework of inquiry. This is because this positioning allows an insight into the affective and material qualities of light. This feminist orientation is reflected in my choice of artworks realized in the timeframe 1996-2016. In fact, I firstly intend to foreground the contributions that women artists, Mary Kelly, Grazia Toderi, Rosa Barba, Ann Veronica Janssens, and Magdalena Fernandez have made in relation to practices of light, suggesting a non-representational use that leads into a politics of affect. Secondly, I intend to demonstrate how a feminist positioning is able to extend investigations of practices of light through an analysis of the work of artists United Visual Artists and Tomas Saraceno that focuses on the relational and connective qualities of light which I understand in terms of power relations. In other words, this research aims to demonstrate how a feminist position contributes to an understanding of light from the perspective of subjects traditionally omitted from metaphysical discourses through a questioning of light in relation to female subjectivity, human and non-human subjects. In so doing, I intend to draw from an analysis of the innovative contribution that mediums such electronics, video, computation, and new media have addressed in practices of light, and focus on setting the conditions for thinking about light as an experiential, empathetic, embodied, engaging, and ethical practice.

This research enters thus in a field of investigation which I understand in terms of ethics. In this context, ethics sits at the intersection of arts, science, and philosophy, to reflect a critical and constructive position regarding the encountering with light as an

² Whilst through the use of the term *sensorium*, the site of sensations, I refer to the history of physics (Descartes, 1664; Newton, 1706) and ethics (Spinoza, 1677; Leibniz, 1716), this research aims to provide a framework of inquiry that sits within the feminist debate on the importance that matter, affect, and the senses play in the articulation and fruition of artistic experience. For further references: Bolt, B, Colman, F, et al., 2008, *Sensorium: Aesthetic, Art, Life*, Cambridge Scholar Publishing, Newcastle Upon-Tyne.

approach grounded in experience. This approach emerges from a critique of traditional systems of representation and the metaphorical meaning of light in metaphysical thinking, traditionally founded on a transcendental notion of subjectivity and the constructs of binary oppositions.³ Drawing from this critique, this thesis argues for the 'ethical turn of practices of light', a turn which is here understood according to two different connotations of ethics, one designating a critical position regarding a different subject-self positioning in relation to light and the use of technologically informed practices and procedures, and a second, connotating a feminist positioning which is particularly concerned with an affective and material interpretation of light in relation to practices.

To justify this former proposition, I shall examine how practices of light chosen for scrutiny, emerge and are informed by a critical debate on the system of representation of light initiated by poststructuralist and postmodern schools of thought. This research draws from the critique of metaphysical thinking posited by the theorists Jacques Derrida (1967), Gilles Deleuze (1969) and Michel Foucault (1969) who deploy an ontological and immanent framework of inquiry which deconstructs binary oppositions and value and rethink light in terms of energy, intensity, and difference.⁴ Further, their critique of classical metaphysics contributes to the re-grounding of the notion of subjectivity into an inquiry into practices, procedures, experiences, and contexts, and this ontology underpins the proposition of an 'ethical turn' concerning practices of light.

The frame of social sciences has also enabled me to revisit the debate on the physics of light in modern physics and science. This research intends to give evidence as how scientific methods and models derived from modern physics such as theories of Relativity (Einstein, 1905) and Quantum theories (Bohr, 1925-1927), contributed to an understanding of light in terms of energy, whilst formulating a framework of investigation defined as the model of the space-time continuum. In particular, I shall draw from the postulates addressed by modern physics, namely the thermodynamic (Clausius and Thomson, 1860; Nernst, 1906), electromagnetic (Minkowski, 1905; Einstein, 1905) and quantum mechanical studies (Planck, 1900; Bohr and Heisenberg, 1925-1927;

³ This research begins to position a critique of hierarchical structured oppositions (presence/absence; logos/writing; speech/writing) traditionally founded in metaphorical meaning and in the tradition of logocentrism. In so doing, the research posits a deconstructive approach drawn from poststructuralist and postmodern schools of thought (Derrida, 1972/1995, p.41).

⁴ Opposed to binary categories, the research employs the term 'difference' to address a questioning of the possibilities of heterogeneous interplays between words and signs in language, a system concerning the way of becoming space, temporalizing, and deferring meaning, as posited by Jacques Derrida in his analysis of deconstruction (Derrida, 1967/1995, pp.28-30).

Schrödinger, 1926; Born and Jordan, 1930) of light through the critical framework of postmodern and posthuman schools of thought to demonstrate how these theories determine innovative and experimental configurations in the fields of artistic practices.

Regarding the feminist connotation that 'ethics' assumes in this thesis, this research is indebted to feminist literature which contributes to the positioning of a gendered, yet historically omitted positioning, through an inquiry of female subjectivity and here, this questioning is fundamental to rethink the positioning of women artists in relation to the subject of light. I suggest that feminist ethics provides an understanding of 'affect' as a particular disposition seen in relation to matter, offering here a useful framework of analysis to an investigation of the empathetic and experiential qualities of light in the practices chosen for scrutiny. Through 'affect', this thesis posits 'the ethical turn' of practices of light through a framework that uses the methods and the models deployed in feminist ethics (Irigaray, 1974; Malabou, 2010; Olkowski, 2003), feminist politics (Bal, 2007; Pollock, 2008), new materialisms (Bennett, 2007; Coole and Frost, 2010) and posthuman ethics (Braidotti, 2006; Barad, 2007). These contributions provide tools for thinking the relationship between light and female subjectivity, setting a ground for questioning the impact of light in relation to affective experience and the material world. In other words, to use an eloquent image addressed by the feminist artist and critic Barbara Bolt in the essay "Shedding Light For the Matter" in her reading of Luce Irigaray's ethics (Bolt, 2000, p.203), this research draws a path for rethinking the importance of light for the matter, an orientation concerned with an emotional and empathetic disposition which ultimately, I argue, informs artistic practices in terms of values and norms.

In particular, I argue that the feminist position of this research offers a system of analysis that rejects binary oppositions to rethink the relationship between light and subjectivity in terms of 'subject-object relations'. With the term 'subject-object relations', I refer to an epistemic bond derived from psychoanalysis (Freud, 1920) and further employed in feminist ethics (Irigaray, 1974; Kristeva, 1980; Mulvey, 1975) to define an approach that rejects the opposition between an active subject and a passive object of inquiry to value affect and power of relations as a formative, epistemic model. By applying this epistemic model to an investigation of practices of light, this research intends to construct a framework for investigating the relationship between light, humans, non-humans in terms of inter-relations and inter-connectivity.

The feminist position of this research is drawn from a reading of the writing of the feminist thinker Luce Irigaray which contributes to a 'politics of sexual difference' by rethinking the role of female subjectivity in terms of affect and material disposition. As discussed in *Speculum of the Other Woman*, 1974, Irigaray's gendered politics is fundamental for rethinking the system of representation of light in relation to affect, matter and experience. I shall further relate to the feminist thinking of Julia Kristeva's on semiotics (1969) and Suzanne Langer's on rhetoric (1950) with the purpose of deploying a feminist position in a discourse of light. In addition, the constructive feature of this research is informed by the method of cultural analysis of the feminist cultural theorist Mieke Bal because, as posited in "Light Politics", 2007, which supports a politics of agency within the context of artistic experience. This critical framework is further informed by an understanding of Barbara Bolt's inquiry of the sensuous and affective values of artistic experiences as discussed in *Sensorium : Aesthetics Art Life* (Bolt, 2007). A third orientation is drawn from the methods of posthuman feminist ethics suggested by the thinking of Karen Barad who, in *Meeting the Universe Halfway*, 2007, establishes a bond between ethics, ontology, and epistemology to question light and human and non-human relations. The feminist posthuman approach of the philosophers Dorothea Olkowski (2003) and Rosi Braidotti (2006) also enable me to examine further the relations between light, experience, and the sensible.

This thesis demonstrates the ethical turn of practices of light by discussing the principles of affect, action, and agency. These principles, I argue, impose a renegotiation of the categories of 'subject and object' as distinct, and through an understanding of relationship and connectivity, this thesis demonstrates how these qualities inform values and norms. Although a significant number of critical (Vasseleu, 1998; Bolt, 2000; Bal, 2013) and curatorial (Weibel, 2006; Clifford, 2013; Pelz, 2004) contributions have dealt with the subject light in artistic practices whether historically, materially, or perceptually, none of these studies have addressed a feminist investigation of light in terms of ethics. This feminist investigation is relevant for an understanding of the affective, sensuous, and relational qualities of light as perceived by humans and non-humans in ways that contribute to visual culture, culture, and social sciences.

Research Statement and Research Journey

My research deals with the role of light in contemporary artistic practices by relating arts, techno-sciences, and social sciences. Whilst foregrounding an inquiry on the sensuous experience of light through an analysis of new systems of configuration, the research critically addresses a questioning of the values and the norms suggested by practices of light through the framing of a feminist ethics.

This argument is the result of past and current research and the diverse orientations that this study has pursued in its journey from 2015 to the present time, here merging into the methods, the models, and the propositions of this thesis. In particular, these orientations were reflected in my interest in investigating the inventory of mediums employed in artistic practices followed by an inquiry of the sensuous qualities of light, its experience and impact within specific contexts, and ultimately these findings supported and merged into my questioning of an ethics of light. Whilst these directions inform the shape of this thesis as I shall later discuss, the research has led to a number of monographic studies, projects and publications that were presented in parallel with the aim of addressing a critical debate on light and artistic practices internationally.

By addressing a critique of representation, I have begun to question the role and the impact that mechanical, technological, and digital mediums have assumed in relation to practices of light and particularly to the *sensorium* of experience. This inquiry informs the literature review on light-art and practices of light (Chapter 2), and a monographic study on the work of artist, James Turrell, a reference figure for a politics of light and technology:

Buoso, S., 2019. "Outside the Spectrum: Poietic Encounter of Light-Matter". In *Open Arts Journal*. Issue.7, London, Open University.

On a second stage, I turned my interest in the work of women artists dealing with light through the framework of feminist schools of thought. This allowed me to consider affect and new material studies as a useful framework of analysis with the aim of positioning a feminist argument (Chapter 4). This attempt informed the method of a material-semiotic analysis further employed for the publication of the journal article:

Buoso, S., 2019. "A Material Discursivity of Light: An Investigation in Light of Rosa Barba's Practice". In *The International Journal of Art Theory and History*. Vol.14, Iss.1, Champaign, Ill., Common Ground Research Network.

These fundamental premises further determined my interest in initiating a debate on light and artistic practices as proposed when convening the post-graduate exhibition, the symposium in response to the International Day of Light, UNESCO, Chelsea College, University of the Arts London, 2018.

Another orientation emerged when I became interested in relating visual arts and social sciences with phenomenology and techno-sciences. These frameworks help me extending my understanding of feminist ethics through a questioning of new materialist and posthuman ethics (Chapters 5-6). As an outcome, these methods and models were useful to a critical reading of the work of artist, Magdalena Fernandez in relation to the legacy of geometric abstraction, which informed the following contributions and publications:

Buoso, S., 2019. "Glossary". In Palacio, C., et al. *Ecos: Magdalena Fernandez*. exhibition catalogue. New Mexico City, Museo Carillo Gill and Museo Amparo.

Buoso, S., 2022. "Magdalena Fernandez and The Ethos of Geometric Abstraction". In *Diffractions Journal*. Lisbon, Catholic University of Portugal/Lisbon Consortium.

The methods and the models of posthuman schools of thought informed my analysis of a choice of practices of light experimenting with relativistic, quantum, and techno-scientific frameworks of inquiry as discussed in this thesis (Chapter 6) and in the parallel entry:

Buoso, S., 2022. "Universe". In *Vesper n° 7 – Sky*. Dictionary. Venice, Quodlibet.

Ultimately, the methods and the models of feminist posthuman ethics further informed my understanding of agency in relation to the proposition of an ethics and a politics of light. My understanding of the models of 'natureculture continuum' (Haraway, 2008) and of the phenomenon of the 'entanglement of light' (Barad, 2007) in particular, were useful to the framing of the following exhibition and symposium which I supervised:

Timeless Light – Entanglement. 2023. Ionion Center for the Arts and Culture, Metaxata, Kafalonia, 28-30 September 2023.

This thesis, *An Ethics of Light: the Affective Turn of Contemporary Practices*, draws from these journeys and orientations on the new materialist, technological, experiential, and political functions of practices of light from the critical positioning of feminist ethics. In the next section, I illustrate how these directions have been assessed and framed in relation to this study.

The Shape of This Study

The thesis comprises seven chapters: *Methodology*, *Contextual Review*, *Practices of Light as a Question of Values and Norms*, *The Visual Rhetoric of Feminist Practices*, *The Dialectical Movement of Light*, *The Surfaces of the Continuum*, and *Conclusions*. This thesis includes three Appendixes.

Chapter 1, *Methodology. Investigating the Relationship between Experience and Ethics* outlines the methodological approaches employed in this thesis in support of an understanding of the ethical turn of practices of light. Whilst addressing a critique to the system of representation and signification of light in classical metaphysics, this chapter addresses an inquiry into the field of ethics through a reading of social sciences. In particular, this research draws its methodology from feminist ethics by focusing on the relationship between light, female subjectivity and other subjects involved in the artistic experience of through a reading of feminist, new materialist, and posthuman literature. From the field of feminist ethics, this research draws useful principles and models that will be employed in this analysis, focusing on a discussion of the terms 'light', 'experience', 'female subjectivity', 'subject-object's relations', 'affect', 'materiality', and 'ethics'. Whilst justifying the use of these terms in this research, the chapter draws a trajectory which is concerned with the emergence of a new aesthetic sensibility.

Chapter 2, *Contextual Review*, addresses an understanding of the 'ethical turn' of practices of light by providing theoretical and critical contexts to the artistic contributions that have dealt with the subject of light in the twentieth and the first two decades of the twenty-first centuries. I shall discuss the discovery of scientific methods of investigation that respond to a study of light in modern physics. It will follow an examination on how these methods underpin a critique of metaphysical systems of representation of light in poststructuralist and postmodern theories which inform the critical framework employed for a historical review of artistic contributions to the genre of light-art as it arose in the 1960s. In so doing, this analysis intends to foreground artistic contributions to a mechanical and technology-informed approach to forms of light-art. Further, the review focuses on the contribution that digital and post-media practices have brought to this artistic genre in the 1990s, suggesting the emergence of a second trend which is concerned with the framing of procedures and practices. Whilst examining the fundamental features of this transition, I will suggest that this distinction marks a historical critical point, here informing an understanding of the ethical turn concerning the relationship between light, new media technologies, subjects, experiences, and contexts.

Chapter 3, *Practices of Light as a Question of Values and Norms*, addresses the proposition of an ethics of light by addressing a feminist critical argument in relation to the practices chosen for scrutiny. Following an historical orientation that justifies the applications of a feminist, phenomenologist, new materialist, and posthuman framework of inquiry, this chapter proposes understandings of the ethos, the affective, relational, and normative values of an ethics of light in relation to practices. In so doing, this chapter provides the theoretical grounding that justifies the critical and constructive framework of the research which will be applied to the analysis of the works and the practices considered within the timeframe 1996-2016.

Chapter 4, *The Visual Rhetoric of Feminist Practices*, posits a feminist argument in relation to the subject of light. It deploys an understanding of affect through a materialist perspective, focusing on feminist propositions for the classical metaphorical association between light and language. This position is claimed in a reading of *Multi-Story House*, 2006, by artist, Mary Kelly, a narrative installation that uses light as a fragmented visual and narrative which I discuss through the thinking of Luce Irigaray (1974) and this is useful to posit the feminist ethical positioning of this research. I examine *Red Babel*, 2006, by Grazia Toderi, a double-video installation that uses light as the luminous source of an affective image in video, using Julia Kristeva's analysis of poetic language (1969). Further, an analysis of the sculptural and filmic installation *The Western Roundtable*, 2007, by Rosa Barba, examines the forms of expressivity of light as a means of both archival and rhetorical contents (Langer, 1950). An analysis of these works suggests an encountering with light which turns representation and signification into a practice of multiliteracy and visual culture.

Chapter 5, *The Dialectical Movement of Light*, questions the action and the power of modification of light in human and non-human relations, focusing on perceptual phenomena of virtuality, plasticity, interactivity, and immersivity. This chapter discusses *Representation d'un corps rond*, 2009, a sculptural projection by Ann Veronica Janssens, which explores the relation between light and the human body through a reading of Mieke Bal's politics of light (2007) and Catherine Malabou's phenomenology of plasticity (2010). Further, it proposes an analysis of *Momentum*, 2013, by United Visual Artists (2003), an installation focused on an immaterial and immersive use of light which I discuss through a reading of Dorothea Olkowski's phenomenology of illusion and immersion (2003). At

the intersection of phenomenology and physics, this chapter deals the principle of the action of light in relativistic experience and environment.

Chapter 6, *Surfaces of the Continuum*, proposes an ethical investigation of light through a non-anthropocentric perspective that uses the model of the 'natureculture continuum' (Haraway, 2004; Barad, 2007). By questioning the relation between light, subjectivity, nature, and cosmology, it argues for an understanding of practices of light as systems of connectivity. This research discusses *2em006II*, 2006, by Magdalena Fernandez, a mobile painting supporting an investigation of the relationship between nature and abstraction, which will be framed through a reading of Rosi Braidotti's radical philosophy (2006). It proposes an investigation of *163.000 Light Years* by Tomas Saraceno, 2016, a filmic projection informed by a non-anthropocentric vision of light in the cosmos, resonating with Karen Barad's posthuman ethics of Quantum theories (2007). Through a mathematical-scientific language, a reading of these works is useful to further questioning of agency and sustainability.

Chapter 7, *Conclusions*, assesses the ethical propositions of this research in relation to a critical discourse of practices of light. It further contextualizes the proposition of an ethics of light relation to the existing literature and contexts dealing with this subject.

This thesis integrates Appendices A and B, which present supplementary findings drawn from collected interviews with two of the artists considered. Appendix C is a table summarizing the theoretical findings of this thesis.

Chapter 1. Methodology: Investigating the Relationship between Experience and Ethics

The methodology used in this research employs a questioning of the relationship between artistic practices and the experience of light to posit a feminist ethical argument of inquiry. The technological traits of practices of light as mostly seen in the artists' use of new media, digital, and multimedia formats in parallel to a techno-scientific method of investigation, all designate an innovative and experimental territory of artistic research which is concerned with the experience of light, be it sensuously, embodied, environmentally, or contextually perceived. In this research, I intend to deploy an ethical framework of inquiry in support of an investigation of such a field, questioning the relationship between light, technologies, human and non-human relationship.

To foreground the term 'practice of light' is not a neutral operation, but it is a critique of the notion of the specific 'art object' or, in a wider sense, a critique of representation founded in the dichotomies between ideal forms and material contingency traditionally defining the foundations of metaphysical epistemology. As posited by poststructuralist and postmodern schools of thought (Derrida, 1967; Deleuze, 1969; Foucault, 1969), this critique contributes to an understanding of 'experience' as an ontological stance, a relativistic ontology which is central to human existence. According to the definition posited by Gilles Deleuze, 'experience' designates the actual manifestation of immanence, a manifestation where events, formations, and modifications, all occur in a becoming (Deleuze, 2001, pp.27-29).⁵ In other words, 'experience' designates the plane of existence subject to time and multiple truths, a materially constituted territory of investigation where light consists of an event occurring in time. Drawing on a critique of the transcendental nature of metaphysics of light, this research repositions the phenomenon of light within the realm of 'experience' and this shift is crucial for an understanding of the relationship between light, subjectivity, and the environment. In an analysis of practices of light in particular, this shift imposes further considerations on light as phenomenon subject to time, challenging the understanding

⁵ For the purpose of intersecting scientific and philosophical areas of investigation, this research departs from considerations of Gilles Deleuze's ontology as posited in *Pure Immanence: Essays on a Life*, 1991. By differentiating between the planes of virtuality and actualization, Deleuze defines immanence as the ontological plane of consistency and of unqualified immersion where all events and lives are found without substantial division (Deleuze, 1991/2001, pp. 27–29). From this ontological stance, this research draws an understanding of experience as an ontological stance where events, forces, intensities, and lives actualize.

of practices as procedures and the ways of framing the viewer's experience in relation to contexts of emplacement.

However, rather than pursuing a formalist reading of these systems of configuration, this research puts forward a feminist interpretation of 'experience' to foreground the effects of light in relation to the viewer's engagement with artworks, valuing the empathetic and sensuous qualities of light. This feminist connotation finds theoretical grounding in the writing of the feminist theorist Luce Irigaray who in *Ethics of Sexual Difference*, in the chapter "Wonder: a reading of Descartes, The Passions of the Soul," 1984, in particular, claims an approach to light that is grounded in the lived experience, or an approach to light that is concerned with lives, bodies, and languages (Irigaray, 1984/2004, p.62). Irigaray's argument is crucial for a feminist understanding of the experience of light because in contrast with rationalist constructs, the author argues how light can turn into an experience regarding the subjective, the sensible, and the material. In a wider view, Irigaray's contribution consists in setting a path for thinking about light not in terms of absolutes, but she turns the attention towards the impact that light has in relation to matter (Irigaray, 1974; Vasseleu, 1998; Bolt, 2000).⁶ In line with this feminist orientation, this research puts forward a questioning of the experience of light in reason of its effect towards matter, humans, the living environment, and contexts. In particular, this investigation posits the condition for examining how the practices chosen for scrutiny open to a realm which is concerned with light in relation to memory, lived experience, and immanence, three diverse connotations of the ontological framework of experience which will be discussed in Chapters 4, 5 and 6.

These premises impose some ethical considerations, which this research advances by addressing the relationship between light and subjectivity. It does this by questioning the classical divide between the notions of the specific art object and the viewer. From a theoretical point of view, this requires tackling the category of 'subject-object' as divide, a divide which traditionally defined the foundations of metaphysical

⁶ Drawing from Luce Irigaray's contribution to reconfiguring light through touch (Irigaray, 1982), Bolt gives emphasis to the merging of a different, feminist genealogy of light that takes into account the relationship between light and matter, marking a distinction between the politics of the Enlightenment concerned with the idea of shedding light on the matter, and a feminist ethical approach regarding the act of shedding light for the matter (Bolt, 2000, pp. 203-204).

epistemology.⁷ This 'subject-object' dichotomy has historically supported the speculative inquiry on phenomena of reflection and refraction (representation) in optics (Descartes, 1664) and the binary opposition between the signifier and the signified (signification) in linguistics (De Saussure, 1907/1959). However, the epistemological bond established by 'subject-object relations', reconciles divisions and separations by suggesting an insight on what constitutes human knowledge. The critique of the transcendental notion of subjectivity initiated in psychoanalysis by Sigmund Freud, which he discusses in "*Beyond the Pleasure Principle*," 1920, contends that the division between subject and object is not found in logic, but in the separation between the inside and the outside of human consciousness, designating a form of experiential knowledge, or a form of apprehension concerned with desires, impulses and drives (Freud, 1920/2003, p.116). Further, through psychoanalytical methods of inquiry, this examination of the epistemic bond informed a critical stance that was taken up in the thinking of post-structuralist and postmodern schools of thought. In the late 1960s, these schools of thought brought into question the transcendental notion of subjectivity, to argue that knowledge is not fundamentally an exercise of self-reflexivity, but is a formative practice embedded with technologies, processes, and procedures (Derrida, 1967; Deleuze, 1969; Foucault, 1969). Drawing from these theoretical reference points, this research addresses the relationship between light and subjectivity through the episteme of 'subject-object relationship' within the context of practices of light. This supports an understanding of the 'ethical turn' through an inquiry into the formative, technological, and material functions of these practices.

Not limited to these considerations however, this research contemplates a feminist understanding of 'subject-object relationship' to foreground the interdependent, relational, and agential functions of practices of light. In support of this argument, I reformulate existing ethical considerations on the 'subject-object relationship' through a questioning of the specific relationship between light and female subjectivity. This position is in debt to Luce Irigaray's feminist reading of 'subject-object relationship', as she posits in *An Ethics of Sexual Difference*, 1984, where the author addresses a politics

⁷ Subject-Object' is a speculative model drawn from the thinking of the philosopher finds reference in René Descartes who, in "Discourse 2 on Dioptrics – Of Refraction", part of *Treatise of Light*, 1690, establishes a nexus between light, the domain of rational models of thinking and vision through the logic of identity that pertains to phenomena of reflection and refraction (Descartes, 1664/2004., pp.76-84). This nexus establishes a principle that describes the modes of thinking of the absolute form of the cogito and by analogy, it designates the fundamentals of the representation of light in classical metaphysics.

of 'sexual difference'⁸ to give evidence of the limitations of the tradition of metaphysics in relation to the role of women in discourse. Two fundamental contributions emerge from Irigaray's feminist politics: one concerned with the ethos of female subjectivity, which she defines both in terms of affective modes of apprehension and forms of material attachment (Irigaray, 1984/2004, pp. 102-103); a second concerning the specific relational connotation of female subjectivity in relation the Other (ibid., 114-116). In other words, according to Irigaray's ethics, female subjectivity is connotated by a questioning of subject-object's relationship in ways that challenge classical epistemology to focus instead on the importance that processes of formation and modification play in the construction of knowledge for women. Irigaray's analysis further provides the conditions for rethinking the traits that connote female subjectivity in terms of intersubjective and relational dispositions. Irigaray's contribution to feminist ethics is fundamental in this analysis because her positioning allows further understanding of the affective, formative, and sensuous experience of practices of light. This research draws from Irigaray's politics of 'sexual difference' to address an ethics of light from a feminist perspective, drawing from a genealogy of feminist theoretical approaches to the subject of light as founded in the writing of Barbara Bolt (2000), Mieke Bal (2007) and Karen Barad (2007), which all question the possibility of encounter, transformation, and modification.

Further, this research intends to demonstrate that 'relationality' is not a prerogative of human subjects, but it also designates a function of light in ways that impose agency. From a theoretical viewpoint, this quality can be deduced through a reading of the phenomenon of the entanglement of light as examined by the feminist theorist Karen Barad, in her reading of the Copenhagen interpretation Quantum theories (Bohr, 1925–27) as discussed in *Meeting the Universe Halfway*, 2007, where she describes entanglement as the physical phenomenon defined by the principle of inseparability of wave–particle functions of light (Barad, 2007, p.215). One of the most important considerations that can be drawn from observations of this phenomenon, Barad adds, relates to the fact that this phenomenon cannot be defined in terms of binary oppositions and fixed categories, but this interdependent indivisibility shifts the

⁸ With the term 'sexual difference' I refer the category that historically connotes the politics of the second wave of feminism. In this research, it designates a feminist position that emerges from a critique of dominant systems of representation and uses psychoanalytical methods of analysis to question the construction of female subjectivity and powers of social relations. Drawing from the feminist thinking of Luce Irigaray, as posited in *Ethics of Sexual Difference*, 1984/2004, this research intends to assess the term 'sexual difference' in an analysis of women practices with the aim of demonstrating propositions regarding the affective and material use of light.

prerogative of meaning to attest agency (Barad, 2007, p.381). The phenomenon of the entanglement, Barad adds, challenges the representation of light as a medium in classical metaphysics and turns it into an understanding for the relation between ontology, ethics, and epistemology (ibid.).⁹ The phenomenon of the entanglement, Barad adds, challenges the representation of light as a medium in classical metaphysics and turns it into an understanding for the relation between ontology, ethics, and epistemology (ibid.). I shall engage with Barad's argument in detail in this dissertation, but for the purpose of this chapter, her inquiry of matter as an 'entanglement of relations' as opposed to the subject-object distinction (ibid., 35) is useful to reposition epistemology with experience and ethics through an understanding of agency. In other words, this epistemic bond of a 'subject-object relationship' explains and justifies the line of argument of this thesis which progresses from a feminist subjective positioning to further investigate the specific relation between light, female subjectivity, multiplicity, human, and non-human relations. Ultimately, though a posthuman reading of the phenomenon of the entanglement, I set the boundaries of an ethics of light.

Focusing on the relationship between light and female subjectivity, this research proposes a framework of inquiry that values the sensory experience of light in terms of emotion and empathy. This approach is evident in observing, for example, how the use of innovative lighting materials and new media technologies in practices of light, allow the configuration of an articulated *sensorium* which extends the ways of experiencing light in terms of visual, haptic, sensuous, embodied, and immersive sensations. These phenomena inform a politics of 'affect', a non-representational strategy concerning sensuous modes of apprehension of light and designating the theoretical framework of this investigation. In this analysis, I shall draw from affect theories (Massumi, 1995; Thrift, 2004, O'Sullivan, 2001) with particular reference to feminist literature (Irigaray, 1974; Braidotti, 2006; Olkoski, 2007) to demonstrate the fundamental traits of a gendered specific experience to light in terms of emotion and empathy. This study demonstrates that affect theories provide useful frameworks of inquiry for examining the power of modification and transformation of light phenomena in ways that impose responsiveness, enactment, agency in terms of ethics. From these analyses, I intend to give evidence to a new sensibility of light emerging from the practices that are considered.

⁹ With term 'agential realism', Barad refers to a posthuman performative framework of inquiry that refuses structuralism and values instead, the relationship between material and discursive practices in relation to humans and non-humans (Barad, 2007, p.44-45).

This research repositions an analysis of practices of light in material terms, providing a qualitative differentiation for the ways of understanding light as energy and a sensuous material. For these purposes, this research draws from scientific discoveries on the electromagnetic (Einstein, 1905) and quantum nature (Bohr, 1926) of light and discusses these qualities at the intersection of poststructuralist and postmodern schools of thought which pursued a reading of light in terms of difference (Derrida, 1967), event (Foucault, 1969), and intensity (Deleuze, 1967). Whilst assessing these findings, this study deploys a feminist positioning derived from feminist literature (Irigaray, 1975; Vasseleu, 1998; Bolt, 2000), new materialist and posthuman studies (Bennet, 2007; Barad, 2007), which all posit an important shift for rethinking the classical divide between matter and form, through an understanding of light as an entangled phenomenon.

Ultimately, the methodology of this research is informed by a questioning of the metaphorical meaning and representation of light. Drawing from the critique of the constructs of classical metaphysics traditionally epitomized by the image of light as a medium between transcendental and empirical realms, this research draws from poststructuralist and postmodern schools of thought (Derrida, 1967; Foucault, 1967; Deleuze, 1969), to posit an 'ethical turn'. This 'ethical turn' assumes an important connotation in feminist writing (Kristeva, 1968; Irigaray, 1974; Bal, 1984; Braidotti, 2011; Barad, 2007) because it is concerned with the potential that affective relationships have in defining modes of apprehension which are seen in processes of formation, modification, and connectivity. This extra-textual positioning supports a discourse on semiotics (Kristeva, 1968) which further allows to formulate a series of discursive propositions for the material and experiential connotations of light. By addressing the notion of affect, this research puts forward a non-representational use of light, a use that translates into 'a politics of light', in the words of Mieke Bal, a critical practice which involves a questioning of agency (Bal, 2007). This research demonstrates how in artistic practices, light itself does not rest on the passive function of a medium but it actively contributes to the modification and the transformation of an experience (Bal, 2007, pp.156–157): These considerations are fundamental for rethinking experience in terms of engagement and interaction as seen in phenomena of embodiment and immersion.

All these parameters - experience, subject-object relationship, affect, matter, and agency – all contribute to define the methodology of this research. From a feminist viewpoint, they reflect the critical and the constructive frameworks of this thesis, setting the conditions for an understanding of the ethical and affective turn of practices of light.

Chapter 2: Contextual Review

The contextual review proposes a historical and theoretical analysis of the ways that artists creatively approached the subject of light from the beginning of the twentieth century to the 1990s. It further applies philosophical and social sciences frameworks of inquiry - namely, poststructuralist, postmodern, posthuman, and new materialist schools of thought - to critically question the classical metaphysic theory of the representation of light from the viewpoint of visual cultural analysis. This chapter draws a genealogy for the use of light in visual arts and addresses a trajectory that points out the significant shifts that occurred in theories of representation in arts, suggesting that from the aesthetic preoccupation for the art-object where light played the role of a medium, from the twentieth century artists have begun to conceive light as a phenomenon with specific qualities, an event perceived in terms of practices and experiences. These shifts in particular, will be discussed in an analysis of Lumino-kinetic, Minimalism, Conceptual Art, Light&Space movements, which, in parallel to scientific investigations, all posit a technology-based approach to light to testify the experimental and innovative approach of these artists. Drawing from the existing literature on this topic in art criticism (Popper, 1963; Lippard, 1967; Rosenthal, 1967; Burnham, 1968), the aim of this review is to foreground the consistent and robust implementation of scientific inquiries in parallel to the use of mechanical, technological, and digital practices which all challenge the configuration of light through an understanding of its material and physic qualities. In so doing, I intend to foreground the setting of a sensory, experiential dimension of light as a field of artistic investigation and for these purposes, the review offers a critical thinking which sits at the intersection of art, science, and philosophy.

My questioning of the representation of light sits within the frames of a techno-scientific inquiry and is suggested by the debate on the history of artificial light (Weibel, Jansens, 2006), photo-media (McKenzie, 2014) and the history of lighting discoveries and inventions (Bowers, 1982; Brox, 2012). In particular, drawing from the schema proposed by the film artists and theorists Hans Scheugl and Ernst Schmidt, presented in the exhibition catalog of *Art from Artificial Light*, the first anthological exhibition on the artificial use of light in visual art held at the Zentrum fur Kunst und Medientechnologie in 2006, helps in tracing a genealogy of the use of light as a medium and a material in the arts (Table 1.). In fact, Scheugl and Schmidt's schema historically distinguishes two opposed tendencies in the use of light in art, differentiating between canonical forms of

representation and the forms of inventory and experimentation of new media which particularly connote the history of lighting materials and new discoveries. Whilst deconstructing the classical notion of representation of light through the frames of poststructuralist and postmodern theories, this chapter defends the values of this latter position, suggesting that such a tendency reflects a prolific field of investigation by focusing on the creative and innovative potential of light, science, and technology in relationship to practices.

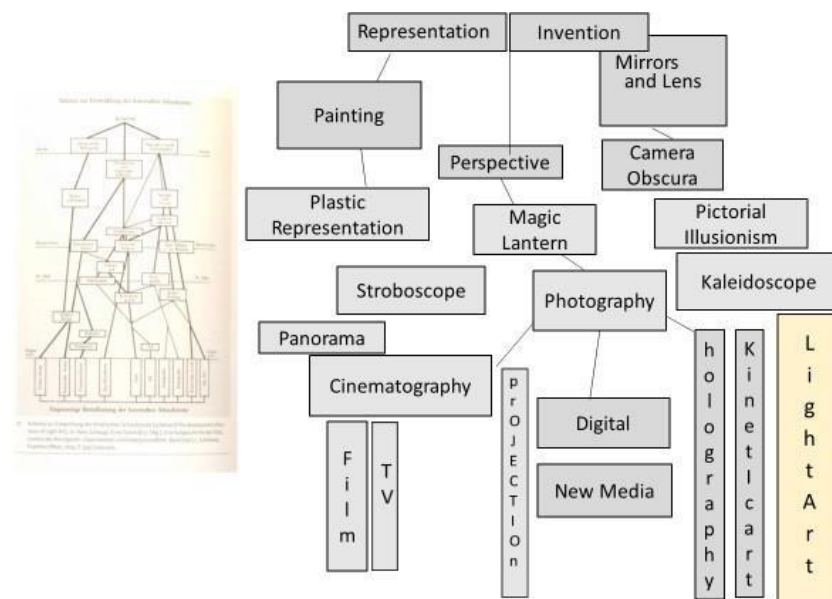


Table 1. Schema of the development of light-based practices, adapted from H. Scheugl, E. Schmidt Jr., 1974, Eine subgeschichte des Films Lexicon des Avantgarde – Experimental-und Undergroundfilms, 1974.

Among the most significant contribution to the modes of innovation, in the late 1960s, the genre of 'light-art' advanced new approaches, methods and techniques of generation and manipulation. In particular, the category of 'light-art' emerged in close relation to kinetic art, cinematography, and forms of projection, to designate a technology-based practice characterized by the implementation of lighting materials such as artificial light, neon, fluorescent light, laser, LEDs, fibre optics and projection, in artistic practices in the twentieth century. To be precise, in the art critical discourse, the term 'light art' was acknowledged by two authors in particular, who foregrounded two diverse, yet essential propositions for an understanding of the impact that light-based technologies have had in artistic practices in the 1960s.

With the article *Light Art*, 1967, the art historian and art critic, Nan Rosenthal discusses light art as the result of the implementation of technology in art, presenting the first documented survey on this genre. Through a review of experimental practices, all

derivations of avant-garde and constructivist movements, the author addresses a material investigation of light, offering an insight into its physical qualities in terms of energy, propagation, continuity, and speed which all inform technologically informed configurations. These observations support her argument that these practices reject the representation of light as a medium of perception, and suggests how, as physical energy, light became to be conceived as a medium of expression (Rosenthal, 1967, pp.24–25). Her contribution posits here a fundamental contribution for an understanding of the inherent quality of light and experimentation.

Almost contemporaneously, the art historian and critic Jack Burnham, in *Beyond Modern Sculpture. The Effects of Science and Technology on the Sculpture of this Century*, 1968, examines the impact that lighting technologies have had in modern sculpture. Whilst stating the exhaustion of the aesthetic category of the specific artistic object, Burnham discusses the frames of sculptural practices and states that how light-art has contributed the rethinking of light as the visual embodiment of energy, speed, and information in ways that reflect into the modulation of a sensitive experience in relation to the viewer and the environment (Burnham, 1968, p.285). In Burnham's view, the genre of light-art should be understood as a derivation of sculpture, because whilst challenging the forms of artistic configuration through the function of energy and information as experimentation, light-art contributes to give shape and modulation to the viewer's experience and the context of emplacement of artworks.

Rosenthal and Burnham's accounts set the fundamental premises of this review, for an historical contextualization of the genre of light-art. Their address to the physical, expressive, experiential qualities of light as energy opens to an inquiry on how scientific and technology-based approaches challenges artistic configuration away from the categories of the specific art object and of representation to focus on the frames of a physical, sensuous, experiential dimension of light in terms of experimentation and innovation. This chapter examines the work of neo-avantgarde groups and movements such as Group Zero, Gruppo T and GRAV, and the individual work of artists such as Dan Flavin, Joseph Kosuth and James Turrell in particular, who have begun to formulate a non- representational use of light in the second half of the twentieth century.

Through this analysis, this review intends to draw an orientation in support of the argument that a history of light-art distinguishes between a first phase (1950s -1990s), here object of this contextual review, and a second phase (1990s – 2020s) which reflects the argument of this research and which I intend to discuss in the following chapters.

This distinction aims to suggest how in the contemporary context, the term 'light-art' has exhausted its function, because it sustains a reasoning founded on dichotomies which are no longer applicable to an analysis of artistic practices and experiences (eg. Subject-object, mind-body, nature, and culture dualisms). This pertains to the ways by which, from the 1990s, artists working with light have begun to experiment with light, configurations, and the experiential dimension of artworks. In this regard, I depart from an analysis of how the implementation of innovative materials and advanced technologies such as LEDs, lasers, fibre optics, electronic and digital forms, video, and projection supported new systems of configurations of light in terms of dematerialization (Lippard, Chandler, 1971) and immaterialism (Lyotard, 1985; Flusser, 1987) whilst deploying the conditions for an experiential dimension of light in art.

Two aesthetic categories justify the critical understandings for this transition from representation to an ethics of light. Firstly, the debate on 'post-media practices' which significantly outlines the emergence of systems of configuration of light that make use of electronic and digital media to convey forms of experimentation and interaction (Guattari, 1996), extending the field of action of an artistic experience over and above physical presence (Weibel, 2006).¹⁰ Secondly, an understanding of the category 'a practice of light' addressed by the media-theorist and critic Sean Cubitt in *The Practice of Light*, 2014, which reflects on how visual technologies impose a political aesthetics of light that moves away from a hierarchical visual culture to posit a question of light and technology in terms of agency (Cubitt, 2014). However, whilst it is important to foreground the contribution that light-based have had in relation to practices of light in terms of innovation and experimentation, this research intends to posit a material and perceptual investigation which suggests how light can produce affective, embodied, immersive and interactive experiences. Drawing on these references, this review identifies and discusses the emergence of a system of configuration of light that whilst problematizing the ways of thinking about light and subject-object relationship, builds on the alliance between arts, techno-sciences, and philosophy, to foreground the emergence of a new sensibility. Further, this informs a non-representational use of light, shifting the focus from an aesthetic preoccupation for the art-object and the medium to an inquiry of agency and

¹⁰ For further references on the debate on post-media art, I refer to Rosalind Krauss's concept of 'differential specificity of the medium', a concept which contrasts the formalist idea of 'pure art' to foreground the importance of experience as seen in installation and relational arts (Krauss, 1999). In addition, I refer to Lev Manovich's category of post-media aesthetics which takes into account the inherent heterogeneity of post-digital practices and productions (Manovich, 2001).

experience. In support of this argument, I assess a number of scientific and philosophical propositions which contribute new understandings of the relationship between light, subjectivity, and technology, to position the 'ethical turn' of practices of light.

2.1. A Critique of Representation and Signification

In the twentieth century, the term 'photology' emerges and is used in two distinct areas of investigation, designating two different connotations: the physical study of light in modern physics and science (Einstein, 1905), and the founding metaphor of philosophical thinking in the poststructuralist critical thinking of Jacques Derrida (1967; 1969). In this context, an analysis of the different uses of the term photology in these differentiated fields, is fundamental to set the premises of an argument for a critique of the tenets of metaphysical representation and signification of light in favour of a scientific method of inquiry as the common ground for modern physics, social sciences, and artistic practices in the twentieth century.

Some basic scientific considerations are helpful to contextualize the term 'photology' and its uses in modern physics in the twentieth century. In fact, Albert Einstein's theories of Relativity (1905-1915) and Niels Bohr's Copenhagen interpretation of Quantum theory (1925-1927) postulated a modern study of light that contrasted the two dominant theories of light related to historical debates regarding the representation of light as particle (Descartes, 1664; Newton, 1675) and as wave (Huygens, 1678; Young, 1800).

In the paper "On The Electrodynamics of Moving Bodies," 1905, Einstein departs from observations on the phenomena of light emission and transformation resulting from a study on blackbody radiation, fluorescence and ultraviolet light, to postulate the quantum-mechanical properties of light. As Einstein claimed, these properties contradict the existing corpuscular theory (Newton, 1672), wave theory (Huygen, 1678) and electromagnetic wave theory (Maxwell, 1860) of light, deploying the frames of an electromagnetic and relativistic study. These observations are essential to the paper publication of "Special Theory of Relativity," 1905, where Einstein posits the model of the 'space-time continuum', a model that rejects the abstract representation of the category of space and time and consider them as interdependent factors for drawing a relative scale of measurement that implements the coordinate of time and movement in relation to the velocity of light. According to Einstein, the model of the continuum defines a system

of representation which differently from binary categories. It shows a multiplicity of events acting in time and measured in terms of temporal differential and motion (Einstein, 1905/2002b, p.78). The unifying agent for this metrics, Einstein states, is light as it is measurable as a constant velocity that is not affected by motion (ibid., 22)¹¹ and one the most important implications for Einstein's statement, is thus concerned with the rethinking of the relationship between light, time, motion in the space-time continuum, through a questioning of the relative perspective of a subject.

A second fundamental contribution postulated by Einstein is discussed in the paper "On a Heuristic Viewpoint Concerning the Production and Transformation of Light, 1905," where the physicist posits a fundamental contribution for thinking about light in relation to its physical qualities. Focusing on an analysis of the phenomenon of light-matter interaction, Einstein asserts that light is not a continuous energy, rather a finite number of particles localized in space and time which he theorizes as energy-quanta (Einstein, 1905/2002a, n.p.). Through this postulate, Einstein contributes to a modern photology, because his observations demonstrate that light results from an exchange between energy and matter, a fundamental topic of investigation because it states the interaction between these states as further developed by Quantum Theories as I shall later discuss.

To summarize these two models of inquiry posited by Einstein, it is important to remark that the fundamental contribution of Theories of Relativity consists in a method of investigation of the physics of light concerning the dynamics of relative motion and the temporal asymmetry that underpins electromagnetic and mechanical properties of entities as relative scales of measurement. These models and contributions are particularly significant to an inquiry of modern photology, I suggest, because they radically challenge the system of representation of light. As Einstein pointed out: 'there is no meaning in a statement of the time of an event' (ibid., 26) and with this statement, the physicist turns away from metaphysical constructs of representation traditionally justifying formalist and rationalist reasonings, to affirm that light, the universe, and all events in the cosmos do not define fixed categories, nor are they meant to be objects of

¹¹ Anticipating the trajectory of this study, it might be helpful to note here that whilst according to Albert Einstein's Special Theory of Relativity (1905), the notion of 'continuum' refers to the reconfiguration of space and time categories, in contemporary feminist techno-sciences the notion assumes a materialist connotation to describe the interdependence of nature and culture in experience. Donna Haraway's model of 'natureculture' (1997) and Rosi Braidotti's notion of 'life-death' continuum (2013) are relevant to an ethical and materialist investigation on light as ways of reconfiguring a micro-macro cosmos. For further analysis, please see Chapter 5.

study for the speculative mind conveying contents as meaning. They should instead be examined as lived in time-space following a questioning of how to renegotiate distances. Thus, representation and signification, Einstein suggests, cannot be assumed as frameworks of inquiry, and Relativity becomes a measuring scale for renegotiating human and non-human relationships.

A second important contribution emerges from Quantum theories (Bohr and Heisenberg, 1925-1927; Schrödinger, 1926; Born and Jordan, 1930) and regards the physical qualities of light. Drawing from studies in the field of electromagnetism, the physicist Niels Bohr, in the paper "The Quantum Postulate and the Recent Development of Atomic Theory," 1928, posited a quantum postulate which defines the wave–particle duality of the physical nature of light through the principles of action, kinematics, and complementarity (Bohr, 1928, n.p.). In other terms, Bohr's contribution is crucial to a study of the physics of light because by rejecting dichotomies as fixed categories of representation, it asserts the inseparability of waves and photons in luminous phenomena. In the words of the theorist Karen Barad, Bohr's contribution consisted in having formulated the representation of light as an entanglement of energy and matter which lies in the functions of waves and photons conceived in terms of agency (Barad, 2007, p.154). Bohr's contribution is critically important to this inquiry because whilst proposing an insight into the inherent qualities of the physics of light, it addresses a perspective on the agency and the relational function of light in artistic practices.

Drawing from Einstein's and Bohr's postulates, this research reflects on a paradigmatic shift for an understanding of light as a physical phenomenon, a phenomenon concerned with the indivisibility of energy – behaving according to the principles of movement and speed – and matter in the space-time continuum. But before I embark on a critical analysis of how artistic practices experiments with this configuration, it is here necessary to discuss the second connotation given to term 'photology' by poststructuralist and postmodern schools of thought. I shall draw from the philosophical contributions posited by Jacques Derrida, Michel Foucault, and Gilles Deleuze in particular, focusing on the linguistic, historical, and scientific positions assumed by these authors in a critique of metaphysical and phenomenological systems of representation and signification of light in the history of Western philosophy. Their contributions deploy an ontological framework of inquiry according to which light is repositioned in relation to Being, historicity, and immanence respectively, and this stance posits a fundamental contribution for rethinking light not as a medium but as an event

and an experience. From their theoretical insights, this research posits a questioning of the relationship between light and subjectivity through an inquiry into technologies and practices, a fundamental questioning which is at the basis of the ethical turn posited by this research.

According to poststructuralist and postmodern philosophy, the term 'photology' is identifiable with the dominant speculative approach to light in classical metaphysics, traditionally defining the philosophical grounding of language and of representation. At the center of Jacques Derrida's inquiry into linguistics,¹² as discussed in the Chapter "Force and Signification," part of *Writing and Difference*, 1967, 'photology' is found at the foundations of metaphysics, designating 'the name given to a history of, or treatise on, light', the founding metaphor of philosophical discourse (Derrida, 1967/1995, pp.31-32). Traditionally epitomized by the metaphor of darkness and light, Derrida adds, the photological tenets of classical metaphysics support a metaphorical meaning which is concerned with light being a synonymous of self-revelation and self-concealment. Whilst observing how in a wider view, this term has historically informed the heliocentric and heliopolitical orientation of Western thinking, Derrida tackles on the metaphorical constructs that sustain such a vision (an eidetic vision acknowledgeable through forms according to Plato's philosophy), a vision which reflects into metaphorical language as a chain of signified meanings, all grounded in distant, oppositional, abstract, and fixed categories (ibid., 12-13). From these observations and in view of modern phenomenology with particular reference to Edmund Husserl and Martin Heidegger's ontologies, Derrida argues that photology in the metaphysical sense, has exhausted its transcendental function because its formalist, abstract constructs do not contemplate the relationship between Being and existence (ibid., 35). Thus, in support of this ontological stance, it is necessary, Derrida argues, to deploy a semantic displacement and rethink language not as a metaphor but as an intersubjective practice (such as for the practice of writing according to Derrida) because these enable an insight into the relationship between subjectivity, the other, and Being. In other terms, Derrida's critique of the photological tenets of metaphorical language in metaphysics posits a significant contribution in deconstructing the heliocentric, eidetic, absolute, transcendental, and formalist

¹² In this chapter, Derrida posits a critique of structuralist schools of thought exemplified by the thinking of the linguist Ferdinand de Saussure, arguing against Saussure's proposition of the inseparability of the signifier and the sign (De Saussure, 1907/1959) because founded in metaphysical and formalist assumptions concerned with dualisms and presence. From this critique, Derrida deploys the conditions for his method of deconstruction, further exemplified by his inquiry into the difference between writing and speech (Derrida, 1967/1995).

foundations of light, suggesting further questionings of the relationship between Being, light, subjectivity, and experience.

In the essay "Violence and Metaphysics: An Essay on the Thought of Emanuel Levinas," 1964, later integrated in *Writing and Difference*, 1967, Derrida deconstructs and exposes the limitations of classical metaphysics and of photology, addressing a displacement into Being which implies an ethical positioning with relation to the subject of light. Departing from observations on how, since the foundations of phenomenology in the platonic interpretation of it, light defines the founding metaphor of the Good, Derrida reads Emmanuel Levinas's existentialist philosophy as addressed in *Totality and Infinity*, 1961, and argues for an approach to light beyond eidetic and formalist representations of the self-evident. In particular, Derrida values the contribution that ontology – with particular reference to Heidegger's Being (Heidegger, 1933) – has brought in rethinking the association between light, Being, and existence, addressing a questioning of 'the light of light beyond light' (Derrida, 1967/1995, p.106), or a light beyond appearances and phenomena. Whilst referring to Heidegger's notion of care, Derrida further draws from Levinas's ethics to suggest an interpretation of light that calls for 'fecundity and generosity', the light of care, comprehension, and pre-comprehension (ibid.),¹³ or in other terms, a reading of light that precedes intellectual faculties and restore human and collective consciousness. However, differently from Levinas who aims for a non-intermediary relationship between light, Being, and existence, Derrida turns the questioning of the existential ontology of light into an inquiry of the 'inside' and the 'outside' and values subjectivity by reason of its ethical choices seen in normative practices (ibid.,110-111). Drawing from a critique of the tenets of metaphorical representation of light, Derrida challenges the ways of understanding light as a medium and a phenomenon, and suggests that light can be regarded as an event of Being, an event to be explored through supplements, procedures and practices as writing. In a wider view, it could be said that Derrida's critique of the photological tenets of metaphysics is fundamental for the deployment of an existential and ontological

¹³ In *Totality and Infinity. An Essay on Exteriority* 1961, the philosopher Emmanuel Levinas deploys the fundamentals for an understanding of ethics as a realm concerning the relationship with the Other as a normative practice. His contribution is crucial for an understanding of 'the ethical turn' which I address here through a reading of Derrida's interpretation and further, through the writing of the thinker Luce Irigaray who, in the essay "The Fecundity of the Caress", part of *Ethics of Sexual Difference*, 1984, addresses an understanding of an ethics of care from a feminist perspective.

framework of inquiry which considers light as energy, such as an event and an experience that can be understood in terms of difference.

From a cultural viewpoint, another significant contribution to the history of light in philosophy, is posited by Michel Foucault who, in the essay "What is Enlightenment?", 1984, through a reading of Kant's Critiques, revisits the historical and cultural importance of the term 'Enlightenment', suggesting that this epoch resonates with his inquiry of postmodernity. In his historical analysis, Foucault draws this comparison in reason of a number of similar factors such as some essential transformations occurred scientifically and technologically, the favoring of practical experiences over theory, the power and the capacity of power given by technology, the emphasis given to the systematic and relational functions of 'practical systems' which all put under critique the internal teleology of historical processes to foreground the capacity of power given by procedures and practices (Foucault, 1984/2000, pp.304-306). Drawing from Foucault's analysis, the epoch of the Enlightenment should be understood, not as the epoch of the resurgence of light intellectually, but as an event determined by complex historical processes as the reflection of a conscious state of discontinuity of time (ibid., 302). In other terms, Foucault suggests that the Enlightenment is among the most significant examples for thinking about cultural phenomena not as isolated manifestation, but as events immersed with the social and intellectual fabrics of society, events related to scientific and technological innovations in an epoch, disrupting the existing order of things to draw a new trajectory for ideas and practices.

These observations are fundamental for analyzing and contextualizing the role of practices of light in this research. In this regard, Foucault puts forward a second argument concerned with ethical responsibility, suggesting 'the Enlightenment must be considered both as a process in which men participate collectively and as an act of courage to be accomplished personally' (ibid., 307). According to Foucault, the Enlightenment's questioning of the relationship between individual freedom and social norms dissociates the vexed bond between ethics and morality, imposing the repositioning of ethics in the field of normative practices. From an historical and philosophical perspective, Foucault contributes to deconstruct the photological tenets of metaphysical episteme by providing the theoretical grounding for thinking about light indistinctively both as a cultural phenomenon, a practice, and an ethical attitude.

Within the frameworks of postmodern thinking, a third fundamental contribution is posited by Gilles Deleuze whose theories are drawn at the intersection of Henry

Bergson's phenomenology and Albert Einstein's Theories of Relativity in modern physics, to posit an ontological and epistemological model for thinking about light beyond appearances. A powerful argument can be drawn from Deleuze's reading of the 'movement image', an image that, be it an image of thought or a filmic image', posits a principle of identity founded in for the relationship between light and motion. In *Cinema 1 – The Movement Image*, 1983. Deleuze departs from a critique of the photological tenets of metaphysics and phenomenology according to which light is represented as a form of exteriorization seen in consciousness. Drawing from Bergson's ontology in view of Einstein's Special Relativity,¹⁴ Deleuze shifts the attention towards the inherent qualities of light, a light that exists prior to consciousness and is diffused externally without revealing its own source (Deleuze, 1983/1997, p.63). Deleuze claims that such a light is immanent to consciousness and matter, and it acts as a force and an intensity through a set of movements, actions, and reactions. In Deleuze's words, this framework is defined by 'a set of moving images; a collection of lines or figures of light, a series of blocs of 'space-time'' (ibid., p.63). Deleuze's qualitative differentiation is crucial here to deploy the immanent, relativistic condition of light, a condition which is subject to motion and differentiates between virtuality and actualization, foregrounding the sensuous qualities of light.

By intersecting philosophical, historical, and scientific positionings, this section has set the fundamental premises for contextualizing an ontological framework of inquiry of light, an ontology concerned with a materiality that is defined in terms of energy in relation to the space-time. In the next sections, I intend to assess these scientific and philosophical propositions in a review of major artistic contributions in the field of light-art and practices of light, in support of the ethical turn.

2.2. 'Real Light' and the Mechanization of Art

In 2006, the major exhibition *Light from Artificial Light*, 2006, curated by Peter Weibel and Gregor Jansen at the Center for Art and Media in Karlsruhe, posited a retrospective study for the use of artificial light in modern and contemporary practices in the twentieth century. In the exhibition's catalogue, the art-theorist and curator Peter Weibel reflects on how, from the late nineteenth century and the first half of the twentieth

¹⁴ For further references, please see the debate between Henri Bergson and Albert Einstein held on 6th April 1922, the Société française de philosophie in Paris. In: Herring, E., 2017. *The Physicist and the Philosopher: Einstein, Bergson and the Debate*. Annals of Science.

century, the discoveries of new apparatuses and materials (e.g. cinema, artificial light, lighting practices), have implied more utilitarian and sustainable applications of light mediums and techniques in the arts (Weibel and Jansen, 2006, p.96). Sitting within the frameworks suggested by Hans Scheugl and Ernst Schmidt on the use of experimental and innovative practices of light, Weibel explains this use of light as designating forms of applied art through the emergence of studies of light in modern physics and discusses how these have imposed a shift from canonical forms of representation to the 'presentation of a real light' (ibid.), a form of visualization concerned with the physics of light in motion. As an example, Weibel suggests that the term 'real light' applies to the work of avantgarde artists such as Viking Eggeling, whose films explore the specific relation between light, rhythm, and movement, and to the experimental practice of Walter Ruttmann which investigates the dynamics of light and optics (ibid., pp.96-99). Drawing from these observations, Weibel's addressing of the term 'real light' reflects the association between the physics of light and motion and how this relativistic bond contrasts with dominant systems of representation. In fact, 'real light' implies an approach grounded in materiality, a materiality understood in terms of energy, a force explained by means of the thermodynamics and the electromagnetic qualities of light in modern physics. In addition, 'real light', Weibel adds, shifts the interest in the object of representation as a fixed category, to value the real, concrete, and actual movement of light resulting from scientific studies and experimental manipulations which have begun to inform the methods of artistic investigation in the 1920s. In other terms, 'real light' reflects here an aesthetic category for thinking about the relationship between light, time, and motion, and the use of this term deploys a paradigmatic shift for thinking about light in artistic practices in terms of experimentation and innovation through a questioning of the apparatus and the medium of sensory perception. In fact, as Weibel reports, in parallel the postulates of Theories of Relativity and Quantum Theories, avantgarde movements and in particular those concerned with the application of modern techniques such as Constructivism, Neoplasticism, Bauhaus and Dada, explored the potentialities of luminous and kinetic qualities of light as an electro-magnetic wave through experimentations with new materials such as plexiglass and aluminium which focused on the presentation of reflective light movement and kinetic elements (ibid.).

A turning point however, occurred when artists have begun to question the role that mechanical apparatuses assume in processes of artistic development, following

an inquiry on the receptivity of light through these mediums in terms of sensory perception.¹⁵ As a major reference, the Bauhaus artist László Moholy-Nagy, in the essay “Production – Reproduction,” 1922, theorizes his aesthetic investigation of light and mechanical movement by questioning the relation that underpins the act of creative production (human) and the logic of reproduction (apparatus). Moholy-Nagy questions: ‘What is this apparatus (instrument) good for? What is the essence of its function? Are we able, and if so to what end, to extend the apparatus use so that it can serve production as well?’ (Moholy-Nagy, 1922/1985, p.289). By addressing these questions, Moholy-Nagy observes how the applications of innovative materials and technologies have challenged the logics of human construction and creation to replace them with a questioning of the apparatus and its capacity of producing (and reproducing) matter and experience.

In his essay, Moholy-Nagy further discusses how that the instrumentality of the apparatus has replaced the traditional aesthetic function of ‘taking place’ (Moholy-Nagy, 1922/1985, p.289), challenging the ways of thinking about the static form of the artistic object in support of a mechanics of actual movement. However, the mechanics of movement, Moholy-Nagy adds, should not be understood as a formal principle, but as a methodology which contrasts the static principle of classical arts to favour a dynamic-constructive-system of configuration. This operates, he states, by the principle of dynamics, the principle of the ‘universal life’ in the artist’s words (ibid.), which all impose an actual, lived, and experiential dimension of his work whilst differently from perspectival vision and representation, exploring the phenomenon of simultaneity of vision in motion in particular. Moholy-Nagy’s theory of the apparatus reflects on a mechanical use of light in terms of dynamics, setting the conditions for thinking about light not as a neutral medium of representation, but as an energy-force informing the construction and the production of an experience in time, motion, motion, matter.

The most eloquent example of Moholy-Nagy’s experimenting with light, is the kinetic sculpture *Space-Light Modulator*, (fig.1), 1930, unanimously acclaimed as one of the first example of a work of light-art (Weibel, 2006, Lauson, 2013), a work consisting of an exploration of the dynamics of light through a mechanics of movement imposed by an apparatus. In fact, *Space-Light Modulator* is characterized by the exposure of a mechanical apparatus consisting of three metal and glass structures assembled on a

¹⁵ As for the sensuous connotation given to the term ‘practice of light’ proposed by this research, it is useful here to draw a distinction between the use of the term ‘apparatus’, or the technical artefacts that contributes to the organization of experience, and the term ‘medium’ as the spatial extended environment where perception takes place (Somaini, 2016, p.7).

rotating disc and subject to movement.¹⁶ In particular, the mechanical composition of this work examines phenomena of translucency, transparency, and fretted materials through an inventory of mechanical, electric, and transparent materials put into motion by a mechanical cubic body, investigating the kinematics of light in relation to mass and solid bodies. It is evident how this work rejects formal composition to construct and experiment with the physics of light in relation to motion and vision.



Figure 1. L. Moholy-Nagy, *Space-Light Modulator*, 1930
aluminium, steel, nickel-plated brass, other metals, plastic, wood, and electric motor
Harvard Art Museums/Busch-Reisinger Museum, Gift of Sibyl Moholy-Nagy.

In parallel to an inquiry of the apparatus, Moholy-Nagy, in the essay “Light, A Medium of Plastic Expression,” 1923, addresses an inquiry into the perceptual qualities of ‘real’ light in relation to the mechanics of movement. The artist reflects on how apparatuses and lighting applications have replaced perspectival vision to deal with the expressivity and the forms of a plastic composition (Moholy-Nagy, 1923, p.283). In this sense, Moholy-Nagy suggests that the dynamics and the kinematics of light enable to experiment with forms of expressivity and plasticity, phenomena derived from processes

¹⁶ A parallel can be drawn with Einstein’s experiment on a rotating disk (1912) which lays the foundations of a critique on Euclidean geometry and abstract models of representation as it aims to provide a system of coordinates for non-rigid bodies, derived from the discovery of the speed of light as a constant. As discussed in the paper “The Speed of Light and the Statics of Gravitational Fields,” 1912, the term ‘rotation’ implies a new system of coordinates which will allow Einstein to discover the phenomena of the bending of light and gravitational forces (Einstein, 1912).

of production and reproduction of the apparatus and understood in material terms. It is here important to outline Moholy-Nagy's observations of these phenomena because they contradict representation by experimenting with the physics of light in motion in relation to matter and human perception.

In a wider context, as noted by the film and media theorist Antonio Somaini, in the essay "Walter Benjamin's Media Theory," 2016, the work of Moholy-Nagy should be positioned within the extensive debate on the mechanization in the arts. Drawing from Weibel's analysis, the questioning of the mechanization of art is seen for example, in the work of Avantgarde artists such as Viking Eggeling (1924) and Hans Richter (1921) who both dealt with the rhythm of light in abstract filmic images, Walter Ruttmann (1930) and Oskar Fischinger (1947) who focused on the dynamics of optics, Kurt Schwertfeger (1925) who investigated the rhythm of light and music, and Thomas Wilfred (1919) who introduced an investigation on light, space and projection in multidimensional forms. Not limited to these examples, Somaini suggests that along with theorization on the use of apparatus, machines, devices, and techniques of production-reproduction, is important to question apparatuses as 'mediums' because, from this viewpoint, it is possible to detect how the mechanization of art involves the mediation of substances and the reorganization of a lived sense of perception (Somaini, 2016, pp.7-8).

A major contribution on this topic is posited by the theorist Walter Benjamin who, in the essay "The Work of Art in the Age of Mechanical Reproduction," 1936, examines the impact of mechanization in artistic creation, examining how apparatuses and machineries have redefined the modes in which sense perception is organized (Benjamin, 1936/2008, p.42), imposing a qualitative transformation of both practices and experiences (ibid., p.225). Benjamin's analysis is indicative of a new aesthetics which states the decline of the traditional notion of aura and the quality of the artwork being present in time and space (ibid., p.221). The mechanization of art, Benjamin states, foregrounds material, social, and cultural questioning, because the work results as immersed within the 'fabric of tradition' (ibid., p.223), suggesting that the work of art is not a statement or a representation, but it acts as a producer for past and present exchanges. Benjamin adds, reproducibility thus, results as a constitutive aesthetic function of innovation and experimentation between arts, technology, and science (ibid., p.236) and through his questioning of the medium, he draws a trajectory for thinking about the possibilities of conceiving the work of art as a catalyst for physic, sensory, and social considerations.

The debate on the mechanization of art follows a discussion on what defines an aesthetic experience. According to the philosopher Theodor Adorno who, in a letter to Walter Benjamin (1938) anticipates his *Aesthetic Theory*, 1970,

I would not want to claim the autonomy of the Work of art as a prerogative, and I agree with you that the aural element of the work of art is declining – not only because of its technical reproducibility, incidentally, but above all because of the fulfilment of its own ‘autonomous’ formal law’. (Adorno, 1938/1994, p.133)

According to Adorno, the mechanization of arts coincides with a redefinition of the aural (ontological stance), formal (technical reproducibility) and normative (non-metaphysical) functions of art. Adorno introduces the aesthetic category of ‘autonomy’¹⁷ in contrast with the category of authenticity in metaphysical aesthetics, suggesting that the work of art is defined by its own essence which makes it ‘close to the state of freedom, of something that can be consciously produced and made’ (Adorno, 1938/1994, p.132). In other terms, by questioning the dichotomy between autonomy and authenticity, Adorno contributes to an aesthetic investigation of work of art which values the inherent qualities and the functions of the work itself - matter, processes of fabrication, production, and reproduction, the gathering of relations - over the domain of representation. Next, I shall draw from these questionings between autonomy and authenticity, offering an insight into the constitutive functions of practices of light.

¹⁷ Adorno’s notion of ‘autonomy’ marks here a transition from aesthetic (critical judgment) to ethics (agential practices and norms), suggesting that the mechanical work of art cannot be categorizable in formalist terms, but this requires an understanding of practices and procedures. For the purpose of this thesis, I suggest a parallel with affect theories which similarly question the autonomy of art in relation to bodies, experience, and contexts. According to the postmodern philosopher Brian Massumi: ‘Affect is autonomous to the degree to which it escapes confinement in the particular body whose vitality, or potential for interaction, it is’ (Massumi, 1995, p.96). In a similar view, Nigel Thrift, discusses the notion of ‘certain degree of autonomy’ with references to auto-poietic systems, referring to the possibilities of enacting, performing, and contributing to the formation of knowledge not as an ethical and moral choice (Thrift, 2004, p.229). Drawing from this lineage on the notion of ‘autonomy’, this research posits the conditions for an ethics of light as a normative practice.

2.3. Antecedents of Light-Art

In 1966, the exhibition *Kunst Licht Kunst* held at the Stedelijk Van Abbemuseum in Eindhoven in 1966, curated by the art historians and theorists Frank Popper and Stephan von Wiese, considered the emerging genre of lumino-kinetic art, and gathered together the most significant contributions of Neo-Avantgarde movements such as Group Zero, Gruppo T and GRAV, as they developed from the mid-1950s. Through the implementation of diverse technical and material innovations that integrated the use of light bulbs, neon, laser beams, fluorescent lamps, electroluminescent strings, and plates, among others (Weibel, 2006, p.129), the artists contributing at *Kunst Licht Kunst*, focused on an investigation of the physical and psychic qualities of light which further impose considerations on kinetic movements and optical and sensory perceptions as spatial and concrete phenomena.

According to the art historian and theorist Frank Popper, the most significant contribution addressed by the genre of lumino-kinetic art is the quality of expressivity of light. In his words, the artists presented at *Kunst Licht Kunst* posited an approach to 'light as a means of expression' through a variety of lighting sources and mediums as channels of communication (Popper, 1966, p.3). Expressivity, Popper suggests, is not only an aesthetic quality but it regards light's power of information, the quality of acting as a conductor to convey forms without contents, a quality derived from a synthetic approach to light perceived physically. This quality, Popper adds, emerges particularly from the artists' interest in the physics of light through the forms of plastic art and illusionistic effects. Three lighting practices in particular, Popper adds, make explicit the quality of expressivity of light, namely stage lighting, colour organs (and similar instruments based on some sort of correspondence between the visual and auditory experience) and cinematic projection (ibid., 5) because whilst suggesting a synthetic approach, these works foreground the quality of the luminescence of light through spatial strategies seen in the format of staging, experimentation, and projection. Ultimately, Popper adds, lumino-kinetic art contributed to extend the possibilities of configuring an experiential dimension of light in relation to the viewer and the environment.

Popper also posited the fundamentals of lumino-kinetic art in the essay "Movement & light in today's art," 1963, where he discusses how this genre focuses on an investigation of light, time, and actual movement, in analogy with modern physics' discoveries and innovative applications of technologies. Drawing from a questioning of

light, time, and movement, Popper identifies three major trends of this genre: one interested in investigations into the mechanistic movement of light and characterized by the use of ready-made objects, optical instruments, and mobile and sonorous elements as found in the work of Jean Tinguely; a second movement exploring the motion of light as a natural wave and experimenting with materials such as transparent and plastic surfaces as in the work of Victor Vasalery; a third trend investigating the synthetic rhythm and the dynamics of light through the implementation of metallic materials moving through air as mobile forms, such as for the work of artist Julio Le Parc. Popper's account posits the conditions for thinking about the dynamics of light in relation to time and motion, questioning sensory perception as a synthetic and physical phenomenon and all these features contribute here to extend the boundaries for understanding the practices of light. Differently from the logic of production and reproduction and the representation of light as a medium of expression of the work of the Avantgarde artist Moholy-Nagy, Popper posits an understanding of lumino-kinetic art as the genre that focuses on the investigation of the physics of light, the dynamics of motion, organic flows and movement that suggest a questioning of the viewer's engagement with light and artworks. In other terms, lumino-kinetic art contributed to extend with the possibility that light has in affecting psychic and organic flows in order to make the viewer move and interact responsibly with the work of art. On his commentary of the exhibition *Kunst Licht Kunst*, the curator Stephan von Wiese, states: '[t]he artists who are nowadays occupied with the problem of light, often no longer want to reproduce it, no they want to fabricate it, concretely' (cited in Weibel, 2006, p.451). His argument adds to an inquiry into lumino-kinetic art, suggesting that this practice has evolved from the method of mechanization to focus on the tools of fabrication of lighting materials and configurations in relation to an inquiry of concrete movement. In von Wiese's words, light is a structural and veritable practice (ibid.), another connotation given to the term 'real-light', I suggest, but rather than expressive and experimental, it designates a synthetic investigation of light grounded in structure, matter, and physic and psychic movement.

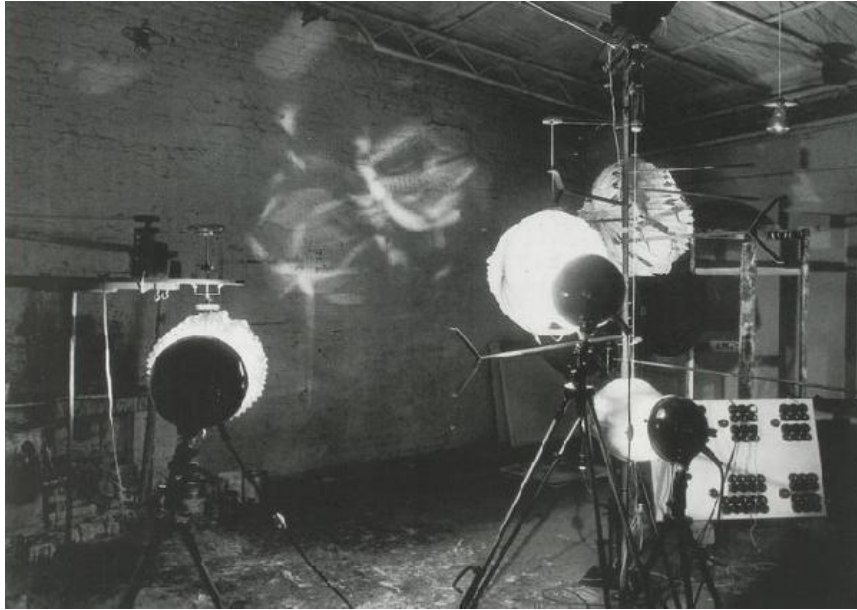


Figure 2. Otto Piene, *Mechanisches Lichtballet*, 1961
 revolving lamps, grids, globes, and discs operating by electric light
 installation view at Kunst Licht Kunst, Stedelijk Van Abbemuseum, Eindhoven, 1966.

A significant example of this genre is the work *Mechanisches Lichtballet* (*Light Ballet*), 1961 (fig.2) by artist Otto Piene, founder of the Neo-Avantgarde group Zero Group, a work presented at *Kunst Licht Kunst*, and characterized by dynamic motion and pure colour as part of the artist's investigation of kinetic light and graphic experiments. Piene's installation draws on experimentations with grid, smoke, and fire pictures and uses a staging format to display a mechanized light-machine, activated by lighting perforated spheres of anodized aluminium which choreographically responds to the viewer's presence in space. In material terms, the artist defines light as an organic flow, a substance in motion which paints luminescent signs in space-time to configure a system of free associations. However, when discussing the role of the artist, Piene states: 'It [is] not me who paints, it's the light' (Piene, 1961, p.37). This positioning, I argue, is relevant for an understanding of light as a fabricated material, an invention which is structured from the interplay between the grid, the fixture, and the mechanical tension of a machine, affecting the concrete movement of the viewer in the staging of this work. The artist's positioning consists thus, in structuring the conditions for light to express synthetically and concretely not only in space and time, but particularly in relation to specific environments and situations.



Figure 3. Gianni Colombo, *Strutturazione Cinevisuale Abitabile (Habitable Kine-Visual Structure)*, 1964, wood, metal, paint, lamps, electromechanical animation
Archivio Gianni Colombo, Milan.

Another significant work presented in this exhibition is *Strutturazione Cinevisuale Abitabile (Habitable Kine-Visual Structuralization)*, 1964 (fig.3), by artist, Gianni Colombo, exponent of the Neo-Avantgarde Group T, and presented as part of his investigations in the series *Ambienti (Ambients)* or installation environments. As an 'ambient', the installation explores the possibilities of experiencing the multi-dimensions of space physically. In this work, Colombo deals with light as a dynamic, elastic force designating a grid which expands and modulates in space as a habitable environment (cited in Weibel and Jansens, 2006, p.458). Through an experimental practice derived from the combinatory use of lighting materials, spatial, structural arrangement, and kinetic elements, Colombo configures a *sensorium* which is structured around a triangular figure and is fabricated with steel and wooden frames. This composition illuminates through a system of mechanical and electric lights which are casted through acrylic glass, strips, and incandescent bulbs, to draw luminous, almost illusionist lines of light in space which all challenge the perception of space into an immersive ambient. In so doing, Colombo explores the kinetic movement of both elastic forces and fleshes, configuring a kinesthetic experience that is synthetic and physic as well as spatial and concrete.



Figure 4. GRAV, *Labyrinthe III*, 1968,
Biennale de Paris
aluminium, plexiglass, mirror, light
Garcia-Rossi, Le Parc, Morellet, Sobrino, Stein, Yvaral – GRAV, Paris.

For the exhibition *Kunst Licht Kunst* at the Stedelijk Van Abbemuseum, the artistic group GRAV, Research Group of Visual Artists, addressed an investigation that opened up the possibility of extending with the constructive function of light, kinetic movement, and the viewer's participation in space. Drawing on a labyrinth format presented for the Biennale section *Travaux d'équipe/Team Works*, in Paris 1963, at *Kunst Licht Kunst*, GRAV introduced the ambient *Labyrinthe III*, 1963, (fig.4), an installation consisting of a circuit of lighting dispositives such as photographic, neon, flashing, transparent kaleidoscopic, illuminated, and reflective materials, designed and displayed along seven successive cells traversed by the viewers in a gallery's environment. Through this articulated, differentiated, and kinetic composition, the artists' collective proposes an experimental approach to light with the aim of soliciting perceptive, physical, and participatory stimulations to the viewer (Hohlfeldt, 2013).

As noted by the art historian Marion Hohlfeldt, in the essay "The Collective Oeuvre of the GRAV: the Labyrinth and Audience Participation," 2013, GRAV's contribution consists in rethinking the canons of traditional visual aesthetics in terms of action and this challenges the aesthetic experience of their work into a form of voluntary active participation, resulting in processes of transformation and interaction. (GRAV, cited in Hohlfeldt, 2013, p.2). In particular, in *Labyrynth III*, as Popper observes in his commentary of *Kunst Licht Kunst* exhibition, the creator is a pretext to provoke the

movement and activity of the viewer, a movement that rather than perception is aimed to solicit physical awareness (Popper cited in Hohlfeldt, 2013, pp.2-3). Popper's account offers an understanding of how GRAV's contribution consists in the experimenting with light as a unifying and interconnected agent of composition which ultimately affects psychic and bodily's responses. In a wider perspective, GRAV experiment with the possibilities of extending the field of action of light over formalist aesthetics through the structured articulation of a kinetic movement which deconstructs the physical distance between the work and the viewer to situate a continuous, interactive experience where the viewer is not seen as a passive spectator, but becomes the creator of an action. This feature sets the basis for thinking about the two poles that constitutes the experiential dimension of light as the relationship between practice and agency.

Drawing from a review of Piene's, Colombo's, and GRAV's luminokinetic arts, we must recognize their important contribution to an investigation of the synthetic and physical qualities of 'real light' resulting as procedures of fabrication and experimentation. From a critical viewpoint, their practices extend with the possibilities of constructing an experience by substituting the formalist notion of space with a complex perceptual environment that involves a questioning of the relationship between the work of art, the viewer's experience, and contexts of emplacement. By rejecting the definition the aesthetic category of the artistic object as fixed in favour of a fabricated and structured apparatus which solicits action in the experiential space of their works, lumino- kinetic practices posit an understanding of the work of art as a catalyst for relations and agency. In *Aesthetic Theory*, 1970, the philosopher Theodor Adorno argues that the modern work of art should aim to constitute a 'force-field' (*Kraftfeld*) both in reason of its structural and spatial relations and of a topology supporting the articulation of multiple relations in a state of dynamic motion and metamorphosis, functioning as a dispositive between inner and external nature or knowledge and society (Adorno, 1970/2004, p.301).¹⁸ In contrast with the attitude of objectivity pursued by formalist aesthetics, luminokinetic art contributes to opens up the spectrum of spatial, perceptual, and agential possibilities of art works, suggesting that experience is an artistic territory imbued with contextual, ethical, and political factors.

¹⁸ On the notion of 'force-field', it is useful to draw on the metaphorical meaning attributed to this notion by the intellectual historian, Martin Jay who draws from Adorno's aesthetics to posit an inquiry into the social aspects of such a trope in cultural analysis and politics (1993). Drawing from this understanding, this research begins to posit an ethical question concerning the experiential, social, and cultural aspects of practices of light.

2.4. Minimalism and Phenomenological Approaches

In the 1960s in the American context, the legacy of Constructivism and the Bauhaus informed the rethinking of the language of geometric abstraction with particular interest in spatial and plastic investigations. Within this context, in the words of the art historian and art critic Nan Rosenthal (Rosenthal, 1967, p.24), light has begun to be employed as 'a new medium of expression', a medium that reinvents the forms of artistic composition, in particular by questioning the qualities of 'light giving' and 'light receiving' in sculpture. If, on the one hand, as noted by Weibel in his inquiry, this was possible because of the implementation of innovative materials such as glass, metal and plastic, and fluorescent lights and bands (Weibel, 2006, p.25), all concerned with the qualities of transparency, diffusion, and plasticity of light seen in time, on the other hand, artists recognized the potential of such a medium of expression in relation to perceptual and plastic composition. From these contextual and stylistic considerations, Rosenthal posits the fundamental premises for the legacy of light-art as an artistic genre.



Figure 5. Dan Flavin, *Greens Crossing Greens (to Piet Mondrian who lacked green)*, 1966
Green fluorescent light
installation view, Solomon R. Guggenheim Museum, New York Panza Collection, 1991.

Before I dwell on these compositional features, it is important to remark that the quality of expressivity provides evidence for a materially constituted approach to light, a materiality informed by the use of electric and technological mediums. According to Rosenthal's syllabus, plugged-in painting, light-receiving and light-giving sculpture, theatrical staging, performance, and environments are some of the most evident examples of this 'new' light-art composition. According to Rosenthal: '[o]ne explanation

of why recently many artists have been drawn to using light as a medium is that, as a form of energy, light has more direct impact on the viewer's senses than traditional media' (Rosenthal, 1967, p.25). With this sentence, Rosenthal posits a fundamental proposition for thinking about light in terms of energy, questioning the direct relationship between the medium, materiality, and perception in ways that connote artistic composition with phenomenological and experiential functions.

As Rosenthal suggests, the work of artist Dan Flavin, is emblematic for the positioning of the genre of light-art. As testified by the installation *Greens Crossing Greens (to Piet Mondrian who lacked green)*, 1966 (fig.5), presented at *Kunst Licht Kunst* at the Stedelijk Van Abbemuseum in Eindhoven in 1966, his work embodies the language of Constructivism and Bauhaus and further reflects on the constructive dimension of these practices through a Minimalist use of light. With the term 'minimalism' in fact, I particularly refer to Flavin's method of investigation which consists in a reduction of representational elements derived from a grammar of geometrical modules of composition, further constructed by means of a spatial, sculptural, and plastic forms (Flavin cited in Gibson, 1987, p.105). The Minimalist imprint of Flavin's practice lies in a method of composition consisting of a process of drawing and diagramming of geometrical structures to identify a process of constructing space through sculpture.

Within these frames and processes, Flavin deploys light in a 'situation', in a space wherein the beholder participates in a process of 'getting-in and getting-out' (ibid.) of light in the sculpting space both physically and conceptually. This allows the artist to state that light in his work, is a 'matter of fact', a concrete experience resulting from rethinking sculpture through spatial practices. In terms of the material used, his early works make use of fluorescent diffused light from 1963, such as for the installation *Untitled (to the innovator of Wheeling Peachblow)*, 1968, figuring a geometry of white, pink, and yellow tubes which are assembled and displayed in a corner area of the Modern Art Museum in New York. In the same year, for the work *the diagonal of May 25 (to Constantin Brancusi)*, 1963, Flavin also begins to experiment with neon light by integrating such a non-conventional, yet industrial material, into the artistic experience, suggesting in the artist's words, a dynamic and dramatic implant into sculpture (ibid.). In so doing, the artist formulates his own minimalist cipher consisting of 'light-fixtures', addressing a plastic revolution whereby light is both a physical object and an object of perception.

I argue that Flavin's contribution lies in a phenomenology of light focused on perceptual and plastic phenomena. When describing his approach to light, Flavin states: 'I knew that the actual space of a room could be broken down and played with by planting illusions of real light (electric light) at crucial junctures in the room's composition' (Flavin cited in Weiss and Ferb, 2006, p.126). In fact, as testified by the installation *Greens Crossing Greens (to Piet Mondrian who lacked green)*, 1966, Flavin uses light to address different scales and dimensions to the canons of traditional sculptural composition in ways that challenge the viewer's perception of light and space. In this sense, differently from the other artists cited in this contextual review, his work does not focus on movement, but it builds on the relationship between light, space, and sculpture, to situate an experience as the object of a phenomenological perception.

This last observation suggests here a questioning of the phenomenology and the perception of light. This proposition can be explained through the inquiry into phenomenology posited by the philosopher Maurice Merleau-Ponty in *Phenomenology of Perception*, 1945, where the author particularly addresses the notion of 'objectified perception'. In his discussion on how consciousness operates, Maurice Merleau-Ponty states 'the whole life of consciousness is characterized by the tendency to posit objects, since it is consciousness, that is to say self-knowledge, only insofar as it takes hold of itself and draws itself together in an identifiable object' (Merleau-Ponty, 1945/1990, p.82). In other terms, Merleau-Ponty discusses how consciousness is never an autoreferential process, but it processes by means of positioning and extensivity, pointing to an object and thus, informing the projection of an objective thought. Further, Merleau-Ponty asserts that this projective act designates a 'phenomenal field', a perceptual connotation given to space which differs from the formalist, abstract tradition, and values instead a sense experience, an experience which is organized not only by the faculty of vision, but by a projection of vision in space and time in ways that affect the human body. On the perception of the phenomenal field, Merleau-Ponty observes 'I regard my body, which is my point of view upon the world, as one of the objects of that world' (ibid., p.81) and through this statement, the philosopher reconciles the classical dualism between body and mind through a phenomenology of perception. Opposed to the unity of intelligible experience, traditionally regulated by the sovereignty of rational thinking and vision, Merleau-Ponty contends that the relation between subjects and objects is not explained through rational faculties, but it must involve a phenomenological and perceptual process, understood as a 'manifold creation' in relation to space, objects, and the body

(ibid., p.82). These considerations allow thus, Merleau-Ponty to define 'objectified perception' as a process derived from the functions of a mechanistic, bodily, and physiology in relation to its dynamic, spatial, and extensive qualities. His method of analysis is useful in this context, for an understanding of Flavin's contribution to a phenomenology of light that engages the beholder in a conscious, sensory, and bodily experience of light, addressing spatial and plastic contributions to practices of light within the context of Minimalist sculpture.

From the viewpoint of art criticism, the art critic Michael Fried, in *Art and Objecthood*, 1968, in his critique of Minimalist practices in comparison to the techniques of representation in traditional painting, focuses on a discussion on the ways in which Minimalism contributed to establish an immediate relation between the work and the beholder and the artwork (Fried, 1968/1998, p.149). Drawing attention to singular units of composition and the ways they affect experience, Fried supports an understanding of the phenomenology of these practices, suggesting that Minimalist sculpture designates a specific object which is perceived as an objectified phenomenon. Introducing the parameters of theatricality, shape, presence, and beholder, Fried theorizes the emergence of a mode of artistic composition that lies in 'objectified perception' (ibid., p.159), a way for thinking sculpture in terms of perception and plastic composition.

However, retrospectively in this context, it could be observed that the limit of phenomenological approaches of these practices is embedded within their own artistic process whereby the framing of experience is confined to a situation that rests on the beholder–artwork dualism. This is noted by the art critic Hal Foster when, in *The Return of the Real*, 1996, he states that 'Minimalism missed the opportunity of critically examining the relationship between 'subject–object' (Foster, 1996, p.44) and his proposition contributes here to deconstruct the dualism 'subject–object' as divide by addressing a questioning of perception and subject's self-positioning. This research discusses how the Minimalist work of Flavin contributed to an investigation of the phenomenology of light, positing a grammar of composition that is founded in spatial and sculptural practices and informing a situated embodied and plastic perception of light.

2.5. Conceptual Art and Linguistic Operations

In the late 1960s, in parallel to Minimalism, a significant number of artists have begun to integrate neon light to address Conceptual operations in their practices. Whilst the invention this electric light source was traditionally employed in urban environments, artists such as Michael Craig Martin, Michael Broodthaers, and those affiliated with the movement Art&Language among others, posited significant contributions by rethinking neon as an artistic medium as a signifying conduit for conceptual message through forms of visualization in space.



Figure 6. Joseph Kosuth, *Self-described Twice (Cobalt Blue)*, 1966
cobalt blue neon, transforms
installation view, Galerie Philomene Magors, Berlin.

According to the art critics and curators Lucy Lippard and John Chandler, as they note in the article “The Dematerialisation of Art,” 1968, this conceptual operation applied to the use of neon light, designates a post-aesthetic strategy focused on the ‘art as idea and art as action’ (Lippard and Chandler, 1968/1971, p.257). Lippard and Chandler discuss how these artists’ practices deal with statements and thoughts over the domain of aesthetics and especially the preoccupation for the specific art object to make use of components such as light, sound, and performance as forms of a highly conceptual art.

The artist Joseph Kosuth centered his artistic investigation on the use of neon to explore the conscious perception of light and colour. As a material constituted by the diffusion of electric light in a circuit, neon light is used in conceptual art as a carrier of information for drawing a system of linguistic operations. Through his use of neon light, Kosuth conceives a work of art as a closed system of word, sign, and ideas, and this

implies a visual and spatial perception of light in a way that becomes a conceptual operation. In his essay *"Art After Philosophy,"* 1969, Kosuth addresses his theorizing of his use of light and describes the function of his art in terms of an analytical proposition which contrasts the 'matter of fact' of Minimalism's statement. Kosuth states: '[a] work of art is a tautology in that it is a presentation of the artist's intention'; that is, Kosuth states, 'that particular work of art is art, which means, is a definition of art' (Kosuth, 1969/1991, p.40). The artist contends that the role of the artist is not dependent on the physical properties of things, rather on a linguistic and conceptual operation that supports a self-description.

Kosuth uses neon light to configure a conceptual operation that is visualized and objectified as a statement or a visual metaphor of language. His use of neon is a spatial metaphor for reflecting the idea of the artist in a closed system in a way that becomes a process of self-identity such as a tautology. As evinced for the work *Self-described Twice (Cobalt Blue)*, 1966 (fig.6), the artist employs neon to visualize the polarities between the signified and the signifier, activating a conceptually self-referential system of signification which considers the relation between light and colour according to the form of a meaningful sensation as a Gestalt.¹⁹ Kosuth's shifting towards the conceptual aspects of light in art is relevant to an extensive inquiry about light and language and the modes in which meaning is constructed in ways that relate to the development of structuralism and pragmatism in philosophy in the twentieth century (Levi-Strauss, 1958; Searle, 1969). The artist's use of a system of visual and verbal codes within the closed signifying system of neon practices, can be explained through the notion of 'indexicality', a term formulated by the philosopher and semiotician, Charles Sanders Peirce in "Lectures on Pragmatism," 1903, according to which the index is: 'a real thing or fact which a sign of its object' (Pierce cited in Atkin, 2005, p.165). The index designates the semiotic function of a sign pointing to an object wherein the sign is never arbitrary but an actual designation and Kosuth's use of neon relates to this concept because by conceiving light as an index of linguistic operations, he establishes an analogy between light and language as a possibility for conceptual operations.

However, it is important to remark that Kosuth's conceptual operation is carried out using neon, a material consisting of rarefied neon gas conducted through an electrified tube, and this choice suggests further implications regarding a politics of light

¹⁹ The phenomenon of *Gestalt* is a form of perception in which the whole image/form precedes the singular components, determining the modes in which objects are perceived (Arnheim, 1954).

as a means of information. According to the media theorist Marshall McLuhan, as he posits in *Understanding Media: The Extension of Man*, 1964, the advent of electric light has radically challenged the ways of understanding both the medium and the content of a message as divides because the function of velocity establishes an identification by eliminating space and time as perceptual categories and thus, translating human experience in pure information (McLuhan, 1964/1998, pp. 10-12). For McLuhan is undoubtful that new media take control over human perception, imposing a questioning of human consciousness. According to McLuhan,

In this electric age we see ourselves being translated more and more into the form of information, moving toward the technological extension of consciousness. That is what is meant when we say that we daily know more and more about man. We mean that we can translate more and more of ourselves into other forms of expression that exceed ourselves (McLuhan, 1964/1998, p.69)

In this electric age, the gradual implementation of new media, McLuhan adds, has a significant impact on the ways of rethinking the domain of verbal language, because rather than affecting the symbolic and metaphoric registers, new media suggest forms of communication that act interdependently between the sender, the receiver, and the message as a mean of transportation, translation, and transformation of contents (ibid., pp.102-103). These contents, McLuhan adds, contrasts with the classical assumption that language is the dominant technology for humans, to recall for an extension of consciousness, implying that, 'the use of any kind of medium or extension of man alters the patterns of interdependence among people, as it alters the ratios among our senses' (pp. 102-103). McLuhan adds, such a state of collective awareness can describe a preverbal condition expressing in terms of simultaneity, pattern recognition, and visual spatialization (ibid.). In other terms, by addressing a politics of new media in the electric age, McLuhan posits the fundamentals for thinking about practices of light as carriers of information, deconstructing the domain of linguistics to implement possibilities for thinking visual statements without contents. This understanding contributes to a reading of Kosuth's practice as a linguistic and visual conceptual operation. In a wider view, by drawing from an analysis of the critical categories of dematerialization, indexicality, and a politics of new media, this research begins to critically question the metaphorical association between light and language in classical metaphysics, to address an inquiry into consciousness, semiotics, and perception.

2.6. The Politics of Light and Technology

In the late 1960s, the Art & Technology programme initiated by the LACMA Museum, Los Angeles, 1967–1971, established an alliance between art and technology and included experimentations in the field of light-art. This coincided with the emergence in California of the artistic movement Light&Space (1971–1976)²⁰ which focused on investigations in light, space, and phenomenology of perception through a reformulation of Minimalist practices as seen in the work of artists Larry Bell, Robert Irwin, Craig Kauffman, and Peter Alexander, among most significant contributions for the introductory exhibition *Transparency, Reflection, Light, Space: Four Artists*, at UCLA Gallery, Los Angeles, in 1971 (Wright, Alexander, Bell, Irwin, Kauffman. 1971).

In this context, artist James Turrell developed a form of light-art which reclaims a sensuous experience through the implementation of sophisticated technologies into his research of spatial and architectural practices. With the term sophisticated technology, I refer to a use of technology that does not expose the apparatus but is integrated within the formal expedients of artistic composition and practices, thus resulting as a form of post-media art that emphasizes the experiential and sensuous dimension of artworks as I shall discuss in this section. From the early series *Shallow Space Constructions*, 1974, Turrell theorizes the notion of ‘sensing space’, a practice describing the encountering of two perceptual dimensions wherein a light diffused from the background of the pictorial field modifies the customary perception of physical space (Turrell cited in Adcock, 1990, pp.145–146). In the light-painting *Sensing Thought*, 2005 (fig.7), Turrell elaborates on the responsive capacity of light to react to spatial arrangements and the use of projection, computerized neon settings and LEDs. In this case, Turrell uses the strategy of ‘aperture’ to visualize the sensuous qualities of light which emanate from the plexiglass surface of a painting to pervade the atmosphere of the gallery and thus, generating a virtual and immersive experience.

Commenting on his practice, Turrell states: ‘[m]y work is about space and the light that inhabits it. It is about you confronting that space and plumbing into it... Objectivity is gained by being removed...This seeing, this plumbing, imbues space with consciousness’ (Turrell, 1987, n.p.). With this work, Turrell investigates light as a sensuous practice and a sensuous experience that challenge the ways of thinking about

²⁰ For a comprehensive review of the movement Light and Space, please consider: Butterfield, J., 1993. *The Art of Light and Space*, Abeville, Abeville Press.

Euclidean geometry, through the possibilities of assembling spatial and sensory practices as autonomous or integrated devices within the structures of the existing architecture.



Figure 7. J. Turrell, *Sensing Thought*, 2005
wood, plexiglass, computerized neon settings
installation view Pace Gallery, London, 2014.

Turrell claims that his work deals with the ‘thingness’ of light (Turrell, 2002, n.p.), configuring ‘an experience of worldless thought’ (Turrell, 1985, n.p.). With this statement, Turrell addresses an approach to light which is characterized by a light-based technology where light is no longer vicarious to the representation but is a thingness as it exists as being figured by technology. Light, in Turrell’s work, is the sensuous material which reveals its own essence through a politics of technology. Turrell’s understanding of a ‘thingness of light’ is a mode of dealing with this subject which regards its structural and technological aspects, and this is here at the basis of an ontological framework which aims to reground light in relation to experience and materiality. Turrell posits an epistemological model for ways of thinking about light through practices and this finds a correspondence in the philosophical account that Martin Heidegger addresses in the notions of ‘Being and Technology’. In the lecture “The Thing,” 1962, Heidegger posits an episteme which is defined not by mental constructs but by the act of being and standing for within experience (Heidegger, 1962/1971, p.165). Beyond the realm of metaphysics,

representation, appearances, objects and phenomena, Heidegger asserts that the notion of 'thingness' presupposes the gathering together of a system of events and relations underpinning the horizon of experience and 'the mirror-play of the world' (ibid., p.178). Reading Heidegger's arguments on the thingness of beings is useful in this context, to Turrell's investigation of the sensuous qualities of light which leads to his politics of light and technology.

By addressing an investigation of the sensuous qualities of light and the principle of the 'thingness of light,' Turrell deploys an understanding of light-art that relates to the notion of post-media practices. The category of post-media, according to the philosopher Felix Guattari, as discussed in the essay "Entering the Post-media Era," 1996, reflects the use of new media, electronics, and computation to configure 'actual and virtual projectuality' (Guattari, 1996/2009, p.305) and in this review, this notion is useful to reflect the exhaustion of the terms 'artistic object' and the 'medium' which connotated the term 'light-art' because founded in dichotomies and divides. This critique opens up to a questioning of practices and the experiential dimension of artworks and building on role of light and technology, this research here posits the argument that a second trend of light-art has emerged in the 1990s, a trend concerned with an understanding of practices, experiences, and an affective and sensuous approach to light.

2.7. Conclusions

This review posits the fundamentals of a non-representational approach to light through the aesthetics of innovation and experimentation. The work of the artists examined in this research, is informed by a scientific method of investigation that relates to modern photology and is concerned with the representation of real light, understood as energy in motion in relation to the model of the space-time continuum (Einstein, 1905; Bohr, 1926). This coincides with the critique of representation of light addressed by poststructuralist and postmodern thinkers in the 1960s (Derrida, 1967; Foucault, 1967; Deleuze, 1968) in parallel to the critical accounts that art critics have posed in a discourse on light-art (Popper, 1963; Rosenthal, 1967; Burnham, 1968; Fried, 1968; Lippard, 1973; Somaini, 2016).

This research has assessed these propositions in a historical and critical review of the genre of light-art through an analysis of the work of artists Moholo-Nagy, Otto Piene, Gianni Colombo, GRAV, Dan Flavin, Joseph Kosuth and James Turrell whose works relate to light-art and related practices such as Lumino-kinetic art, Minimalism, Conceptual Art, and the Light&Space movement. This has enabled an examination of the role that apparatuses, medium, fabricated structures, artificial light, and sophisticated technologies have had in determining new fields of investigation such as for the interplay of production and reproduction, fabrication and force-field, objectified perception and the concrete, information and technology. These works have also been important for an understanding of a material approach to light that I have discussed through the physical, expressive, plastic, lumino-kinetic, phenomenological, conceptual, and sensuous qualities of light. Similarly, the work of these artists opens to an experiential dimension that I have examined through an analysis of the structural, force, phenomenological, visual and sensuous space of light. Drawing from these findings, this research supports the understanding of a new trajectory of investigation which is concerned with the relationship between practices of light and experience, suggesting the emergence of new levels of engagement with light in terms of emotions and sensations which I intend to frame by deploying a feminist argument merging into the proposition of an ethics of light.

Chapter 3: Practices of Light as a Question of Values and Norms

This chapter addresses an historical overview of feminist ethics with the aim of justifying the theoretical grounding of this research in relation to an examination of a selected choice of practices of light. It intends to demonstrate that ethics provides a critical and constructive method of analysis which regards the subject of light in visual arts. With the attempt of drawing a new frontier of artistic investigation, this chapter proposes a model that recounts for the emergence of a new sensibility of light, suggesting a questioning of values and norms. However, before I discuss the ethical tenets of this study, I address some essential considerations for the practices of light which will be examined in the analysis pursued in Chapters 4, 5, and 6 of this thesis.

This research focuses on an analysis of works produced and presented between 1996-2016 and I propose that this designates a useful timeframe for thinking about the affective turn that occurred in practices of light for the following reasons.

Firstly, this timeframe sits with the artistic, critical, and cultural debate which emerged in the late 1990s and aimed at extending the legacy of light-art through a questioning of the relationship between practices and experiences. In fact, in contrast with the category of the specific art object assumed by the category 'light-art' in 1960s, a number of retrospective and thematic exhibitions (*Light From Artificial Light*, curated by Peter Weibel and Gregor Jansens, 2006, at ZKM Karlsruhe, *ILLUMInations*, curated by Bice Curiger, 54th Venice Biennale, 2011, *Light Show*, curated by Cliff Lauson, Hayward Gallery, London, 2013) repositioned a discourse on light in these decades by examining the impact that artificial light, new media, and digital technologies have had in redefining the role of light in terms of events, experiences, and forms of engagement. This was supported by critical studies that similarly addressed a questioning of the perceptual (Vasseleu, 1998), performative (Bolt, 2000), and political (Bal, 2007) connotations of light in visual culture.

In defense of the term 'practice of light', this timeframe 1996-2016 also sits within the wider debate on post-media aesthetics (Guattari, 1998; Krauss, 1999; Manovic, 2000; Weibel, 2006), immaterialism and new media art (Flusser, 1987) digital practices (Cubitt, Palmer, Tkackz, 2015) which all posit an important transition for rethinking the function of the artistic object through the functions of technologies, structures, configurations,

practices, and procedures with regard to the virtual and to specific contexts of emplacement. In addition, it is important to remark that this transition also has informed practices that draw from the alliance between arts and techno-sciences (Weibel, 2006; Latour, 2005) in a posthuman perspective (Wolfe, 2010; Aloï and Mc Hugh, 2021). This turning point, I suggest, made essential the addressing of a practice of light in terms of experimentation and innovation.

Thirdly, the 1996-2016 timeframe corresponds to the periodization of an artistic and cultural debate concerning the sensuous experience of light. Whilst the artists here considered show an aesthetic preoccupation for rethinking a *sensorium* of light, I suggest their contributions coincide with the debate on affect theories which emerged in this context by addressing significant contribution regarding the intentional and cognitive (Altieri, 2003) spatial and political connotation (Thrift, 2004), the dynamic and intensive (Massumi, 1995), non-representational (O' Sullivan, 2001), technological and materially informed (Clough, 2007) functions of affect. This area of investigation is crucial to this study because it justifies the interest in investigating the bond between events and experiences in arts to value the emotional and empathetic qualities of light as a sensuous material.

Stylistically, all these features challenge the aesthetic function of the work of art to favour an understanding of practices in relation to artistic experiences. In the words of theorist and art critic, Sandra Pinardi, when elaborating on the state of contemporary art in the essay "Contemporary Art: an Offering to the World," 2019, artistic practices make explicit how beyond the traditional category of artistic object is an event inherently intertwined with the fabric of material production, implying that the function of an artwork is connotated with critical, constructive, technological, experiential, social, political, and cultural factors, thus determining specific situations, discourses, and contexts (Pinardi, 2019). In my analysis, Pinardi's observations are important because they provide critical and constructive frameworks of analysis for a questioning of the relationship between practices of light and ethics which I intend to demonstrate in the next sections.

Some further considerations are also necessary to explain the feminist positioning of this research regarding the choice of practices of light considered. In fact, I argue that the timeframe 1996-2016 also highlights a symptomatic, yet essential transformation that occurred in women's practices with regard to the use of light in visual arts.

To be precise, the attempt of claiming a feminist approach to light was implicit both in artistic practices and feminist schools of thought from the 1960s as testified by feminist accounts on the quality of ephemerality in the late '60s. According to the feminist artist, Mary Kelly, whose practice will be examined in Section 4.1., 'ephemerality' is a purposely sought phenomenon, mostly evident in her use of diffused and projected light, and whose contribution consists in actualizing effects of light in elusive manners, suggesting the fragmentation of the visual field and the inclusion of a temporal sequence in her practice (Kelly cited in Iversen, 1997, p. 36). In other words, for Kelly, ephemerality is a feminist non-representational, affective, and immaterial strategy which is seen in response to the tradition of ocularcentrism and the metaphysical meaning of light. In a similar position, feminist theorist and linguist, Julia Kristeva states that ephemerality reflects a quintessential characteristic of female ontology by designating a specific female condition, or a differential between the states of existence and transience (Kristeva, 2005) and her definition is reflected in an understanding of light in terms of difference and semiotics from a poststructuralist viewpoint. In the art critical discourse, art historian and art critic, Nan Rosenthal similarly defines ephemerality as a stylistic phenomenon derived from investigations of light and technology as established by artists in the late '60 and this quality, contrasts with the category of artistic object, with the articulation of light serving as an example for both conceptual and ephemeral art (Rosenthal, 1967, p.31). Drawing from Kelly's, Kristeva's, and Rosenthal's feminist accounts, ephemerality designates an immaterial quality, a quality founded not in linear time or perspectival vision but in phenomena of duration and diffusion, a quality, I suggest, which here anticipates the affective connotation given by the women artists considered among others in this thesis.

I propose that the timeframe 1996-2016 foregrounds a feminist and affective interest in appropriating a practice of light whereby the style of ephemerality merges into an investigation of the material, sensuous, formative, and entangled qualities of light, marking a qualitative differentiation concerning light, technology, duration, movement, and experience. Whilst historically the work of the artists considered - Mary Kelly, Grazia Toderi, Rosa Barba, Ann Veronica Janssens, Magdalena Fernandez, and by extension United Visual Artists and Tomas Saraceno - corresponds to retrospective accounts on feminist practices according to the generally accepted periodization of the second, third, and fourth waves of feminism in the '60s, '90s, and 2000s, I argue they contribute to extend the notion of 'affect' in relation to light and female subjectivity.

By claiming a specific feminist positioning, this research intends to foreground the emergence of a new sensibility, a sensibility concerning values and normative practices. In the next sections, I intend to strengthen this bond by drawing an historical account on feminism through a reading of feminist, new materialist, and posthuman schools of thought, and at the intersection of practices of light and history of feminist studies on ethics, I intend to deploy an ethics of light from the viewpoint of a feminist cultural analyst.

3.1. The ethos of feminist practices

The practices of women artists examined in this thesis share affinities with feminist schools of thought. Both practices and theories claim a feminist positioning, be it implicit or explicit, to do justice to the omission of women's voices in artistic and theoretical discourses. This affinity, I suggest, can be explained by virtue of a shared feminist ethos which indistinctly underpins a questioning of the relationship between light and female subjectivity. In this view, I introduce the term 'ethos' to reflect on a set of beliefs, attitudes, values, and norms, all shared by a community of feminist artists and theorists to designate the fundamental character of female inquiries regarding the subject of light. In fact, in this section, I intend to justify the bond between light and female subjectivity by examining the fundamental shifts that historically occurred in feminist schools of thought counting on a critique of representation and the metaphorical meaning of light, further deployed in feminist, new materialist, and posthuman ethics.

Since the foundations of classical metaphysics, light has had a connotation with ethics through its association with moral agency. As the founding metaphor of metaphysical philosophical thinking, light was traditionally associated with the realm of knowledge, the good, the divine, and truth,²¹ such as an ideal form and entity existing outside space and time and guiding speculative and poetic thinking as extensively demonstrated in historical artistic representations. Most relevant examples can be found in the tradition of divine and sacred icons, figuring the representation of a theophany in the spirit of photagogia (Mikuriya, 2017) in religious symbolism.²² Other examples can be found in the metaphysical representation of light as a metaphor of the Pure Reason in the

²¹ This analysis is in debt of Barbara Bolt's critique of the system of representation of light in the Enlightenment as discussed in the essay "Shedding Light For the Matter," 2000.

²² According to the historical account on Western philosophy of light by art-theorist, Theresa Mikuriya, 'photagogia' designates the practice of 'evoking light', a philosophical disposition traced back in the neoplatonic philosophy of Iamblichus, and connotating the spirit of Western philosophy (Mikuriya, 2017, p.7).

Enlightenment, supporting an idea of rational formalism and schematism (Bolt, 2000) as the transcendental foundations of Western philosophy.

However, whilst from the beginning of the twentieth century artists have begun to experiment with the form of invention and innovation in parallel with discoveries in the field of physics and techno-sciences - see Contextual Review, Section 2.1. - from the '60, within the field of social sciences and in particular in poststructuralist and postmodern schools of thought (Levinas, 1984; Derrida, 1966; Foucault, 1968; Deleuze, 1968), the classical notion of ethics designating the set of moral beliefs and values identifying a person in society, was subject to radical reformulations through a philosophical re-grounding of the notion of subjectivity in experience. In other words, the alleged use of the term 'ethical turn' addressed by these schools of thought, suggests that metaphysical constructs no longer serve as guiding principles to morality, but by deconstructing its metaphysical transcendental reference traditionally associated to light, morality begins to be understood as an ethical determination concerning formation, practice, agency, and norms. In the words of the existentialist philosopher, Emanuel Levinas, the ethical turn consists in recognizing that ethical subjectivity is no longer identifiable with moral paradigms, but with normative forces,²³ and in the wider historical perspective of postmodern and poststructuralist schools of thought, this implies that metaphysics no longer determines the realm of ethics, but ethics itself is defined by the action and the relationship that a subject is capable to entail in experience in terms of practices, procedures, and norms.

Within this context, from the late '60s, feminist schools have begun to deploy a gender- based theory of female subjectivity using ethical frameworks of inquiry. This implies a reformulation of the traditional notion of ethics in association with female perspectives of morality in metaphysics, and the re-grounding of female subjectivity in

²³ Among first significant propositions on ethics, the existentialist philosopher Emmanuel Levinas, in *Ethics as First Philosophy*, 1984, addresses a reframing of subjectivity and the scopes of ethics. By differentiating it from the level of the theory of representation in metaphysics, Levinas formulates a phenomenological account that rethinks the notion of subjectivity in relation to Other not merely as a moral issue (what one ought to do), but significantly, as a normative force (what one has a duty to do) (Levinas, 1984/1989, p.76). In contrast with the metaphysical grounding of classical philosophy, Levinas posits the notion of ethical subjectivity as grounded in an empirical-theoretical reality, arguing that the tasks of ethics are founded in experience, and they are expressed by normative forces. His account is fundamental for an understanding of the 'ethical turn' addressed by later poststructuralist and postmodern schools of thought, setting here the theoretical fundamentals for addressing an ethical turn in relation to practices of light.

the territory of lives, practices, procedures, experiences in support of a valued-based principle and normative understanding of ethics. The ethical turn posited by feminist schools of thought essentially consists in two fundamental contributions: a questioning of what constitutes female subjectivity, a questioning extensively articulated through the notion of 'sexual difference' (Irigaray, 1975) in feminist literature, and the claim of a materially constituted approach and positioning. These contributions turn the metaphysical moral assumptions of subjectivity within the fundamentals of ethics and to paraphrase Catherine Malabou's reading of Luce Irigaray's feminist theory – it could be said that feminist schools of thought precisely considered the specific trait of female subjectivity as the location of the ethical (Malabou, 2013, p.11), a location which regards the intersubjective and embodied nature of women's practice. As I shall demonstrate in the analysis of the work of women artists considered in this study, this research draws from feminist theoretical contributions to argue that in parallel, an ethical turn also historically occurred in practices of light because similarly these works imposed the re-grounding both of the subject light and of female subjectivity in the territory of experience by questioning relations over dichotomies, agency over meaning, and suggesting the emergence of a new sensibility informing a set of values and norms.

Among most relevant feminist contribution to a feminist ethics of light is the philosophical account of feminist thinker, Luce Irigaray. Since her early writings, Irigaray has posited significant contributions for a feminist understanding of light by rethinking its association with metaphorical and metaphysical meanings in relation to her account of sexual difference from a feminist ethical perspective. In the essay "The Fecundity of the Caress," 1984, when discussing the sensuous, embodied nature of female subjectivity through psychoanalytic schools of thought and particular the Lacanian interpretation of Freud, Irigaray revisits the metaphor of light in classical metaphysical philosophy and touches on a field of affective and sensuous feelings. In fact, in defining the ontological category of the 'feminine',²⁴ Irigaray states that the feminine belongs to an order where 'light that precedes and surpass the limit of reason' (Irigaray, 1984/2004, p. 128), a light that beyond transcendental schemata, is associated with care, fecundity, the sensuous and voluptuousness. Through the category of the 'feminine', Irigaray sets the basis for

²⁴ According to Irigaray's politics, the term 'feminine' designates the ontological status of female subjectivity not only in reason of biological functions, but more significantly by virtue of its cultural connotations. In her attempt of restoring a place for the feminine against gendered dichotomies (masculine/feminine), the term 'feminine' affirmatively defines the ethos of women and such a position is supported by a politics of sexual difference (Irigaray, 1984/2004, p.159).

rethinking the meaning of light in relation to female subjectivity in terms of sexual difference and her contribution consists in deploying a materially constituted field of investigation through a theory of affect, desires, and the sensuous. In this view, Irigaray explains the ethical turn of feminist practices as an affective turn and this understanding is fundamental for this research because it defines the guiding principle according to which I have assessed the examination of practices of light as non-representational practices.

Another significant feature emerging from a discussion of feminist theories is the intersubjective character of women's practices, a disposition informing the feminist interest in shaping relationship through actions which overall explains the ethical posture of feminist thinkers and artists in this research. This argument, I suggest, finds theoretical grounding in feminist understanding of psychoanalytic methods of investigation, all informing an 'ethics of care'. An 'ethics of care', in the words of feminist psychologist and theorist Carol Gilligan, is a feminist framework concerned with the repositioning the notion of identity - and thus, morality - in psychological logics and emotions, a grounded approach which is at the basis for establishing human relationship (Gilligan, 2011).²⁵ Drawing from this framework, this research dwells on the intersubjective character of feminist practices which I intend to explain by recognizing the affective posture or tendency of female artists in relation to light by investigating possibilities of encounters as relations.

An in-depth explanation of this fundamental feminist character is offered by Irigaray who states that the feminine lies in separation and exteriority and this determines the intersubjective and interdependent character of ethics through an understanding of the relationship between female subjectivity and the Other (Irigaray, 1977/1985, p.136). According to Irigaray, this fundamental trait differs from an understanding of subject and object as divided and fixed in metaphysics and is crucially important for setting the basis for an understanding of affects as feelings and relations. In a wider perspective, such an ethical disposition underpins the debate on feminism as suggested by psychoanalytical schools of thought interested in a reading of an 'ethics of care' in relation to the familiar and social conditions of women (Kristeva, 1974; Pollock, 1982; Malabou, 2013), but also by phenomenological positions through a questioning of the relationship between nature and ethics (Haraway, 1995; Olkowski, 2013), and by new materialist and posthuman

²⁵ For further references on an ethics of care in relation to arts, please see: Millner, J., Coombs, G., 2022. *Care Ethics and Art*. London, Routledge.

feminist schools of thought on human and non-human relationship (Braidotti, 2009; Barad, 2007). Drawing from these diverse connotations of feminist ethics, this research understands an 'ethics of care' as a feminist interest in transcending subjectivity for an encountering with light and the Other.

Feminist readings of ethics also reposition a questioning of female subjectivity through reconsiderations of materiality, the sensuous, and the body. This aspect finds theoretical support in phenomenological feminist schools of thought which moved from feminist reading of psychoanalysis to discuss the notion of a person through an 'ethics of embodiment' (Butler, 1993; Grosz; 1996; Sparrow, 2015). In this analysis, I particularly refer to the feminist account of philosopher Catherine Malabou who, in *Changing Difference*, 2013, proposes an 'ethics of embodiment' as a principle for relationship. According to Malabou, at the basis of any ethical relationship lies an embodied interconnection, a connection which is built on the mutual, corporeal vulnerability that arises from this (Malabou, 2013, p.14). This may involve, Malabou adds, an understanding of the body as a receptive entity including observations on how temporal factors, locations, and contexts may affect and modify it (ibid.). From Malabou's contribution in repositioning the body at the center of feminist theoretical and critical investigations, this research puts forward further questionings regarding the relationship between light, subject's positioning, perception, responsiveness to places and contexts, as forms of embodied knowledge (Irigaray, 1991; Butler, 1993; Malabou, 2013; Olkowski, 2014). Following this trajectory, this research foregrounds the emotional and emphatic qualities of light, all seen as forms of embodied experience.

Further, the feminist, affective, intersubjective, embodied character of feminist understanding of light imposes some considerations on the role of light and human and non-human relations. From a feminist viewpoint, this requires an ethical posture which I draw from understandings of Rosi Braidotti's ethics of affirmation, as she posits in *"Affirmation, Pain, and Empowerment,"* 2008, where she proposes an understanding of ethics not as a prerogative of human subjects, but as a position grounded in procedures and practices, allowing her to state that ethics is a practice concerning inter and multiple relations (Braidotti, 2008, p.5). From these considerations, Braidotti posits an understanding of affirmative ethics according to which the questioning of subjectivity and the Other is not seen in negation, but in a non-unitarian, polyvalent affirmation as a response to multiplicity and the *milieu* (ibid. p.8). In this view, Braidotti's ethics of affirmation allows here to expand and extend the area of investigation of feminist ethics,

providing theoretical support to an understanding of light in relation to human and non-human experiences which connote the ethos of practices of light.

Ultimately, in this line, posthuman feminist theorists point out the necessity of rethinking the definition of ethics in association with agency. In this regard, a powerful image of light drawn from a renovated alliance between physics and social sciences by the feminist theorist Karen Barad, in *Meeting the Universe Halfway*, 2007, further strengthens the bond between light and female subjectivity. According to Barad's observations, the quantum phenomenon of the entanglement of light states the indivisibility of the functions of waves and photons of light interacting with each other and on a theoretical basis, this phenomenon is useful for acknowledging that the fundamental character of light is relational and agential (Barad, 2007, p.139). On a theoretical level, the phenomenon of the entanglement examined by Barad informs her framework of 'agential realism' which regards the ontological, ethical, and epistemic responsibility for reconfiguring not events, but causalities in a system of coexisting and contingent relations as all grounded in an empirical and experiential territory of investigation (Barad, 2007, p. 160). In this context, Barad's agential realism is useful for an understanding of the indeterminate, yet indivisible bond that underpins light and humans and non-humans' relations. In a wider view, Barad's reading of agential practices contributes to further understandings of practices of light that refuse representation to focus on the act of reconfiguring systems of connectivity between light, humans, and technologies. As I shall discuss when examining phenomena of interaction and immersivity in Chapters 4 and 5, agency connotes the ethos of innovative and experimental approaches to light.

Drawing from these considerations, I argue that the feminist, non-representational, materialist, intersubjective, emotional, embodied, affirmative, and agential styles of feminist uses of light inform a critical understanding of the fundamental ethos of feminist ethics and practices. In the next session, I shall discuss how this ethos supports an understanding of values and norms through a discussion of these feminist ethical principles.

3.2. Affect as Values

One consistent, yet significant feature of this research, is the foregrounding of a feminist interest in the configuration of an emotional and emphatic experience of light. By defining these qualities as experiential, this research proposes an analysis of the *sensorium* of light by focusing on an investigation of the sensuous qualities of light in terms of hapticity, embodiment, plasticity, virtuality, interaction, and immersivity. All these qualities, I argue, find justification in the argument that light is an affect, a power force that is concerned with different, sensuous modes of apprehension, and imposing a modification and a transformation which is produced in the body. With the purpose of justifying this argument, I shall next embark on an investigation of affect theories in feminist, new materialist, and posthuman literature to discuss affect as a guiding principle of feminist ethics and practices.

In the field of psychoanalysis, the term 'affect' designates a specific psychic experience. According to the definition postulated by Sigmund Freud in "Beyond the Pleasure Principle," 1920, when analyzing female behaviours and morals, affect is defined as a feeling of the psychic life, a power force inherently designating women's disposition (Freud, 1920/2003, pp.114-115). In particular, by examining the quantity of excitation and stimuli in the psychic life of women in response to specific emotional events or circumstance, Freud discusses the power that feelings such as pleasure or pain have for human existence, qualifying these feelings as having a certain affective value (*ibid.*). Freud's account of affect is significantly important because it posits the fundamental character for thinking affect in relation to gender behaviours and actions, providing here grounding for defining the fundamental traits for thinking about light through a feminist positioning in terms of feelings, drives, impulses, and emotions. In other words, according to Freud, affect is a power force intrinsically bound in the relationship between the interior and exterior of female consciousness and in this study, this definition justifies the use of a feminist ethical framework of inquiry. I shall employ this framework through a historical reading of diverse feminist schools of thought, here considering the different connotations and denotations that the term affect assumes in feminist schools of thought to further assess these findings in relation to the feminist posture deployed by the practices of light considered in this study.

Feminist schools of thought provide useful theoretical grounding to the argument that light can be experienced affectively because by drawing from a psychoanalytic

method of inquiry to posit a questioning of sexual difference, feminist thinkers allegedly claim that 'affect' precisely connotes the ethos of female subjectivity (Kristeva, 1974; Irigaray, 1974; Malabou, 2013). This proposition contradicts the principle of identity which constitutes the notion of subjectivity in classical metaphysics because, affect repositions the questioning of what is a subject in terms of desires and the power of affect and being affected by another subject or object. Among others such a claim is made explicit by the feminist thinker Luce Irigaray, in *Speculum of the Other Woman*, 1974, through the statement that female subjectivity is formed and is defined by an economy of sexual affects and affectations, or the feelings of being modified and modify external stimuli, ultimately connotating the nature of women morals (Irigaray, 1974/1995, p.58). This implies that, according to Irigaray, the positioning of female subjectivity is not given as pre-determined or fixed but is defined both in terms of passivity and activity such as in a state in-between in relation to external stimuli (ibid.). In this view, according to Irigaray, affect is understood as a drive, a disposition, a subjective impulse that lies in conscious experience, projecting through the qualities of modifying events and being modified by them. In other words, Irigaray's reading of affect posits fundamental grounding for defining the ethos of female subjectivity because it imposes a reconsideration of the psychic life between internal and external stimuli in formative ways that supports an understanding of ethics and normative ethics.

Not limited to such a feminist position, a second important contribution posited by feminist schools of thought consists in defining affect as a power force inherent not only to humans, but to all beings and entities. This proposition is theorized by Luce Irigaray in *Speculum of the Other Woman*, 1974, when rethinking the metaphor of light in metaphysics through affect and feminist theories. In particular, she argues that between the binary categories of the Ideal good and Matter is the force of Magnitude (of light), a qualitative force which stands apart from both realms, detached both from matter and objects, yet contributing to forms and ideas. In Irigaray's writing, the quality of magnitude of light results as not being unified in conscious experience following that it is not a prerogative of intellectual faculties, but she defines magnitude as a force in motion, an arrest and a projection, or a duration which is perceived as a feeling expressing as a modification (Irigaray, 1974/1995, p.177). Further, she adds that the quality of magnitude of light is an act-power of reproduction, a formative process which actualizes in space and time through matter (ibid.). In this sense, Irigaray analyzes how the force of magnitude existing beyond appearances, does not belong to the order of ideas, neither

to the order of things, but it lies in a state in between without a proper object of perception. In Irigaray's words, magnitude is spurious because the function of this quality modifies according to the ability to affect and being affected, thus involving the senses and the body (ibid.). Drawing from these propositions, through her reading of the quality of the magnitude of light, Irigaray supports an understanding of light as an affect and a power force which expresses inherently as an entanglement of energy and matter, intensity, and material formations. Her statement is crucial to this analysis because it provides feminist theoretical grounding for understanding light as an affect, a feeling, and a force,²⁶ or as a poetic, mythical, virtual, immanent, and cosmic phenomenon.

From an experiential viewpoint, affect theories challenge the modes of apprehension of light because they state that affect as a power force, is not classifiable as a binary, fixed category, but affect is an expression, a modification derived from the impact of an encounter with another subject or object. In this view, affect theories contribute to explain the role that light plays in drawing an intuitive and empathetic experience which does not immediately touches on logics and cognition but instead, on feelings and emotions. On this quality, the philosophers Catherine Malabou and Adrian Johnston posit a significant argument in the section "Go Wonder: Subjectivity and Affects in Neurobiological Times", part of *Self and Emotional Life: Philosophy, Psychoanalysis, and Neuroscience*, 2013, when they define affect as an impersonal force (Malabou, Johnston, 2013, p.35). The point of departure of Malabou and Johnston's inquiry is a questioning on where the impact of affect manifests itself in the body. The authors differentiate between movements of auto-affection as touching on desire, impulses, the inner voices and the unconscious, and hetero-affection as forms of expressivities and extensivity (ibid. p. 53). This differentiation allows them to define affect as a feeling reconciling the existential and sexual condition of female subjectivity in a unity. In particular, Malabou and Johnston define this unity as regarding emotions and the body and drawing from their reading of affect as an emotion, this research foregrounds the feminist contribution to an understanding of affect as a feeling and an empathetic force perceived in the body. Further, Malabou and Johnston's contribution sets the grounding for an understanding of the sensuous experience of light as a *sensorium*.

²⁶ Not limited to the phenomenon of magnitude, further in her writing, Irigaray address a number of significant contributions which establish a bond between light and female subjectivity from a feminist ethical perspective. These are seen in Irigaray's theorizing of the "flesh" as a corporeal trace responsive to light and of 'sensible transcendental' to define a female affective disposition towards light (Irigaray, 1984/2004).

Another important aspect to consider is the effect that affect has in setting the conditions for an encounter between two subjects or objects and this suggests some reflections on the impact that practices of light have in relation to artistic experience and discourse. As a movement and a modification, affect imposes a deconstruction of the distance between the categories of subject and object in metaphysical thinking and in practices of light, this foregrounds the possibility of establishing a bond or an exchange between light and the viewer's experience. In feminist thinking, this argument finds theoretical support in the cultural analysis by the feminist theorist Mieke Bal who, in "Affectively Effectively: Affect as an Art-Political Strategy," 2019, deploys the notion of affect in relation to artistic practices by defining affect not as a thing, neither a form nor a word, but as a doing, a process that occurs in-between two subjects. (Bal, 2019, pp.180-181). As a set of intensive forces, Bal states, affect functions as a trigger manifesting by keeping moving and changing, a deconstruction that occurs between the style of abstraction and figuration which she defines in terms of performativity (ibid., p. 182). Two fundamental features, Bal adds, explain the power of affect in the context of artistic practices: the temporal factor and the refusal of representation. As for the temporal condition, Bal defines affect as a form infused by the intensity where time is repositioned in memory as a duration, following a recontextualization of the individual, social, and cultural features connotating an artistic experience (ibid. p.183). Secondly, Bal points out how affect is not identifiable in a particular event, but is seen as producing a space of intensity, imposing a performativity of feeling, remembering, emotions, intuitions, and actions in the body.

All these considerations allow Bal to coin the term 'the affective work of art' (ibid. p. 186), works of art which are not seen or identifiable in an object but in a place where affect expresses, actualizes, materializes, and ultimately activates the viewer. According to Bal's reading of affect theories in affective practices, affect results as an artistic, social, and cultural force, a contraction of the multiple – e.g., forces, intensities, energies - in a unity that is not limited to an individual conscious state of mind, but in a unity expressed in terms of action and active participation (ibid. p.190). Bal's considerations are particularly important in this analysis because they suggest that feminist practices of light value the responsiveness of the viewer in relation to events and phenomena as I shall discuss in Chapter 5.

In the context of feminist posthuman ethics, affect theories informs a questioning of the ethical relationship between humans and non-humans. Drawing onto the

intersubjective ethos of female subjectivity, feminist posthuman thinkers began to question whether the relationship between humans and new media technologies imposes an understanding of agency as ethics. In a wider perspective, this implies, as posited by the feminist theorist Donna Haraway in *A Cyborg Manifesto*, 1995, a questioning of the traditional categories of nature and culture not as a divide, but as interdependent subject and actors of a discourses (Haraway, 1995). In these feminist affective views, this questioning posits a qualitative differentiation because it imposes reconsideration of the notion of subjectivity which does not contemplate the metaphysical notion of identity, neither the deconstructive notion of difference, nor the phenomenological primacy of embodiment, but affect imposes instead, an analysis of intensities and the sensuous in terms of multiplicity and immanence.

A different connotation of affect emerges from the posthuman position of the feminist theorist Rosi Braidotti who in "Intensive Genre and the Demise of Gender," 2008, states that affect is a depersonalized, highly perceptive phenomenon consisting of desires, impulses, expressions, processes of flows and becoming, acting as a transformative force *in potentia* (Braidotti, 2008, p.48). Most significantly, Braidotti points out that affect is not a prerogative of human subjects but is an impersonal force since the quality of intensity is inherent to the multitude of existing beings and entities (ibid.47). Hence, according to Braidotti, experience is an undifferentiated 'landscape of intensities' and this qualitative transformation challenges the understanding of ethical subjects through the values of belonging and becoming which are at the basis, she states, of an ethics of affirmation. An ethics of affirmation, Braidotti adds, is an existential condition which values the contribution of unilateral creative processes and transformations in the evolutionary time. In this context, Braidotti's feminist ethics offers a useful framework of inquiry for practices of light because by questioning and reconciling the divide between humans and non-humans, it values creative processes in reason of their enabling relationships and networks.

Drawing from a reading of feminist theories of affect, I conclude this theoretical investigation by addressing further ethical considerations of the phenomenon of diffraction of light because this phenomenon explains affect as an impersonal force and this is useful here to strengthen the bond between light and human and non-human subjects whilst, in a wider perspective, this notion supports an understanding of the alliance between arts, techno-sciences, and social sciences. According to the definition of Karen Barad, as she proposes in *Meeting the Universe Halfway*, 2007, the phenomenon

of diffraction of light derives from an analysis of the wave behaviour of light, seemingly seen in the wave behaviour of water and sound she adds, and consisting in a phenomenon of interference, be it an overlapping, a bending, a superimposition, or a diffusion, when encountering an obstruction along its trajectory (Barad, 2007, pp.28-29). This difference, Barad adds, significantly questions the representation of light traditionally founded in the dichotomies, and through the framework of Quantum Theories and her reading of the phenomenon of entanglement of light, Barad suggests how diffraction provides a useful scientific and social method of investigation for thinking about difference and phenomena as inseparable (Barad, 2007, pp.28-29). In particular, from her feminist agential position, Barad states that the phenomenon of diffraction is fundamental for rethinking the system of representation of light, because it subverts the canonical order of reflexivity to state instead, that the effects of waves act as difference through the power of modifying and being modified by them (ibid.153). From the viewpoint of social sciences, the phenomenon of the diffraction of light, Barad suggests, contradicts the metaphysical assumption that light is a medium that renders things legible and knowledgeable, and states that light is the most powerful affect because it guides and determines all humans and non-humans' relationship and actions. This implies in other words, an ethical responsiveness, Barad adds, in relation to light suggesting how affective movements and dispositions must inform agency and forms of actualization. Further, these considerations allow Barad to establish an innovative epistemological paradigm, or the practice of 'agential realism' (Barad, 2007, p.90) which values the alliance between ontology, ethics, and epistemology, all contributing to the framing of light as an entangled experience. In a wider perspective, the paradigm of diffraction supports her proposition for an agential realism regarding an understanding of affect as a formative agency which, I suggest, informs the values of a feminist practice, ethics, and politics of light.

Drawing from this feminist reading of affect theories, this research addresses a feminist understanding of light through desire, affect, dispositions, and emotions. The feminist ethical posture of this analysis suggests how this materially and experientially constituted way for thinking about light as an affect, foregrounds an intersubjective, codependent, and affirmative experience which connotes, I suggest, a set of ethical principles and values. Before assessing these propositions in the next Chapters with the aim of demonstrating how these principles inform an ethics of light, it is important to dwell on a further implication regarding the intersubjective, impersonal quality of light in relation to human and non-human agency as a normative practice.

3.3. Power relations and norms

One integral feature connotating the ethos of feminist positions is the intersubjective and relational character of their practices. Methodologically, I justify this proposition by addressing an understanding of the epistemic bond 'subject-object relationship', a feminist principle that opposed to dichotomies and separation, it values the formative function of relations. Next, I will draw on the diverse connotations and denotations that this parameter assumes in feminist, new materialist, and posthuman theories, with the aim of justifying the ethical position of this research by addressing normative dispositions for an understanding of light as a system of power relations.

Rooted in the tradition of psychoanalytic theories, the principle of 'subject-object's relationship' is defined by Sigmund Freud, as he discusses in "Beyond the Pleasure Principle," 1920, as a form of experiential knowledge derived from the separation between the inside and the outside of human consciousness, expressing in terms of drives, desire, and impulses (Freud, 1920/2003, p.116). According to this position, the principle of 'subject-object's relationship' designates a system for thinking subject and objects not as separated entities, neither as fixed categories deployed in a metaphysical grounding, but by building on affective modes of apprehension, 'subject-object's relationship' designates a non-identical mediated relationship. In this feminist analysis, this epistemic bond is useful because it suggests that the relationship between the subject of light and human subjectivity is not a mediated or fixed bond, but this relationship can reflect a process of interdependent formations which are at the basis of experience and knowledge. In other words, the notion of 'subject-object's relationship' is crucial to an understanding of the ethos of feminist theories and practices of light because it does not account for division, distance, or distinction between a subject and an object, but it rather draws from internal and external relationship to light to inform affective and experiential knowledge.

One of the most significant feminist contributions on this epistemic bond is posed by Luce Irigaray in *Speculum of the Other Woman*, 1974, where, in her feminist reading of Plato's Allegory of the Cave, she offers a theoretical grounding for this principle in relation to female subjectivity to contrast the idea that female subject plays a passive role as an object and a predicate of male-oriented narratives. By putting under critique traditional representations concerning the notion of identity, image, and copy, Irigaray reclaims the notion of 'desire' in female practices, arguing that this feeling does not imply

a passive operation, but it designates an action, an affirmative feeling that can affect and modify representation and perception (Irigaray, 1974/1995, p.210). By foregrounding the power of desire, Irigaray formulates an understanding of subject-object's relationship as an epistemic bond derived from affective movements or the capacity of being moved by movements of affectation and being affected by other subjects or objects (ibid. 230). According to Irigaray, this intersubjective condition is not only affective, but most significantly, is relational implying that women have a specific relation regarding things, an intersubjective and interpersonal function which is determined by affective modes of apprehension in a state of in-between. It follows that distant from binary oppositions and dichotomies, the intersubjective and relational trait characterizing the ethos of female subjectivity, Irigaray suggests, imposes an ethical question which is not necessarily concerned with moral principles as in a classical subjective perspective, but it imposes an understanding of ethics through actions, agency, practices, and procedures. This argument thus supports here, the construction of a feminist ethical framework in relation to an analysis of practices of light through the formulation and the assessment of a system of ethical norms.

According to a feminist understanding of the ethical principle of subject-object's relationship, there is no hierarchy of signification between the subject and the object of discourse, but representation and language are constructed as material-formative processes. In particular, the refusal of a particular order of composition informs both a critique of representation and signification as discussed by Julia Kristeva in "The Subject in Process," 1998, where she states that the female use of language should be understood as a derivation of moments of intuition, arrest, and drive, all exceeding between the states of unconscious and verbalization and actualizing as formative processes (Kristeva, 1998, p.134). In particular, in her analysis of female affective modes of apprehension, Kristeva identifies the grounding of a subject-object's relationship as a constituting principle of female subjectivity which she defines in terms of semiotics and experience. In this view, language, according to Kristeva, is not predetermined or fixed, but it results in movements of recollection for the flow (of light, of time, of materialization) that gathers all entities in a process of actualization and narrativity. In other words, Kristeva suggests that affective movements disrupt the hierarchy of binary oppositions traditionally defining both the system of representation and meaning in metaphysics, designating instead an epistemic stance derived encountering as processes of material formation and semiotics.

Other considerations derived from a feminist methodology of subject's object relationships support here the understanding of a transformative experiential and cognitive process concerned with the affective, experiential, sensuous experience of light. Drawing from previous observations on affect theories in relation to the ethos of female subjectivity, it is important to remark how affective modes of apprehension are not passive or neutral processes with regard to the subject, but they imply processes of formation and transformation as most evident in phenomena of virtuality and plasticity. On the relationship between virtuality and plasticity as overall, an affective and cognitive phenomenon, the philosopher Catherine Malabou offers an extensive theoretical account on this bond in *Self and Emotional Life*, 2013, arguing that the feminist principle of subject's object's relations reflects an affirmative ethical disposition which is in contrast with the tradition of dialectical movements because it ontologically values the relationship between subject and object not as fixed, but as achieved and determined by a process of bodily production (Malabou, 2013, p.22). In this view, Malabou's feminist account posits an understanding of affective modes of apprehension which is seen through an ethics of embodiment, an ultimate state of apprehension where sensations and intuitions merge in the body as an imprint and a modification. As I shall further discuss in Chapter 5, Malabou's feminist account on affect actualizing as forms of embodiments are useful to feminist considerations of artistic practices because they support an understanding of light through forms of embodied knowledge.

But not limited to a subjective domain, an understanding of 'subject-object's relationship' subverts the traditional understanding of objects at the domain of speculative inquiry and instead values objects as entities endowed with expressivity and agency in reason of their particular point of localization. Such position is crucial for an understanding of feminist practices of light investigating the transformative and transitive function of light as posited by the cultural analyst Mieke Bal in her reading of the style of the Baroque and reiterated in *Travelling Concepts in the Humanities*, 2002, where she observes how the category of 'artistic object' should no longer be understood as a passive or a subordinate entity, but through how their relational function which makes them participate in a politics of agency. In other words, according to Bal, the principle of subject-object's relationship subverts the hierarchical, vertical, binary opposition traditionally defining separate categories to recognize that both are instead, interdependent actors and contribute to each other (Bal, 2002, p.30). Bal observes the implications of this statement in the field of artistic practices and argues that this model

supports forms of interactivity (ibid.24), a particular form of relationality which does not rely on subordination but on a relative positioning and exchange (ibid.55). In other words, Bal suggests that the feminist principle of subject-object's relationship is at the basis of systems of participation and engagement in artistic practices and this form of power relation designates an ethical value and a norm for an understanding of practices of light as a form of meta-art.²⁷

In addition, further contributions are drawn from feminist new materialist and posthuman theories which deploy an ethical understanding of the principle of subject-object's relationship in relation to light and human and non-human experience. One of the most significant contributions in this regard is addressed by the posthuman theorist Rosi Braidotti who further problematizes a feminist understanding of subject-object's relationship in relation to practices as technologies, fabrics of production, and procedures. Not limited to this questioning however, Braidotti points out how such considerations impose a valorization of human and non-human relationships and experiences. As she discusses in "The Subject in Feminism," 1991, the feminist understanding of subject-object's relationship is at the basis of an ethics of affirmation in ways that count for the reconfiguration of other subjects in the milieu, in particular topological situations, and in an evolutionary time (Braidotti, 1991). In this view, Braidotti suggests that relations are never classifiable or fixed, but they are instead in a state of *potentia*, further suggesting that the ethical task of feminist practices consists in translating affirmation into an agency through forms of political subjectivity and engenderment.

The feminist theorist, Karen Barad posits a similar question in her inquiry on quantum light and human and non-human experience. Following her analysis of the phenomenon of the entanglement of light in opposition to the classical notion of causality which she defines as a system of indeterminacies, actions, and relations (Barad, 2007, pp.129-130), Barad suggests substituting an understanding of subject-object relationship with the principle of agency. Her statement is justified by the observation that phenomena are not mediated, but rather they are relational in ways that they are given as a *dynamis*, a relationality inherent to things in their unfolding (Barad, 2007, p.62). Agency, in other

²⁷ Theorized as a 'meta-language', Bal addresses an understanding of 'meta-art' to connote those artistic practices and experiences that do not prioritize the choice of a particular medium and focus instead on positing statements as enunciations to be perceived or not perceived by the viewer. Bal posits such a definition of 'meta-art' in her reading of affect theories in visual practices as discussed in: Bal, M, 2007, *What if? The Language of Affect*, London, Routledge.

words, Barad suggests, is a material, intersubjective quality which exists in the force of enactment between entities prior to their actualization. Apparatuses on the other hand, she suggests, are also active agents of processes and procedures of production whose function is both relational and epistemic in a sense that they define the boundaries of making practices (ibid., 248). In other words, according to Barad, agency means to value possibilities for desire and action to determine events and, in this research, this principle is assumed as a norm and a limit for creative and artistic possibilities.

Drawing onto this inquiry of feminist, new materialist, and posthuman ethics, this research deploys agency as a principle for power relations. In the next section, I shall assess these ethical propositions in relation to a critical inquiry of practices of light.

3.4. Ethics Informing Practices

Feminist ethics share affinities with feminist practices. I suggest that the ethical turn posited by feminist, new materialist, and posthuman schools of thought reflects into the practices of the artists which will be examined in the next chapters, overall informing a feminist ethos regarding ways of understanding of light as an affect, or as a transitive and a transferrable material. In particular, this research suggests that this function significantly emerges in the practices of women artists considered within the timeframe 1996-2016, because they foreground an understanding of light as an affect and a power force in terms of emotion, experience, relation, engagement, and connectivity. Following the feminist historical orientation of this chapter, next I intend to demonstrate how a feminist framework of inquiry can inform an analysis of practices of light by challenging the inherent and fundamental traits for understanding light critically and constructively through ethics.

As a premise to this discourse, it must be noted how, in feminist critical and cultural discourses, the ethos of feminist theories emerges explicitly from the act of deploying a feminist position and such an attitude is shown in women's practices which critique the metaphysical system of representation of light to formulate instead, an investigation of light in terms of matter, feeling, modification, and relations. In this view, it is most significant to highlight how the ethos of the practices which will be considered does not serve systems of representation and signification, but it repositions the questioning regarding the function of the works of art through an understanding of ethical, social, and cultural values and norms.

Drawing onto feminist propositions on ethics, I shall discuss the ethos of feminist practices of light in Chapter 4: *The Visual Rhetoric of Feminist Practices* where I suggest that the ethos addressed by Luce Irigaray in her feminist reading of Plato's Allegory of the Cave in the *Speculum*, 1974, resonates with the image of *Multi-Story House* by artist, Mary Kelly, because both designate a primal political scene for thinking about light in ways that challenges systems of representation and enable us a rethinking of the role of women dealing with light in terms of visibility and discourse. In fact, as Irigaray's reading of such an allegorical image turns the metaphysical representation of light into a feminist structure and syntax, so Kelly visually revisits the same symbolic image to deploy a figurative dispositive illuminated by diffused and casted light, making space and hospitality to women intragenerational discourses on feminist beliefs and values. Both Irigaray and Kelly claim a non-representational system of figuration of light which exceeds from the regime of vision and logos, foregrounding a materially constituted method of investigation to approach light through material processes and practices. In other words, it could be said that both Irigaray and Kelly address a sensuous, affective, intersubjective, and ethical approach to light by drawing a path towards light for feminist epistemology. Hence, the contribution of *Multi-Story House* consists in making explicit the ethos of feminist practices through a poetic approach that informs an ethics of care and fidelity. In the same chapter, such a feminist positioning will be remarked in a discussion on the civic purposes of Grazia Toderi's work and the archival disposition of Rosa Barba's practice which all deploy an ethical disposition towards the configuration of light. In this regard, it is important to observe how these women artists move beyond subjective viewpoints to situate an experience of light in the place of the common, a territory that is at the basis for the constitution of a community with shared values.

Another important feature embedded in the ethos of feminist literature relates to the intersubjective condition of women's practices. In the practices of women artists considered, this reflects into a qualitative differentiation for the ways of perceiving and interpreting light. In this thesis, this proposition is suggested by an account on the inherent qualities of light (intensity-matter) in favour of a questioning of human and non-human relationship. Such a feminist theoretical orientation is drawn in particular, by feminist new materialists schools of thought as affirmed by Diana Coole and Samantha Frost in *New Materialisms: Ontology, Agency, Policy*, 2010, who state: "The prevailing ethos of new materialist ontology is consequently more positive and constructive than critical or negative: it sees its task as creating new concepts and images of nature that

affirm matter's immanent vitality" (Coole and Frost, 2010, p.8).²⁸ According to Coole and Frost, a new materialist ontology challenges and extends the scope of critical analysis by valuing the inherent quality of matter in a constructive perspective and this research assumes a similar, sustainable position when addressing an ethics of light in relation to feminist artistic practices. This orientation will be mostly made explicit in Chapter 5: *The Essentialism of Light Art Practices*, in an analysis of Ann Veronica Janssens' and United Visual Artists' practices, where the research intersects feminist accounts on phenomenology and physics, to frame light in such a material way which is parallel to an investigation on space, time, movement, memory, the virtual, and ultimately human bodies and experience. The feminist, phenomenological, relativistic, new materialist, and posthuman position posited by the research supports an understanding of the interactive, immersive, and engaging function of light in artistic practices, informing an ethos concerning responsiveness and responsibility.

Further, the ethos of feminist theories supports an agential and relational position regarding the subject of light and humans and non-human relationships. This is a fundamental argument in feminist nonhuman and posthuman literature, as discussed by Donna Haraway in *The Companion Species Manifesto. Dogs, People and Significant Otherness*, 2003, when arguing that the traditionally constituted categories of nature culture are not fixed, but they are interdependent by affirming the conjoined force of natureculture in a state of time which is evolutionary (Haraway, 2003). In this regard, this research suggests that Haraway's strategic repositioning is similarly pursued by artists, Magdalena Fernandez and Tomas Saraceno through their inquiry on the sustainable and agential functions of their works as discussed in Chapter 6: *Surfaces of the Continuum*. By reading Haraway's contribution through Karen Barad's feminist interpretation, this research shall observe how the practices examined similarly state that the relation underpinning light, processes of material configurations, and humans is an interdependent one. This interdependence is explained in terms of agency following the rethinking of the relation between ethics, practice, and epistemology not as separate or divided, but as coexisting and as contributing to the construction of knowledge. In other words, it is important to recognize that the practices of light examined in this thesis, embed and give evidence to an ethos which is symptomatic of a constructive attitude which is guided by material, affective, relational, technological, human, and non-human

²⁸ In line with other major new materialists positions (Bennett; 2007; Van der Tuin, 2010), the new materialist position of Diane Coole and Samantha Frost claims a vitalist, posthuman approach to matter which involves a questioning of ethics as engagement and agency (Coole, Frost, 2010).

cultural paradigms. Affective movements are material and formative processes which refuse to impose meanings or statements, but they all reposition light in a place of the common through an understanding of memory, virtuality, and multiplicity.

A second fundamental feature discussed in an inquiry on feminist contribution to ethics is an understanding of the principle of affect. Drawing on feminist critical positions, this research argues that affect is a principle which guides a feminist attitude towards practices of light. This implies that women's artistic investigations shift their focus towards the sensuous experience of light in terms of duration and motion, connotating artworks with emotional and emphatic dispositions and values which are at the basis of a non-representational practice. Next, I shall discuss how the 'affective residues' - to use Mary Kelly's words (Kelly cited in Walsh, 2011, n.p.) - founded in the works examined, connotate imprints as values.

In Section 5.2., in a reading of *Red Babel* by Grazia Toderi, I shall posit the argument that the artist's work deals with light as an affect image. Through a feminist reading of Julia Kristeva's semiotics of poetic language (Kristeva, 1980), I state that affect is a principle and a non-representational strategy that imposes a qualitative differentiation concerning the foregrounding of tones and temperatures of light moving without a specific trajectory or an order of representation through the frames of a differential, yet duplicated moving image and ultimately, the format of a video-installation. In other words, I shall discuss how for Toderi, light is an affect in ways that inform the sensuous materialism of her images of light with an index and a syntax which draws onto luminosities as expressivities in terms of formation and motion, connotating the surface of her video-installation with imprints that evoke present and mythical times. In this sense, an analysis of Toderi's video contributes to figure light as a perpetual affective movement, connotating the image of *Red Babel* with human, civic, and mythical values.

But according to feminist theories as discussed in previous sections, the principle of affect is also fundamental for an understanding of the interpersonal and transitive quality of light in ways that contrasts binary and fixed categories. It is a qualitative differentiation that in artistic practices, imposes a critique of the traditional category of artistic object to foreground an understanding of events as experiences. Paraphrasing Mieke Bal's account on 'the affective work of art' (Bal, 2019) as I shall discuss in Chapter 5, I suggest that affect is a force and a modification that activates the viewer. In fact, the theatrical setting of *Representation d'un corp rond* by artist, Ann Veronica Janssens, through her

use of cyberlight projection, epitomizes how the power of projected light figures an affect in a duration, further implying an ethics of embodiment and plasticity. I shall conduct this analysis in Section 5.1., arguing that affect theories inform artistic practices with an ethics of responsiveness to the action of light, and suggesting that practices of light can act as forms of political agencies carrying with them experiential values.

In addition, according to feminist new materialist and posthuman positions, affect is the principle that opposed to division and separation, makes relations an inherent quality of light. In the words of Rosi Braidotti, affect imposes a depersonalized experience which executes through formative and technological processes through practices (Braidotti, 2016, p.75). The most eloquent example in this regard is offered by *2em006II* by Magdalena Fernandez, an installation made active by the affective movements caused by the viewer, moving by the interplay of human, technological, ecological, immanent, and ethical conditions which will be examined in Section 6.1.. Thus, as a guiding principle of practices of light, the interpersonal quality of affect constitutes a power force determined by agency, connotating artistic experience with ethical choices and values. Given these considerations, it is important to understand the role that affect plays in relation to practices of light because as an interpersonal feeling and a power force is symptomatic of a sensibility concerning ethical positions and values.

A third fundamental proposition is the feminist proposition regarding light as a system of power relations. In Section 1.3. I have discussed how the feminist understanding of the interpersonal, intersubjective, interdependent, and relational qualities of light determines a strategic position and an ethical conduct. Whilst feminist ethics have claimed the feminist ethical preoccupation towards the Other, feminist new materialist and posthuman positions address an inquiry on light and techno-sciences to draw a scale of measurement for thinking about light in terms of ethics. Similarly, I have demonstrated how feminist practices of light focus on exploring the transitive and transferrable qualities of light through techno-scientific approaches, positing the conditions for figuring a system of relations where events and experiences shape a community with shared values, as discussed in analysis of Mary Kelly's *Multi-Story House*, configuring a system for connectivity, and informing the norms and the limits of practices of light in this feminist inquiry.

Most evidently, such a proposition is made evident in *The Western Roundtable* by Rosa Barba which figures an affect through the function of projected light by enacting an imaginary discourse between past and present narrations as if building an intellectual

community around the work for the purpose of discussing shared values. In her installation, I read the returning of the image of Plato's Allegory of the Cave discussed by Irigaray (Irigaray, 1974/1995) because the image is deployed in affective movements in ways that incorporate subjects in a material, formative, discourse. Whilst on the one hand, the artist figures a discursivity which is intended towards an archival community, on the other hand, Barba does not intend discursivity as fixed, but her work opens to the viewer's participation through formative processes. In so doing, Barba's practice makes evident how practices of light inform relationship, but simultaneously makes explicit how the quality of this relationship is the norm that establishes the legacy of practice of light.

To understand practices of light as systems of power relations further implies an ethical questioning concerning light and the sensuous, immersive landscape of experience. In fact, as posited by Mieke Bal, the relational and agential qualities of light impose a system of configuration that refuses fixed categories, to support and solicits forms of interactivity (Bal,2007). Bal's account reflects a relativistic position and more extensively, a feminist ethos concerning light and emotion, embodiment, and engagement. In practices of light, such a positioning is mostly evident in the work *Momentum* by United Visual Artists, which, in Section 5.2., explores forward the limits of artistic practices through digital mediums, offering the possible highest level of experiencing light in the *milieu* through phenomena of interactivity and immersion. It follows that by drawing onto these considerations, the questioning concerning light and the landscape of experience must inform a scale of measurement for thinking human and non-human relationship and the normative function of practices of light. This is mostly evident in the work of artists like UVA, Magdalena Fernandez, and Tomas Saraceno who by discovering and experimenting with fabricated and digital practices, show an interest in deconstructing the visual regime of light to focus on the power of shaping events and experiences of light in embodied and immersive manners.

Ultimately, as advanced by feminist posthuman schools of thought, the relational aspect of light imposes a reformulation of ethics through an understanding of political agency. As stated by Karen Barad in her proposition of agential realism, phenomena are not mediated or fixed per se, but they are relational because relationality is an inherent quality to things (Barad, 2007, p.62): in particular, she states that the quantum phenomenon of the entanglement of light is the most overt demonstration of systems of power relations because it states the inseparability between energy and matter, the virtual and the real experience. The analysis of this quantum phenomenon underpins the

findings of Chapter 6 and in particular the analysis of the filmic work *163,000 Light Years* by Tomas Saraceno which draws onto a system of agential practices informed by processes of material production and technological procedures to configure an entanglement of light which is figured in a micro-macro scale of measurement by connecting human and non-humans in cosmology. Through the function of power relations, Saraceno's practice states that agency is a fundamental trait for experiencing light in his work, addressing a questioning of ethical responsibility through technologies and procedures in terms of normative practices. With the aim of investigating the entangled relation that underpins human and non-human relations, his work contributes to set the conditions, the norms, and the boundaries for artistic explorations of light and the existing horizon of knowledge.

To conclude, the ethos of practices of light, affect as a guiding principle, and the function of power relations, all demonstrate the importance of thinking about light as informing a system of values and norms. These values and norms, I further suggest, contribute to a critical and constructive framework of investigation which is in contrast with the domains of representation and signification to favour an inquiry onto the inherent potential of practices of light in suggesting ethical and normative principles. In addition, these values, norms, and principles confirm how important is to address an alliance between ethics and practices in artistic discourse.

3.5. An ethics of light

This thesis addresses an ethics of light in relation to feminist understandings of practices of light and shows how this critical account contributes to an understanding of ethos, values, and norms. It posits an affective turn regarding the role of light in relation to feminist positions and practices and in this chapter, I have examined the fundamental features of such a feminist ethical posture in relation to light and humans and non-human relations.

The proposition of an ethics of light is useful because it establishes a bond between the subject of light and female subjects within the context of creative and artistic practices. This bond contributes to a feminist understanding of light in terms of emotions, empathy, and embodiment, all useful parameters for an understanding of the quality and the experience of light through a feminist viewpoint. But, not limited to this positioning, by drawing at the intersection of feminist theories in social sciences, feminist new

materialist and posthuman approaches, I set the basis for further understanding on the functions of enunciation, engagement, communication, information, transmissibility, and connectivity of light in a questioning of human and non-human relationship. By foregrounding the contributions of women artists here introduced, an ethics of light posits a new frontier of investigation for thinking about light through material, sensuous, relational, and techno-scientific procedures which all constitute a non-representational practice.

In parallel, this research aims to strengthen the alliance between ethics and practices. In this chapter, I have justified an understanding of ethics as a questioning of light and female subjectivity by foregrounding the role that feminist practices have played in framing not only light but also a system concerning the fabrics of production, processes of formation, and technologies as assumed in contemporary artistic, social, and cultural contexts. This research offers a unique positioning for an understanding light's events and phenomena by foregrounding an experience of light which consists in a triangulation between an event, the fabric of production and the function of artistic experience in relation to contexts of emplacement. All these constitutive features impose an ethical questioning of the role of light through practices, making a case for addressing a critical framework of inquiry in relation to values and norms. In addition, I suggest, an ethical position makes room for an understanding of practices of light as models for exploring and experimenting with configurations and possible intersections between arts, critical thinking, science, and innovative technologies.

Chapter 4: The Visual Rhetoric of Feminist Practices

This chapter focuses on an analysis of three artworks, namely Mary Kelly's *Multi-Story House* (2007), Grazia Toderi's *Red Babel* (2006), and Rosa Barba's *The Western Roundtable* (2007). They have been chosen because they are indicative of a repositioning of the use of light in artistic practices that reflect a tendency in feminist thinking, specifically in the writing of feminist thinkers Luce Irigaray (1974), Julia Kristeva (1980), and Suzanne Langer (1950). Kelly's, Toderi's and Barba's practices reflect different approaches that historically resonate with the second, third and the generally accepted fourth waves that feminism has ideologically assumed in the 1970s, 1990s, and 2000s respectively,²⁹ and their contributions sustain here, the legacy of a feminist use of light in artistic practices. The works discussed in this thesis, I suggest, put forward a feminist interpretation of light that challenges traditional and metaphysical canons of representation and signification, traditionally sustained by metaphorical meanings of light in relation to language. By questioning of the relationship between the subject of light and female subjectivity, the works of the women artists considered turns the metaphysical constructs of light into a practice grounded in experience. Whilst providing theoretical support to such a feminist critical position, this chapter investigates women's uses of light, foregrounding their rethinking of light through a feminist politics that supports affective and material investigations, merging in the proposition of a feminist visual rhetoric. The term 'visual rhetoric' designates here a feminist positioning in relation to the subject of light, a posture which does not support metaphorical representation of meaning, but the enactment of both visual and discursive contents in artistic discourse.

Some historical references help to contextualize this argument. In the late 1950s and most significantly in the 1960-1970s, women artists devised a feminist discourse in art, and this coincided with the extensive feminist debate upon ethics (Beauvoir, 1948; Irigaray, 1974), and the appropriation of language for women through a politics of 'sexual difference' (Langer, 1950; Kristeva, 1969; Cixous, 1976). The art critic and curator Lucy Lippard, in the anthological review *Six Years: The Dematerialization of the Art-Object*, 1973, discusses how feminism emerged particularly in the context of Minimalism and Conceptual Arts by rejecting the category of artistic-object in favour of an investigation of female practices and experiences. Lippard notes: 'the inexpensive, ephemeral,

²⁹ For a historical account of feminism, please see: Walters, M.2005, *Feminism. A Very Short Introduction*. Oxford University Press, Oxford.

unintimidating character of the Conceptual mediums themselves (video, performance, photography, narrative, text, actions) encouraged women to participate, to move through this crack in the art's world walls' (Lippard, 1973/ 2001, page XI). Whilst supporting such a feminist positioning in the artistic context, Lippard observes how in the work of women practices, the term 'dematerialization',³⁰ assumes a specific connotation contributing to the development of a feminist practice characterized by fragmentation, narrativity, interrelationships, performance, and feminist politics as seen in the work of artists Susan Hiller, Jenny Holzer, Mary Kelly, Barbara Kruger, and Martha Rosler, among others (ibid.). Among all forms of dematerialization cited by Lippard, this research focuses on investigating how women artists have begun to make use of light sources such as diffused, fluorescent, projected light, and LEDs to reflect a feminist ethics and politics.

One eloquent example is the work of the American Neo-Conceptual artist Jenny Holzer who, for the series of installation works *Truism*, 1977-1979, presented a piece which consisted of a statement printed and impressed on the illuminated billboard of the façade of the Cinegrill cinema in Times Square in New York. For this work, Holzer employed lighting materials, mainly neon and fluorescent light complemented by LEDs from 1992, as graphic signs to address a conceptual operation in a social context through the modes of a feminist communicative act. In particular, through her use of lighting materials, Holzer gives visibility to a feminist statement that resonates with the sentence: 'sex difference is here to stay'.³¹ In this context, Holzer's work is crucial, because it deploys a feminist argument which differs from the tautological statements of contemporaneous conceptual artists as examined in Section 2.1., making a case for a politics of sexual difference through an illuminated feminist statement and juxtaposing visual and literary citations. Drawing from her practice, this research questions whether the contribution of women artists is symptomatic of a broader feminist appropriation of light and language within the legacy of dematerialization.

³⁰ In a wider view, in *Six Years: The Dematerialization of the Art-Object*, 1973, Lucy Lippard addresses the category of 'dematerialization' in relation to the trend of Conceptualism, suggesting that these practices supported the understandings of art as an idea and art as an action (Lippard, 1973/2001, p. vii). However, this research draws from the particular feminist connotation that Lippard attributes to this term when examining how the introduction of inexpensive and ephemeral materials contributed to position the work of women artists interested in Conceptualism.

³¹ The work of artist, Jenny Holzer, was included in the exhibition *Issues: Social Strategies*, focused on work of the second wave feminist artists such as Mary Kelly, curated by Lippard at the Institute of Contemporary Art London in 1980. References to Marshall McLuhan's essay *The Medium is a Message*, 1964, are made explicit both by Lippard and Rosenthal who both posit significant considerations on light as a medium of expression and information.

It is in this historical context that light has begun to acquire specific material and perceptual connotations. In her essay "Notes on a Total Light," 1967, published for the exhibition *Focus on Light*, held at the New Jersey Museum in 1967, Lucy Lippard traces a genealogy of the use of light from modern painting (Turner, Monet) to abstract painting (Albers, Reinhardt, Rothko), to artificial light (Flavin), suggesting that within the context of Conceptual and Minimalist art, artists has begun to deal with light in terms of energy. Whilst debuting with the statement 'the light upon which this exhibition focuses, is above all a unifying agent' (Lippard, 1967, np), Lippard traces a lineage for non-representational uses of light, suggesting how the implementation of light sources and materials in Minimalist neon sculpture such as in the case of Dan Flavin's fluorescent fixtures, contributed to the construction of a conceptual experience. Citing McLuhan's statement 'light is information without content' (McLuhan cited in Lippard, 1967, np), Lippard foregrounds the contribution that Minimalist and Structural luminists have made in rethinking the category of objective-art into forms of energetic abstraction, a form imbued by the energy and the force of light but without specific meaning, rigorously controlled by constructive fixtures (Lippard, 1967, np). This implies, she adds, a sense of perception which does no longer regards the separate domains of representation, but light is the structure and the material of their work, challenging the notion of artistic object into a self-contained system (ibid.). Whilst referencing "Notes on Total Light," the art historian and art critic Nan Rosenthal, in the essay "Light Art," 1967, examines the emerging genre of light-art and states that this genre has contributed to a critique of the representation of light as a medium of perception, and has replaced it with an aesthetics of the message, identifying the logic that connects light to the message through the function of the sign (Rosenthal, 1967, p.49). Rosenthal analyzes how in light-art, light was used to convey forms of communicability that did not intend to signify but to communicate the force, the action, the sign, as a message. In this chapter, Lippard and Rosenthal's accounts enable an understanding of the dematerialized qualities of light in terms of energy, intensity, and transmissibility. By the term 'transmissibility' of light, I refer to the quality of carrying and conveying spatial and temporal frequencies before contents or meanings as perceived by the conscious mind. I intend to demonstrate how this qualitative differentiation allows innovative understandings through semiotics, affect, and material practices.

Critical and curatorial studies have dedicated extensive monographic investigations to the role of women artists dealing with the subject of light (Gregor and Janssens, 2006; Lausson, 2013; Pelz, 2004). In particular, a significant number of these

contributions have addressed a feminist material investigation of light by focusing on the sensory experience of light in multi-media practices (Zyman, 2006; Bal, 2007; Petric, 2013). However, no studies have examined the values that justify a feminist position and a feminist legacy in a debate as a means of visual and discursive contents. It is important, I argue, to foreground the women's contribution to a practice of light because as the feminist debate upon language in the 1960-70s contributed to the deployment of an ethical position for women, so I intend to fill this gap in the literature to sustain an affective and material-discursive practice of light, both merging into a visual rhetoric.

This chapter draws on the writing of the philosopher and psychoanalyst, Luce Irigaray who, in *Speculum of the Other Woman*, 1974, claims a feminist reading of Plato's Allegory of the Cave, in Republic, 514a-520, a reading informed by a politics of 'sexual difference' which turns the constructs of metaphysical system of representation and signification of light into a questioning of the mirroring of the world. Irigaray interprets the image of the cave as a womb in psychoanalytical terms, further exemplified by the *speculum*. Irigaray shows how this feminist position contrasts with the classical representation of light as an ideal form and a medium, turning light into an event seen in the cave, an event inscribed in a system of relations and subject to a process of repletion, reproduction, and formations (Irigaray, 1974/1995, p.246). In this view, Irigaray's contribution consists in the addressing of an affective and materially constituted approach to light that challenges the ways of understanding visual and discursive practices.³² Drawing from Irigaray's reading of the *speculum*, this chapter claims a feminist position by giving visibility and voice to the role of women artists. This investigation extends through a reading of Julia Kristeva's writing on semiotics (1980) and Suzanne Langer's inquiry on rhetoric (1950) because their contribution sets the basis for a feminist approach to light beyond representation and signification. I shall assess these findings in an analysis of the work of Mary Kelly, Grazia Toderi, and Rosa Barba, because through their respective use of projected light, video, and video-installation, their works figure an affective, intersubjective, and materialist use of light, suggesting a differential approach to the legacies of Minimalism, Video Art, and Modernism.

³² Further references on the critique of the system of representation of light are drawn from Barbara Bolt's critical analysis of the legacy of the Enlightenment. Suggesting a genealogy of feminist thinking of light (Irigaray, 1974; Vasseleu, 1998), Bolt tackles on the photological tenets of visual representation, analyzing how light has been traditionally understood through the association between forms and contents both falling into objects, supporting a unified field of vision and supporting the forms of legibility of objects in the world (Bolt, 2000, p. 204).

4.1. Forms of Affects and Meta-narrative: an analysis of *Multi-Story House* by Mary Kelly

This section focuses on an analysis of the narrative installation *Multi-Story House*, 2007, (fig.8) by artist Mary Kelly, developed in collaboration with sculptor Ray Berry, as part of the project in four acts *Love Songs*, 2007, presented at the Neue Galerie in Kassel for Documenta XII in 2007.³³ Kelly's installation gives visibility and voice to a multi-narrative that recounts women's experiences of the second wave of feminism in the 1960s, creating a dialectic awareness across feminist generations.



Figure 8. Mary Kelly and Ray Barrie, *Multi-Story House*, 2007
wooden frame, cast acrylic panels, plate glass floor, fluorescent light
installation view – Documenta Kassel, 2007.

Through an analysis of the formal features of *Multi-Story-House*, I examine the artist's choice of using of materials such as fluorescent light, glass, cast acrylic, and laser graphics, inform both the visual and narrative features of the work, suggesting an affective and sensuous approach to light which is aimed at questioning the memory and the legacy of feminism. Drawing onto the formal and material features of this work, I draw attention to the artist's positioning of a feminist, evocative, and silent discourse illuminated by light and founded in semiotics, a narrativity derived from fragments of texts and oral histories

³³ *Multi-Story House* was exhibited for three different exhibitions: with the project *Love Songs* for Documenta XII in Kassel in 2007, for the project *Four Works in Dialogue 1973-2011*, at the Moderna Museet in Stockholm in 2011, and for the exhibition *Mary Kelly: Projects, 1973-2010*, at Whitworth Art Gallery, Manchester in 2011. This analysis is based on the feminist literature on Kelly's practice and in particular, on a filmic documentation of *Multi-Story House* as part of the section *Sisterhood and After*, a project of the British Library Archival Collection.

which all contribute, I argue, to the strategy of a feminist visual rhetoric. In support of this analysis, this research engages with a critical discussion of Kelly's practice in the field of feminist studies (Iversen, 1997; Deutsche, 2006; Pollock, 2007; Richmond, 2008; Walsh, 2011) and examines Kelly's feminist contribution to a feminist practice and politics of light.



Figure 9. Mary Kelly, *Post-Partum Document: Documentation II Analysed Utterances and Related Speech Events*, 1975, detail white card, wood, paper, ink, rubber
installation View, Generali Foundation, Collection, Art Gallery of Ontario

From the late 1960s, Mary Kelly's practice has engaged with the second wave of feminism by giving voice to women's experiences, in particular in the context of the Women's Liberation Movement in the UK in the 1970s.³⁴ Among Kelly's early works, the installation *Post-Partum Document*, 1974-1979 (fig.9), consisting of six sections of miscellaneous materials documenting the first six years of Kelly's son's development and presenting a collection of the artist's writing on artefacts associated with the mother-child relationship, exhibited at the Institute of Contemporary Arts in London in 1976, is an eloquent example for an understanding of Kelly's approach to feminism. As Kelly states in "Notes on Reading the Post-Partum Document," part of *Imaging Desire*, 1998, this work is 'an attempt to articulate the feminine as discourse, and therefore places the emphasis on the intersubjective relationship which constitutes the female subject' (Kelly, 1977/1992, p.372). This early statement by the artist reflects a significant attempt to position a feminist discursivity that lies in the intersubjective trait of female subjectivity

³⁴ For further references, please see Binard. F., 2017. "The British Women's Liberation Movement in the 1970s: Redefining the Personal and the Political." In *The French Journal of British Studies*, XXII Hors série.

departing from reflections of what can constitute such a significant formative experience for women.

Commenting on *Post-Partum Document* in *Vision and Difference*, 1988, the feminist theorist and critic Griselda Pollock, asserts that Kelly's work reflects the ethos of female discursivity. Pollock analyses how this installation focuses on giving 'a voice from the position of the feminine and makes the spectator study the initiation of the child into a language which is the symbolic system of a patriarchal order' (Pollock, 1988/2008, p.232). Pollock's analysis gives evidence to Kelly's interest in designating not an auto-referential system of representation, rather a system of relations drawn from the Kelly's own experience as a mother and a woman artist in a way that sits between the private and the social contexts. Figuring a feminist discourse, Kelly's *Post-Partum Document* sets a triangulation of relations to reflect on the affective and moral condition of women between the personal (the child) and the social (the viewer) in a way that becomes political (the feminine). In this context, Pollock's observations enable an understanding of how Kelly contributes to the cultural and social positioning of a feminist argument and before I deal with an analysis of *Multi-Story House*, I intend to focus on a discussion of the artistic, ethical, and political contribution of Mary Kelly's practice from the positioning of a feminist cultural analyst.

The fundamental features of Kelly's practice can be drawn from a reading of the art theorist and historian Margaret Iversen's essay "Visualizing the Unconscious: Mary Kelly's installations," 1997, which examines the early stage of Kelly's body of work (1970–1992).³⁵ Iversen analyses the theoretical influences that have shaped Kelly's feminist position which emerges from the milieu of British feminism in London in the late 1960s where psychoanalysis and film studies have significantly influenced the feminist intellectual framework. Among significant examples, the theorist and psychoanalyst Juliet Mitchell who, in *Psychoanalysis and Feminism*, 1974, examined the condition of women in society, and of film theorist, Laura Mulvey who in *Visual Pleasure and Narrative Cinema*, 1975, posited a critique of the dominant politics of the gaze.³⁶ Whilst drawing this context, Iversen points out how Kelly's contribution to a feminist argument consists

³⁵ Among most significant works by Kelly analyzed by Iversen, M., *Post-Partum Document*, 1973–1978, *Interim*, 1984–1989, and *Gloria Patri*, 1992, which mark a transition from the artist's questioning on feminism between the second and the third waves of this political and social movement.

³⁶ With the term 'politics of the gaze' I refer to the feminist critique of the active and passive function of the gaze with regards to a gendered politics, traditionally defining systems of power control (Mulvey, 1975).

in sharing a distant reflection on cultural discourses as for Conceptualism but integrating a psychoanalytical method of investigation rather than the framework of linguistic analysis (Iversen, 1997, p.35). According to Iversen, this means to subvert the domain of pure reasoning to value instead, the raw material of subjectivity, a materiality of the unconscious, a materiality attached to the emotional, experiential, embodied, and relational aspects of women's lives (ibid.). On a political stance, Iversen adds, the artist's choice of employing a psychoanalytic intellectual framework contributes to a gendered differentiation of women's practices and this is fundamental for foregrounding both the private and the political conditions for women to be recognized themselves as active part of the society outside the traditional constitution of the family, sustaining models for the positioning of women's practices and discourses in the social context (ibid.).

Two psychoanalytic schools of thought among others influence Kelly's method of investigation of female subjectivity. The writing of Sigmund Freud and in particular the essay "Female Sexuality part of On Sexuality," 1931, is a fundamental reference for Kelly's practice because by dealing with the category of 'the feminine' in relation to the male model, Freud reflects on the importance of 'mental experience' for women. In his analysis of female education, he examines the mother-daughter's relationship by discussing the role that passive and active impressions play for the formation of sexual and mental experiences. Away from a patriarchal model supporting the condition of women being passive subjects of discourse, Freud argues that for women, formative processes occur through forms of affective attachment and in particular, he argues that this affective disposition is characterized by practices such as communication and listening which all produce active reactions and active responses over passivity (Freud, 1931/2001, p. 236). This approach justifies Kelly's feminist interests in forms of narrativity which combine the use of fragmentary texts, biographical notes, documentary, diary, and speech events to evoke a gendered discursivity, yet mute and irrepresentable. In Iversen's words, this strategy consists in the 'narrativization' of space, a method to visualize the unconscious experience of women subjects through signs and symbols (Iversen, 1997, pp. 41-44).

The psychoanalytic method of Kelly's practice, Iversen adds, draws a second layer of meaning from Jacques Lacan's psychoanalytic approach as he discusses in the essay "The Mirror Stage as Formative of the Function of the Revealed in Psychoanalytical Experience," 1949. Lacan offers a method for reflecting on the subject's process of self-formation between the stages of identification with the maternal figure and self-

determination. In fact, Lacan points out how the process of a child's formation is influenced and determined by the maternal figure and her capacity of establishing with the child a relation through language (Lacan, 1949/1977, pp.4-5). Lacan's method of analysis justifies Kelly's interest in the role played by women in a child's process of self-formation by virtue of a specific female intersubjective disposition. Drawing from these psychoanalytical schools of thought, I intend to demonstrate that Kelly's practice is informed by a critical reflection of the affective, intersubjective, formative, and narrative conditions of women's lives.³⁷



Figure 10. Joseph Kosuth, *One and Three Chairs*, 1965, wood folding chair, mounted photograph of a chair, mounted photographic enlargement of the dictionary definition of a chair, installation view, Museum of Modern Art New York.

In terms of discursive contents, as seen in *Post-Partum Document*, Kelly's practice consists in a method informed by her use of fragments of texts, narrativity, and oral histories through the forms of an intertextuality aimed to evoke affect as the ethos of women's dispositions before narration. Iversen draws this argument by comparing the conceptual aim of artist Joseph Kosuth for the work *One and Three Chairs*, 1965 (fig.10), an installation consisting of a triptych of three distinct objects such as a ready-made object (a chair), displayed between a black and white photograph, and a written text reading the definition of 'chair' according to the figure caption, and articulating a conceptual operation among the three registers (object-image-text) with the one of Kelly's practice (Iversen, 1997, pp. 38-39). Iversen states that although playing with these three registers (thing-image-definition), in her work, Kelly intercepts the potential of these signs (object-image-text) by enacting an interplay of references and extending the fixed

³⁷ Freud and Lacan's theories were employed as major references discussed by the feminist reading group *The History group*, in London between 1973 and 1989.

limits of the artistic object through affective differences as fragmentations and free-associations enacted by the viewer (ibid.).

Kelly herself makes explicit her interest in these strategies when interviewed by art historian and art critic Maria Walsh, in "Corpus," 2011, she remarks that 'language is the interface between the social and the psychic' (Kelly cited in Walsh, 2011, np),³⁸ and whilst remarking the psychoanalytical imprint of her practice questioning the intimate and social aspects of cultural discourse, her statement helps to explain Kelly's interest in a practice that could tackle - to quote a notable feminist argument (Hanisch, 1969/1970) - on the personal and the political dimension of women's lives.

'Visualization' is an equally important aspect of Kelly's practice, designating both a critical and a constructive strategy for feminist positioning. From a critical viewpoint, visualization provides a response to the feminist critique on traditional systems of representation. In fact, in contrast with the dominant logic of vision in the masculine culture as well as with formalist aesthetics, it regards, as Iversen points out, the possibility of visualizing the unconscious as the raw material of subjectivity (Iversen, 1997, p.39). In a wider view I suggest, for Kelly 'visualization' is both an ethical and political strategy because by offering an insight into the private sphere of women's lives through a critical reflective distance, it entails a political discourse regarding the necessity of making women's practices and experiences socially visible. In *Post-Partum Document* for instance, Kelly uses forms of visualization to position her work between an analysis of the artist's own experience and the construction of a system of relations which all make room for her 'subject' of responsibility (private) and the viewer's responsible engagement (political) with Kelly's installation.

But ultimately, as Iversen remarks, the discursive and visual registers of Kelly's practice are not fixed and do not merge in Conceptualism (Iversen, 1997, p. 39). Kelly shows instead that these registers are heterogenous and interchangeable in terms of performativity. In Kelly's words, the formal features that define the style of her practice, lie in the interplay of 'the fragmentation of the visual field, the imposition of a temporal sequence, the intrusion of peripheral vision, the ephemeral effect of light, and above all the physical presence of the viewer in the installation' (Kelly cited in Iversen, 1997, p. 39).

³⁸ In this interview by art historian and art critic Maria Walsh, Kelly makes explicit how *Love Songs* is the first project that intentionally and specifically deals with feminism and its legacy. By dealing with the influence of psychoanalysis in Kelly's work, the interview traces a retrospective approach of Kelly's body of work (Kelly, interviewed by Walsh, 2011).

Through this statement, Kelly explains how her feminist approach consists in a non-representational strategy set on the deconstruction of visual perception to posit the conditions for visualizing an event or an unconscious experience occurring in time and expressing through the interplay of free associations between affective movements, light, and forms of material embodiment.

The project *Love Songs*, developed between 2005 and 2007, belongs to a second phase of Kelly's practice and consists of four works or acts,³⁹ as Kelly defines them, which document and reflect on the legacy of feminism across generations. Presented for the major exhibition Documenta XII, 2007, *Love Songs* is conceived in response to one of the three leitmotifs addressed by the artistic director Roger Bruegel in this context.⁴⁰ In particular, *Love Songs* responds to the question of the section *What is to be done (Education?)* which aims to investigate the role of discursive communication in art and education, departing from considerations on the etymology of the German term *Bildung* (Education) which simultaneously signifies education, generation, and constitution (Buerger, 2005, np). Responding to these topics, *Love Songs*, Kelly questions the possibilities of making archival documentation a discursive communication for women's narratives by establishing a legacy of feminist practices.

As I shall examine in detail, the tone of this project is poetic. The title *Love Songs* is in fact, a citation of the poem "Love Letter," 1960, a text by the American writer and novelist Sylvia Plath, as a sixties' allusion to feminist freedom. Further assembling an anthology of visual, literary, and oral feminist citations, with this project, Kelly reconstructs a visual and narrative discourse from fragmented archival memories, displayed in four acts to document women's experiences of feminism and give voice to the different ideological positions that feminism has assumed in the 1960s, 1990s, and 2000s. Such a retrospective style testifies a reflective critical distance towards past events but is supported by an anachronistic display which supports a reconstructive method of interpretation based on free-associations and intertextuality, ultimately anchored in historicity and memory. It must be noted how this transgenerational imposition of temporal sequences is actualized by the artist's use of a remix-technique which draws

³⁹ Other works presented for *Love Songs* are the installations *Sisterhood is POW...*, *Flashing Nipples Remix*, and *WLM Demo Remix*, 2005–2007, which are based on archival investigation through the use of video and video-installation techniques.

⁴⁰ The other leitmotifs of Documenta XII questioned *Is Antiquity Our Modernity?*, to reflect on the relationship between modernity and archaeology, *And What is Bare Life?*, a questioning about ethics of subjectivity in the contemporary context.

onto the experiential and evocative aspects of the artist's personal archival investigation in ways that are not based on founded objects but in unconscious operations drawn from collecting fragmented narratives and texts.⁴¹ To a closer examination, it is important to observe how such retrospective, remixing method of investigation makes Kelly consider the use of diffused light, video, and video-installation as a means of illumination, visualization, and discursive contents for feminist practices.

Among the works presented for *Love Songs*, I shall focus on an analysis of the installation *Multi-Story House* (fig.11) because in this work, through her use of light, Kelly creates a diegetic space for an intergenerational multi-narrative and this choral statement, it could be said, is relevant to my questioning of a feminist, differential use of light and language. At the Neue Galerie, the art critic Susan Richmond, in the article, "Stop, Frame, Rewind, Push Forward: Mary Kelly's Love Songs," 2008, reports that *Multi-Story House* was displayed in an 'ultra-pink' fluorescent environment which pushed the boundaries of the white cube to designate a feminist connotation to the existing gallery's space (Richmond, 2008, p. 26).



Figure 11. Mary Kelly and Ray Barrie, *Multi-Story House*, 2007
wooden frame, cast acrylic panels, plate glass floor, fluorescent light
installation view – Documenta Kassel, 2007.

⁴¹ As the title of Kelly's performative work *Flashing Nipples Remix*, 2005 suggests, the uses a remix technique addresses a different order of temporality to the work which is not of historicity, but of affects, genealogy, and memory. Remix techniques designate in Kelly's work, an anachronistic montage that assembles archival visual and sonorous materials. On Kelly's use of this technique, please see Richmond, S. "Stop, Frame, Rewind, Push Forward: Mary Kelly's Love Songs", 2008.

Multi-Story House is a house which the artist conceives both as a domestic place and a political scene. In fact, the house is divided between an interior and an exterior to visualize both the private and the public dimension of women's experiences. In particular, the exterior of the house is composed of two registers, each consisting of four panels of composition on the later side of the installation whilst three registers designed by three panels are seen in the façade of the installation. In particular, the tympanum of the façade is impressed by a main inscription which cites the verses of Sylvia Plath's poem "Love Song," whilst the façade and the partition walls isolate four wooden frames which constitute isolated, yet constructed units of the installation. For each of these frames, the installation presents a cast acrylic panel carved with a laser-cut calligraphy, citing a collection of feminist literary and oral citations which disrupts the sharp division between the interior and the exterior. This strategy results with the interior of the house repeating the same inscriptions, illuminated by an artificial, diffused light which radiates from the floor, a pavement consisting of four fluorescent bars covered by a transparent glass surface. In the end, this diffused light illuminates the fragments of texts inside the house, modulating their reading through the casting of light and projecting ephemeral, imaginative and intertextual effects, making room for the viewer's experience inside the installation.

In the words of Kelly, *Multi-Story House* acts as the 'primal political scene' for documenting the legacy of feminism through a fragmented visual and narrative practice. (Kelly, 2011, p.26). As an archetype derived from psychoanalysis, a 'primal scene' is, according to Sigmund Freud, as he states in the essay "Studies on Hysteria," 1895, an image which shapes a child's sexual development between memory and imagination (Freud, 1895/1989, p.35). In literary studies, the notion of primal scene, according to the critic Ned Lukacher as he discusses in *Primal Scene. Literature, Philosophy, Psychoanalysis*, 1986, designates a narratological cliché, an intertextual event that displaces the notion of an event from the ground of ontology' (ibid.), a trope which sits 'between historical memory and imaginative construction, between archival verification and interpretative free play' (Lukacher, 1986, p.24). Through a psychoanalytical method of inquiry, Lukacher suggests that a primal scene is an archetypal, mnemonic image not grounded in a specific event, but in memory and Kelly similarly conceives the image of *Multi-Story House* as a figurative dispositive which is informed by a feminist politics, standing for the experience and the legacy of feminism. As a mythical figure, the installation is not grounded onto a specific event, but rather into a multiplicity of events

that the artist links associatively by bridging historical memory and imaginative construction, all grounded in the context of *Documenta XII* exhibition. In other words, *Multi-Story House* acts imaginatively as a trope which, whilst displaying its own associative construction and potential interpretations, finds its material presence in the physical image of a house, the primary unit of composition for women lives and experiences.

Multi-Story House is a 'primal political scene' because by making room for a plurality of voices, Kelly's installation positions and contextualizes a discourse on the role of female subjectivity which extends to the possibilities of creating an intergenerational feminist community and a context. When presenting this work for the exhibition *Mary Kelly: Projects, 1973-2010*, at the Whitworth Art Gallery, in Manchester in 2011, interviewed by art historian and art critic Maria Walsh, Kelly explains that *Multi-Story House* was suggested by the artist's encounter with different generations of women. In this context, Kelly defines feminism not only as an ideological movement, but as 'an epistemological event' (Kelly, 2011, p.28), an intellectual, ethical, and political phenomenon whose impact is at the center of the artist's questioning of how conveying meaning and values across generations (ibid.). Drawing from diverse experiences of feminism in the 1960s, 1990s, and 2000s, *Multi-Story House* provides the frame to discuss feminism as an ethical and a political subject and this explains why Kelly's work is a political scene that hosts a communicative dialogue between generations, establishing an order of temporality associated with memory whilst positing a feminist genealogy. On this particular order of temporality, Kelly adds that *Multi-Story House* reflects 'a performative synthesis of the past in the present that explores my own as well as the performers' imaginary investment in the history of sexual politics' (Kelly in Deutsche, 2010, pp.57-58). This resonates with an understanding of *Multi-Story House* as the primary scene for discussing a politics of sexual difference from the positioning of the feminist intersubjective. An ethical approach underpins Kelly's practice and this is founded in a triangulation that is concerned with a feminist positioning to reflect on past experiences whilst initiating the viewer in a process of documentation and interpretation of the historicity of feminism. The trope of the house sits from alluding to a site of domesticity – the traditional space ascribed to women – to that of being a public and political place that hosts a multiplicity of feminist memories, experiences, and narratives as an assembly.

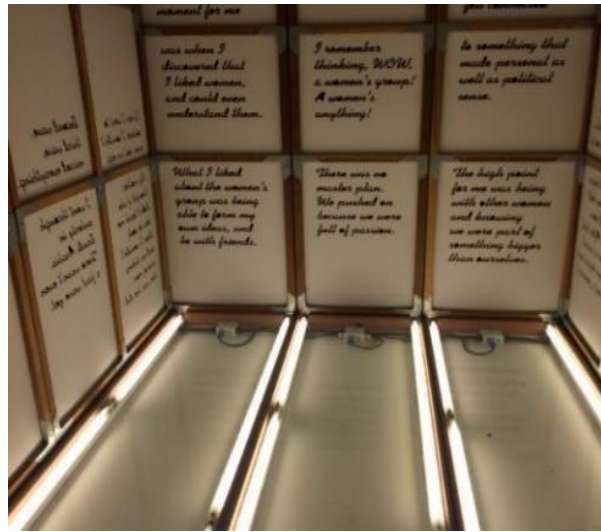


Figure 12. Mary Kelly and Ray Barrie, *Multi-Story House*, 2007, detail installation view – Documenta Kassel, 2007.

Inside the installation, Kelly proposes an intellectual operation which is drawn from her use of a diffused light illuminating the interiors. Differently from Conceptualism, the artist deploys four bars of fluorescent lights under a glass surface to delimit the floor of the installation, building upon the ephemeral qualities of this diffused, yet occluded light within the interiors of the house. I intend to demonstrate that Kelly's choice of using a fluorescent, diffused, and occluded light, contributes to a feminist appropriation of a practice of light that does not conform to representation or signification, but it regards affect in relation to the unconscious, yet materially constituted aspects of women's experience and narrativity (fig.12).

In support of this argument, I introduce here a comparison with the writing of the feminist thinker Luce Irigaray who, in *Speculum of the Other Woman*, 1974, posits a reading of the image of Plato's Allegory of the Cave which rejects the metaphysical and formalist foundations of representation to set a politics of sexual difference in relation to this image. Through a psychoanalytical method of inquiry drawn from a Lacanian interpretation of Freud, Irigaray rethinks Plato's allegorical image as a primal scene for feminist epistemology, turning the focus of her attention to the path that inside the cave, - the historically omitted path in Irigaray's politics - which constitutes the structure, the grounding, and the condition of an image and an experience of light (Irigaray, 1974/1995, p.246). Irigaray states,

Thus, in that cave, inside the cave, burns a fire “in the image of” a sun. But there is also a path, no doubt made in the image of the conduit, neck, passage, corridor which goes up (or rather would go down) out of the cave towards the light of the day, towards the sight of the day. Gallery, sheath, envelope-passage, enveloped, going from the daylight to the underground grotto and its fire. A conduit which is taken up and reproduced inside the cave. A repetition, representation, figuration re-enacted within the cave of that passage which we are told leads in and out of it. Of that path in between. Of the “go-between” path that links two “worlds”, two modes, two methods, two measures of replicating, representing, viewing, in particular the sun, the fire, the light, “objects”, and the cave. (Irigaray, 1974/1995, p.246).

In this introduction, Irigaray sets the grounding for rethinking the system of representation of light by turning the focus from a questioning of light as an ideal form and seen in images as replicas, to the path that sits in between ‘the image’ of light and matter. Irigaray suggests a different order of manifestation, turning her attention to the cave, the path between the two realms, the fundamental passage in Irigaray’s words, omitted in the history of representation. By addressing a politics of sexual difference, Irigaray metaphorically reads the image of the cave as a womb, the figure of the maternal body whom function consents in her words, ‘the mirroring of the world’, a different order of ‘representation’ which is exemplified by *the speculum*. (Irigaray, 1974/1995, pp.246-247). Through *the speculum*, Irigaray further suggests a different orientation that turns the allegorical image of cave into a dwelling, a path between two realms where light itself is given through processes of repetition, formation, reproduction, and performativity in relation to matter. Turning representation into a mirroring and a dwelling, Irigaray’s method of analysis deploys the conditions for thinking about light through a feminist viewpoint, a positioning which regards the path from light towards matter and in this research, I am interested in how this shift connotes an affective, formative, sensuous, and ethical experience of light.

My argument is that the ethical turn addressed by Irigaray in her feminist reading of the Allegory of the Cave, applies to Kelly’s use of light in *Multi-Story House* because similarly, the artist chooses to deal with light not to build a metaphorical construct, but to designate an ephemeral, yet diffused form that supports women’s experiences and narratives. Through her use of four fluorescent light’s bars covered by a glass surface at

the basis of her installation, Kelly deploys the condition for constructing a common ground for women's experiences, a dwelling which acts as a place for experiences and memories as processes of making-knowledge. I shall discuss how in *Multi-Story House*, light is the ground, the place, and the constructive form of an affect that modulates experience by structuring, illuminating, and projecting female narratives.

According to Irigaray, to conceive light inside the cave means to challenge the transcendental and formalist constructs of representation and signification and reposition them with an inquiry of the *speculum*. As Irigaray points out, the *speculum* allows a mirroring, a particular form of reflexivity that on the one hand, is associated to memory whilst on the other hand, it opens up to the exterior. In Irigaray's words, the cave figures an 'inner space of reflection' and 'a place of projective functions' (Irigaray, 1974/1995, p.255) and these functions suggest that rather than supporting systems of intelligibility seen from the self-reflexive viewpoint of a subject, the *speculum* solicits a reflexivity that is understood as an affective disposition of the unconscious. In addition, an affective disposition is for Irigaray, a subjective impulse, a drive and a movement split between inner and outer responses in ways that imply a modification (ibid.). In other terms, Irigaray adds, this mode of apprehension is both an unconscious experience and a projection, an affective disposition which acts in a state in-between and designating the ethos of women practices.

Irigaray's differentiation supports the argument that in Kelly's work, light is not categorizable only in formalist terms, but it can reflect into an affective mode of apprehension, an inner form of reflexivity which splits between the unconscious and the exterior, almost like an illumination involving with agency. This affective figuration, I argue, is seen in *Multi-Story House*, where Kelly deals with the ephemeral and diffused qualities of light, structuring the forms of affect to illuminate the collective experiences and memories of feminism. In fact, the artist's use of fluorescent light bars sculpts and stimulates a reflection which affects the viewer's experience inside the installation in a way that solicits memories whilst projecting such a raw, ephemeral affective form towards the exterior, constructing a social and political context for feminist discursivity. In so doing, through the effects of ephemeral and diffused light, Kelly solicits an unconscious experience that splits between the private dimension of women's lives and the social context, and this operation creates the conditions for experiencing her work by structuring a system of references and relations around the epistemological event of feminism.

In addition, it must be noted how within the interiors of the house, the use of fluorescent light and glass materials implies a reflection that does not designate an autoreferential system by serving subjectivity in terms of self-identity, but this inner form of reflexivity transfigures light into an affect as a means of formative agency. In other words, this strategy suggests the non-representational position of Kelly's work because her work does not serve the logic of subjective identification in relation to the artist, but it deals with light to structure and cultivate a system of relationships between the self and the Other. In a wider view, by making use of light and glass's materials, Kelly provides the ground for deploying a feminist intersubjective positioning which contributes to the reflection and the projection of a lived, experiential knowledge on the topic of feminism.

Further, this form of inner reflexivity figured by the house-installation, designates not only a positioning, but a formative practice. Here, it may be useful to discuss the essential difference between Conceptualism and Kelly's practice of diffused light because this allows further understanding of the feminist, affective approach of the artist in relation to light. This aesthetic strategy, I suggest, cites the Minimalist sculpture of artist Dan Flavin who, as discussed in Section 2.4., firstly made use of light fixtures such as for the series of thirty-nine sculptures *Monuments*, 1964–1990, consisting of modules of artificial neon light components articulating a geometrical composition that phenomenologically and poetically engages with existing spaces as the form of a conceptual operation. Inside *Multi-Story House*, Kelly uses a similar strategy through her use of four fluorescent light bars displayed onto the floor of the installation and covered by a glass plate, but rather than conceiving them phenomenologically through the constructive forms of a sculptural composition, she builds upon the excess of diffused light occluded by the glass material to visualize a formative experience that reflects into the registers and the modules of the installation-house. This double tone connotates the constructive function of the artist's use of lighting materials - diffused light, retro illuminated panels, laser cut-calligraphy - and is repeated in a series of strategic and intellectual operations drawn from her juxtaposition of both affective and critical thinking in ways that become formative for women's practices and experiences.



Figure 13. Mary Kelly and Ray Barrie, *Multi-Story House*, 2007
installation view, detail – Withworth Gallery, Manchester, 2011.

Through her use of lighting modules, Kelly opens up to the possibilities of situating a diegetic space for reflection and discussion of the legacy of feminism. I suggest that in this sense, *Multi-Story House* designates an ethical and a political place for women's experience and narrativity. Through a strategy of visualization conceived as a dwelling, Kelly displaces the metaphysical representation of light within experience and proposes a feminist way of thinking about light as an unconscious, affective disposition which translates into a formative agency. I have discussed how structuring, positioning, reflexivity, and projection are the strategies used to set the conditions for visualizing women's experiences and narratives. They differ from metaphorical or symbolic constructs because they are grounded in the lived experience and memories, evoking an affective and material dimension of light. I shall further discuss how these forms of visualization are juxtaposed to a feminist approach to language, narrativity, and rhetoric.

The registers seen in the partition walls of *Multi-Story House*, support the construction of a feminist multi-narrative and modulate the projection of the casting of light between the interior and the exterior of the installation (fig.13). For each wooden frame on the façade of the house in fact, a cast acrylic panel acts as an orientational aid to guide experience, the process of meaning-making and the formation of a context. As Kelly suggests, this strategy is determined by the function of the 'casting of light' (Kelly, 2011, n.p.) an aesthetic strategy consisting in illuminating and projecting light in reason of its ephemeral, constructive, and connotative effects. This strategy is important

because it suggests how for Kelly, light is not a neutral medium, neither a reflection, but is both a constructive and formative material which acts in reason of its projective function. In fact, in this work, the artist shows how the casting of light modulates the experience of her work without specific connotation but in a system of free associations, putting into play the discursive contents of *Multi-Story House*, and illuminating and interweaving the fragments of texts impressed on the façade as an intertextual practice.

In support of this observation, it is relevant to discuss Kelly's use of a method of 'material indexicality' because it explains the bond established by the artist between light, affect, and materiality, all informing both the visual and discursive contents of her work. In the interview *Corpus*, 2011, Kelly introduces this method to describe a practice derived from an analysis of materials and using a linguistic register to frame materiality in terms of visual, written, and verbal codes. I shall return to an analysis of these codes later in this chapter, but here it is important to discuss the affective connotation for the relationship between materiality and linguistics through a feminist politics. Kelly draws from Rosalind Krauss's theorization of the notion of 'material index' as the author posits in *A Voyage on the North Sea: Art in the Age of Post-medium Condition*, 1973, to designate a method for thinking about artistic experience not as a passive object of inquiry, but as a form of enactment. According to Krauss, a 'material index' designates a code of interpretation that is not associated with the binary oppositions between the signifier and the signified, rather it privileges a system of free-associations derived from affects onto materiality (Krauss, 1999, pp. 52–53).⁴² From Krauss's analysis, Kelly formulates the method of 'material indexicality' as an aesthetic strategy which is not determined by the physical qualities of materials, but by their 'affective residue', as she states, the quality concerned with the evocation of memories and experiences through the marking of signs (Kelly cited in Walsh, 2011, n.p.). Further, Kelly adds that the method of material indexicality allows her to translate 'affect into form' (ibid.) which means to draw on the relationship that exists between light, affect and linguistics, to project a system of immaterial, yet imaginative forms. Materiality, affect, sign, imaginative form, all define here the functions of the artist's interest in the casting of light as an affective, projective strategy to structure the visual and narrative contents of her work.

⁴² The notion of 'material index' emerges from Krauss's discussion on the post-media condition of artworks. Krauss states that the specificity of the medium is never a neutral mediation, but it imposes a form of an enactment of differentials (a differential specific), a form of active engagement with artworks. (Krauss, 1999, p. 53). Krauss's observations are significant to reflect on the role of affect between materiality and conceptual operations.

Kelly shows her method through her use of a laser calligraphy that cuts up fragments of text as literary citations impressed onto each individual cast acrylic panel of the house's façade. Whilst revisiting the idea of writing with light through the Dadaist ready-made literary technique of cut-up, used for example by artist Tristan Tzara (1920) and aimed to generate a new text from an existing text, Kelly applies her method of material indexicality to her use of laser light and calligraphy to draw a formalist, yet affective writing.



Fig.14. Mary Kelly and Ray Barrie,
Multi-Story House, 2007,
close up detail of laser-cut calligraphy
installation view – Documenta, Kassel, 2007.

Through this operation, I argue, Kelly reclaims a feminist approach to language which is aligned with the feminist thinking of Irigaray as she posits in *Speculum of the Other Woman*, 1974/1995, because both turn towards an affective and material approach. As for the argument against the system of representation of light earlier discussed, so for language, Irigaray claims a feminist appropriation to language that moves away from the tradition of logocentrism⁴³ according to which women are seen as being predicates of discourse. In the section “The Little Girl,” Irigaray examines the conditions and the contexts that allow to initiate women to language education and asserts that differently from logocentrism, female discursivity articulates through forms of attachment to material and bodily conditions (Irigaray, 1974/1995, pp.104-107). These forms of attachment, otherwise understood as an affective disposition that begins

⁴³ With the term ‘logocentrism’, I refer to the linguistic structuralist tradition which sustains the metaphysical foundations of meaning in terms of binary oppositions (Saussure, 1916). Through a politics of sexual difference, Irigaray, as she states in *This Sex Which is Not One*, 1985, argues it is not possible to situate female subjectivity in such conceptual or linguistic classifications, but she claims that the feminine ‘speaks’ forms of expressivity that should be situated in the unconscious according to a psychoanalytical model (Irigaray, 1985, pp.122-123).

With familiar figures through the act of affect and being affected by language, Irigaray states, should not be understood as a passive form of designation, but as an initiation to language through subject–object's relations (ibid.). Irigaray's analysis of language in women life and education is important here to remark how the ethos of a feminist discursivity is essentially a formative process, a process driven by affect as material and bodily affectations and articulating by means of relations as a form of enactment and reinvestment of contents.

In this context, Irigaray's argument is important for an understanding of Kelly's use of a method of material indexicality which draws onto the affective residues of an ephemeral, material, and bodily perceptions of light to address a fragmented narrativity as a process of material-discursive formation. In particular, the artist's use of a laser-cut technique intends to give relevance to a feminist writing which is not a passive form of designation, but an enactment, an affective mark that actualizes as a form of reinvestment of feminist discursivity by interweaving visual, literary, and oral citations in a multi-intertextual practice. Further, Kelly shows that this style of writing is not fixed in signification, but it creates the conditions for free associations that poetically affect experience and imagination. By setting the frames for articulating a dialogue across feminist discourses and generations, Kelly foregrounds the constituent features of women discursivity, connotating it with an ethical, formative, and political dimension. From these considerations, the next section dwells on analysis of the literary fragmented citations cited by Kelly in *Multi-Story House* in support of an investigation of the artist's interest in an intertextual practice that contemplates visual, written, and verbal codes. Next, I shall examine the differences between these registers, all concerned with the deployment of a feminist positioning, references to literary and oral citations, and the enactment of a feminist politics.

Multi-Story House associatively uses different narrative registers such as poetry, expository writing, and oral history. As for poetry, the major inscription impressed on the façade of the house, cites the poetic verse "From Stone to Cloud," an excerpt from the poem "Love Letter," 1960, by the feminist writer Sylvia Plath. According to the theorist Susan Richmond, as discussed in "From Stone to Cloud: Mary Kelly's Love Songs and Feminist Intergenerationality," 2010, Kelly reference to Plath's verse guides the vertical movement implied by the installation which speaks of a liberation that is both personal and political (Richmond, 2010, p.59). By citing this poetic verse to evoke the spirit of

feminist freedom from the 1960s, Kelly uses a laser-cut calligraphy to enact a poetic experience inside the installation and to draw an ascendant movement that is synonymous with inner reflection, profundity, and engenderment. Through the use of a visual strategy and a written poetic reference, Kelly's poetic use of light supports an affective movement that is an inner, private, subjective reflection related to memory. However, this affect, this vertical movement, is not a neutral operation, but is a projection and a modification in a way that becomes a formative experience of the self and in relation to the Other, a questioning that the artist addresses to the viewer regarding the ways to relate or not to relate to the thinking of feminism.

A second citation uses a written code and cites the title of the feminist text *Our Bodies, Ourselves*, 1970, written by a collective group of women as a manual, which was crucial to the emancipation of women's health and culture in the 1970s.⁴⁴ In line with Irigaray's argument on the embodied nature of female discursivity, Kelly uses this citation to evoke the image of the female body as a mental construction for thinking about female positioning. By quoting the title of this text, Kelly suggests a form of visualization through language which creates the conditions for an educational, formative practice that supports a process of identification in a community, opening to a discussion for the role of women in society.

Another fragment of text makes use of oral history through the form of a transcript. Through this quote, Kelly makes explicit her interest in differentiating between written and verbal codes: in fact, if written codes are intended to re-enact historical references from feminist literature, verbal codes are seen as the allusion to oral histories by suggesting a form of empowerment, an enactment that can be unconsciously performed by the viewer although remaining silent. For this quote, Kelly uses a laser-cut calligraphy to recite the verse of a woman speaking about her experience of feminism in the 1980s, reflecting on her mother's narrative of feminism. The text recites:

⁴⁴ From a reading Irigaray's ethics, this research examines how the feminist 'ethics of care' discussed by Irigaray in "Fecundity of Caress," part of *Ethics of Sexual Difference*, 1984, has evolved within the history of feminism (Gilligan, 1982; Alison, 1995;) and has influenced feminist practices. From Irigaray's critique of binary oppositions, her questioning of subject-object's relations and her theorization of affect and intentionality as female dispositions, this research draws the basis of an ethics of light from a feminist viewpoint.

I owe the seventies quiet a lot but I wouldn't say I missed something. In the eighties everyone kept insisting feminism was over. That just made me more determined to find out what it was all about... Everyone had a voice. I finally felt connected to something that made personal as well as political sense. The high point for me was being with other women...we were part of something bigger than ourselves. (Kelly, cited in Richmond, 2007, pp.70-71)

With this quote, Kelly deals with the communicability of narratives across different generations of feminists. In fact, the quote narrates the personal experience of a woman approaching feminism as a private and political issue, reflecting her positioning in relation to historicity. This citation is imaginatively voiced by a woman who raises her critical point with regard to the legacy of the second wave of feminism and in so doing, Kelly visualizes an enactment for past and present narrations, thinking about the reinvestment of feminist narratives across subjects and generations. By alluding to the voice of a woman, Kelly makes explicit the affective tone of her narrative because this voice is moved by an intentionality and by modifications. This is a rhetorical strategy, I suggest, because whilst reflecting an evident feminist positioning, it 'speaks' affectively and persuasively both to a private (ethical) and a social context (political).

Voice plays a fundamental role in Kelly's practice. The artist states,

These voices are kind of like found objects, they are things people have said to me, words as things, a material I'm working with, carving, modelling, in a way. For me the voice is very palpable, which is why, ultimately, having the words sung, made sense. (Kelly, 2008, p.97)

Kelly's practice builds upon the act of listening to women's experiences but more than dealing with the contents of these speeches, she is interested in the voice of women. She suggests an intellectual operation that conceives the voice as a pure act of recollection from memory, a form of dematerialization that leads to a pure perception of past events, reconstructed through the affective and sensuous qualities of the words being voiced. In other terms, Kelly conceives the voice as a form of actualization for the things being communicated, suggesting that speech is like a found, ready-made object but imbued with its own sensuous materiality. But Kelly's statement puts here forward a second fundamental aspect of her practice: the idea that the voice is not a passive form for communication and meaning. That is rather an act, in particular 'a speech act', a term

derived from the linguistic analysis of the philosopher and linguist John Austin, as discussed in *How To Do Things With Words*, 1962,⁴⁵ which is used to attribute an ethical connotation to the voice because prior to the function of communicability (e.g. statements, sentence), the voice reflects the intentions, the affective disposition, the circumstances, and the positioning of the subject. In other terms, Austin's contribution consists in having defined the affective, intentional, cultural, and contextual conditions that make verbal discursivity an act and an ethical affirmation, and his argument is important here in support of a feminist material, formative discursivity. For the same purpose, Kelly integrates a third, verbal code in conjunction to her use of visual and written strategies to give visibility to a feminist ethical, affirmative positioning.

In *Multi-Story House*, this operation, I argue, designates a rhetorical strategy whereby the voice acts as a unifying agent for multi-narrativity, suggesting the posture of feminist affirmation. The artist extends this function to a multiplicity of women and viewers as if letting this voice "speak" of the ethos of feminist practices, an expressivity that crosses the register of statement and the register of semantics to draw a discourse on the role of feminism. In addition, the figuring of a voice also plays an important role in relation to the viewer's experience of the work. In fact, this evocation touches on the affective disposition of the viewer to be responsive or not to a 'fidelity to an event'. According to Rosalyn Deutsche, as she discusses in "Not Forgetting: Mary's Kelly's Love Songs," 2006, the fidelity to an event⁴⁶ designates an affective disposition such as an ethical subject-positioning concerned with the ways of being caught up in an event in reason of an intentionality (Deutsche, 2006, p.30). Deutsche reflects how any event calls for an ethical responsibility of interpretation imposing a new sense of being of the subject who is 'simultaneously himself and in excess of himself' (ibid.). This ethical stance is particularly important in *Multi-Story House* because as an epistemological event, it questions the legacy of feminism as a personal and political, intersubjective matter. Whilst designating a particular affective experience, this notion also suggests how for Kelly is

⁴⁵ Austin's theory was further developed by the pragmatist philosopher and semiotician, John Searle in *Speech Acts: An Essay in the Philosophy of Language*, 1969, as a subfield of pragmatics and based on the principle that words are used not only to present information but also to convey actions. Speech Act Theory is a major reference for feminist philosophy of language who attributed to it an ethical position and among major references, the work of feminist thinker Judith Butler discusses the performativity implied by speech act theory within feminist discursive practices (Butler, 1996).

⁴⁶ The notion 'fidelity to an event' derives from Alain Badiou's *Being and Event*, 1988/2013, where the notion describes an ethical position in relation to a past event and questioning its mode of future interpretation (cited in Deutsche, 2006, p.30).

important to form an experience that is not fixed, but it builds upon possibilities of formation, enactment, and engenderment.

On 'the fidelity to an event', the feminist theorist and critic Griselda Pollock offers a reading that touches on the genealogical and ethical implications of this term. According to Pollock, 'fidelity to an event' defines an ethical position in a process of historical reconstruction when historical documents are not sufficient to capture the truth of past-events (Pollock, 2008, p.viii). In her reading of *Multi-Story House*, fidelity is the affirmation of an affective intentionality derived from past experiences of feminism and aimed to construct the reinvestment of feminist narratives across generations and contexts. This entails, she adds, that by questioning the legacy of feminism as a past event, a viewer can discover the new that can emerge from it (ibid.). Pollock's reading of this affective disposition extends thus, the questioning of female subjectivity to a cultural context concerned with the future possibility of feminist narratives and enactments. Based on these considerations, it could be said that *Multi-Story House* is both the private home that hosts women's experiences and narratives as well as is a public house that gives visibility and voice to the legacy of feminism, to use here an image drawn from the feminist thinking of Irigaray (Irigaray, 1984/2004, p.107).⁴⁷ As suggested by Griselda Pollock, *Multi-Story House* is an ethical place, 'a path of difference and co-existence through the dwelling of an experience where the semiotics precedes the systematic order of language' (Pollock, 2008, p.iii). Pollock argues for ethical contribution that Kelly has posited in addressing a path for recollecting and experiencing memories and narratives of feminism between the private and the social, and her statement attests here my argument on Kelly's choice of using light as a dwelling, a path that guides towards formative, affective, and intellectual experiences. In this sense, *Multi-Story House*, through the use of fluorescent, occluded, and diffused light, posits an important step forward for the appropriation of the subject of light by women artists, as a matter of visual, rhetorical and ethical concerns (fig.15). Drawing from an analysis of *Multi-Story House* by Mary Kelly in view of Luce Irigaray's feminist reading of Plato's Allegory of the Cave, this research posits the fundamentals for thinking about the practice of light as a matter of feminist concern. Differently from the domain of representation and signification, a

⁴⁷ I draw this image from Luce Irigaray's discussion on ethical space of language for women as posited by the thinker in the essay *Love of Same, Love of Other, part of Ethics of Sexual Difference*, 1984, (Irigaray, 1984/2004, p.107) where she uses the image of the house to deploy the frame of a feminist use of language as a system drawn from affective movements and dispositions in a way that implies relations.

feminist positioning enables to conceive light as a dwelling, a path whereby light itself is subject to material formations and the reinvestments of meaning.

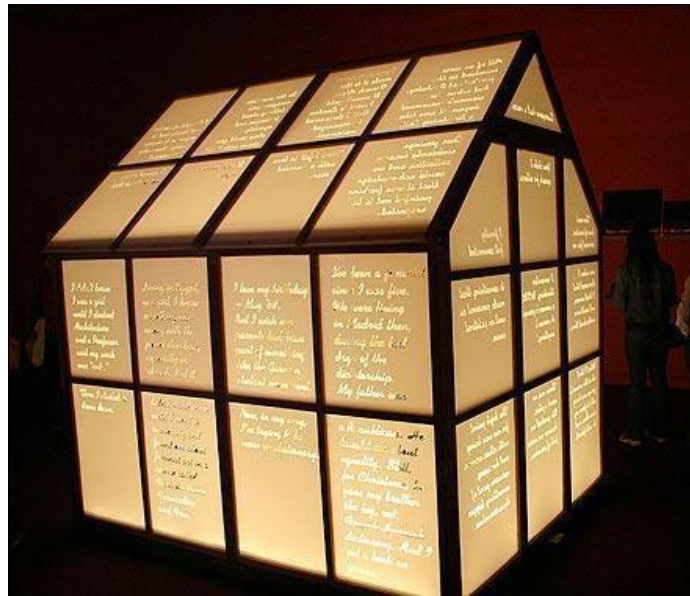


Figure 15. Mary Kelly and Ray Barrie, *Multi-Story House*, 2007
installation view – Documenta Kassel, 2007.

In particular, these configurations addressed by the artist testify an affective, bodily, and materially attached approach to light which intertwines a recollection of memories with the construction of possible futures. These considerations apply to both the visual and discursive contents of the work, suggesting the rethinking of the alliance between light and language through an understanding of the relationship between affect and matter. In fact, whilst visually, light serves to give visibility to a questioning of female subjectivity within the legacy of feminism, from a discursive perspective, light designates an enactment, an enactment that restores memories through citations as written codes, and an enactment towards possible futures through the evocation of verbal codes, both juxtaposed for the creation of a diegetic space of a female multi-narrative. These features connote, I argue, a visual rhetoric such as the primary condition for the positioning of a feminist material-discursivity of light in visual arts. Ultimately, this positioning informs the ethical posture of *Multi-Story House* because, by questioning the private and political dimensions of women's lives, the artist shows how matters of feminist concerns are relational, transversal, and intergenerational. In the next section, I extend this latter proposition to a questioning of light and forms of civilization.

4.2. The Chiasmus between Affect and Materiality: an investigation of *Red Babel* by Grazia Toderi

This section discusses the practice of artist Grazia Toderi through an analysis of the double video-installation *Red Babel*, 2006 (fig.16), presented at the Contemporary Art Pavilion in Milan in 2006.⁴⁸ With this work, Toderi revisits the iconic image of the Tower of Babel through a study of the painting by the Flemish artist, Peter Bruegel, 1563, which the artist reconfigures as a landscape of superimposed images through her use of a double-video projection. In contrast with the representation of symbolic forms traditionally attributed to this image, the artist foregrounds the still image of the city of Babel as a landscape of luminous sedimentations, redoubled and inverted in an immersive video environment.

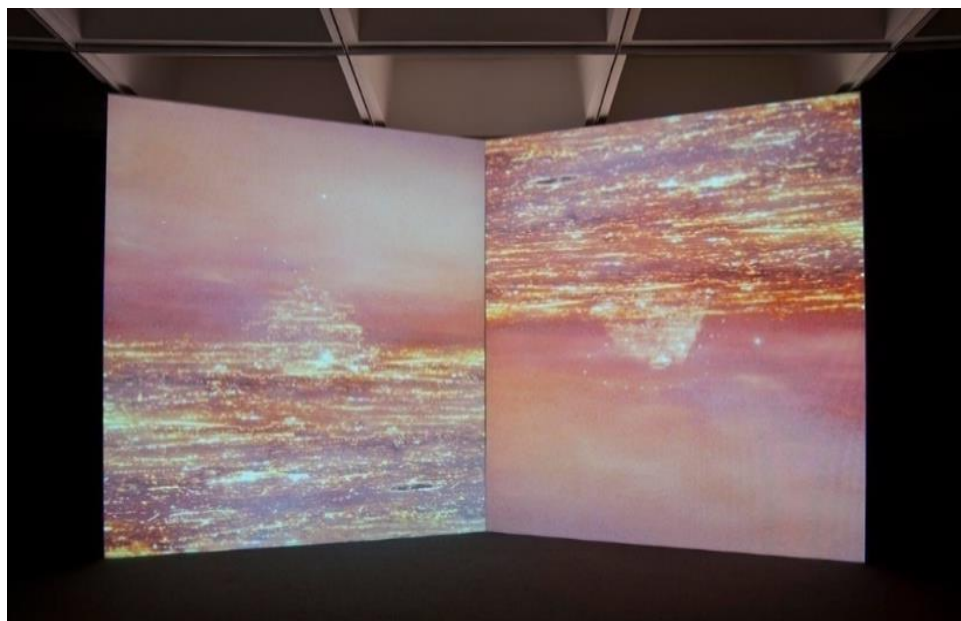


Figure 16. Grazia Toderi, *Red Babel*, 2006
video, sound, projection, loop
installation view – Sonnabend Gallery, Paris, 2011.

This analysis examines the sensuous qualities of this landscape, which is saturated with tonal and chromatic values, suggesting the repositioning of light within the materiality of the image through video. Drawing from observations of the chromatic and luminous fields of this video-image, I shall argue that *Red Babel* is an affect-image seen in the affective movements of projected light bridging past and present narrations to figuratively establish a chiasmus between the two video-screens. I shall relate these propositions to

⁴⁸ The analysis of this work is based on a correspondence with the artist, research on the literature on her practice, and my visiting of the exhibition *Words and Stars*, in 2017, at the Mart Museum, Rovereto.

the writing of art critic, Chiara Parisi (2004) and to the method of material-semiotic analysis of the feminist thinker, Julia Kristeva (1980) to discuss Toderi's revisiting the questioning of light and language through a poetics of light and myth.



Figure 17. G. Toderi, *Il Decollo e Il Fiore delle 1001 Notte* (*The Take-Off and the Flower of the 1001 Nights*), 1996
Courtesy la Biennale di Venezia.

From 1993, since the work *Forget-me-not* (fig.17), Toderi has chosen video as the medium of her practice. Whilst positioning the art of video in line with drawing, photography, and projection techniques, in conversation with art critic and curator Stefano Chiodi in “Una sensibile differenza (A Sensible Difference),” 2006, Toderi explains her choice of using video by pointing out how this medium allows her to explore the gestural and performative aspects of an action as opposed to the representation of symbolic forms that characterize traditional practices such as painting and sculpture (Toderi in Chiodi, 2006, p. 291). In fact, early video works such as *Forget me not*, 1993, visualizing the still image of a plant subject to a violent jet of water through a fixed camera position, makes evident Toderi's interest in superseding the aesthetic preoccupation with formal and symbolic composition to deal with the affect, performativity, and the expressivity of light through the language of moving images in video. In particular, the use of video becomes for Toderi, an important tool to overcome traditional systems of representation because beyond the domain of figuration, light, both a source and a sensuous material, allows her to investigate the action and the movement of an image, establishing - in McLuhan's words - an identity between the medium and the message. This analysis focuses on the investigation of one particular phenomenon explored by Toderi, the phenomenon of ‘luminosity’ which designates the emission of light in terms

of energy and temperature, whose effects pervade her images, remaining suspended without referent to evoke a recollection with time and memory.

Video is an electronic, digital, and expressive medium founded on the power of information and transmissibility of light. Toderi discusses how the choice of using this medium was suggested to her from early stages. In fact, the early video-works *Nata nel '63* (Born in '63), 1996, and *Prove per la luna* (Attempts for the moon), 1996, *Il Decollo* (Take off), 2000 (fig. 17), whilst evoking an artist's childhood memory related to the Apollo 11 mission for the moon landing in 1969, both deal with light as a means of information and reflect on the impact that telecommunication technologies have had in shaping the collective space-time imaginary.⁴⁹ Through these works, Toderi identifies and address an area of investigation that reflects a contemporary imaginary that she explores by questioning the relation between humans and the cosmos. According to the art critic and curator Rosa Martinez, this area of interest resonates with the object of inquiry of Renaissance painting which similarly supported the artistic representation of modern scientific discoveries. Martinez adds that this interdisciplinary approach becomes an important reference source for the artist because it suggests Toderi an approach to video that is both scientific and pictorial (Martinez and Risaliti, 1998, p.45). In this fashion, the art critic and curator Harald Szeeman focuses on the forms of theatricality of Toderi's videos to discuss the experimental character of the artist's work which, he argues, lies in the expression of movement and light by taking different stages and dimensions and reversed them in relation to human experience (Szeeman, 2004, p.58). On the same topic, the art critic and curator Germano Celant offers a critical perspective that defines the work of Toderi as a new planetarium of the visible, a practice which deals with the specters of a virtual perceptual reality to configure a 'teledynamic continuum' (Celant, 2010, pp.68-69). From different viewpoints, Martinez, Szeeman, and Celant concur that Toderi's practice contributes to the configuration of a scientific and poetic imaginary through the power of information of light, the power of transmitting spatial and temporal data that relate on the one hand to historicity and memory, whilst on the other hand, to innovative forms of discovery, bridging multiple temporalities between past and present interpretations.

⁴⁹ Toderi's interest in this imaginary can be contextualized with the emergence of areas of investigations such as modern cosmology, telecommunication technologies and modern science fiction which significantly evolved in the 1960s due to discoveries in science and technology. Among all mediums, Toderi narrates how her interest in video derives from her interest in television which became a mass-medium in the 1960s. (Toderi, 1999, pp.80-83).

Red Babel, 2006, I suggest, marks a turning point for the artist's practice because with this work, for the first time, Toderi adopts the large-scale format of a double video screen installation. This work emerges as the culmination of an investigation that aims to reflect on the history and the evolution of human civilization, using light as a primary source for communication technologies through the frames of the places of collective experience such as theatres, arenas and cityscapes which will lead into a cosmological investigation in a late phase of her practice.⁵⁰ In this particular case, Toderi chooses to deal with the image of *Red Babel* because, by revisiting the myth of the Tower of Babel, traditionally understood as the formal symbol of the construction and the dispersal of idioms and languages in the world, the artist moved beyond formal composition to identify in light a unifying agent which she considers as a principle of civilization that applies to all humans.

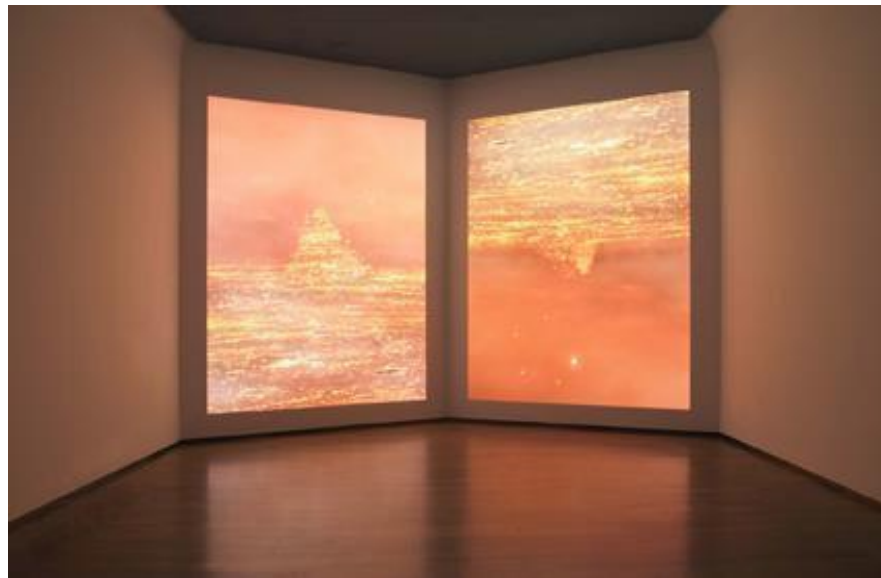


Figure 18. Grazia Toderi, *Red Babel*, 2006
video, sound, projection, loop
installation view – Sonnabend Gallery, Paris, 2011.

Within the context of the exhibition *Words and Stars* held at the Contemporary and Modern Art Museum of Trento in 2017, *Red Babel* introduces to a series of later works on cosmology (fig.18). Displayed in a corner of the white-cube gallery's space like an open book using the large-scale format of an immersive installation, *Red Babel* presents an image of a cosmic, yet terrestrial landscape suspended in time which on the counterpart creates a sense of immediacy between the video image and the viewer's

⁵⁰ This analysis makes a distinction between a first and a second phase of Toderi's practice whereby, from investigations on human and non-human relations towards the cosmos, in a later phase, the artist focuses on cosmology, privileging the use of video-installation and site-specific formats. Among significant works in this field, the double-video installations *Red Atlas*, 2012, and *Words and Stars*, 2016-2017.

experience of such an image. Whilst the large-scale frames of the video-screens give symmetry to the composition, their axis turns the representation of the two identical images into the visualization of two inverted visual fields. For each visual field in particular, *Red Babel* figures the still image of a city made of light which rises upwards on the left side of the installation and sinks through the trajectories of luminous paths on the right frame of the video. Each screen foregrounds the image of the landscape of the city of Babel, a sensuous visual field saturated with different intensities of an artificial light that gives the chromatic effects of the colour of *Red Babel*, a tonal value coined by the artist to describe the luminous effects of vapour sodium lamps that emanate in the atmosphere from modern cityscapes, gradually reaching the ultraviolet region of the visible spectrum. Through the different degrees of intensity of this artificial colour, the video-image of *Red Babel* reflects an almost abstract composition that focuses on the figuration of a landscape of luminous and sedimented formations derived from a superimposition of nocturnal aerial views of collected photographs of cityscapes. In so doing, Toderi proposes an image of Babel that is without focus or narration where the image results only by the action and the movement of light in video. Motion, especially, is suggested by luminous effects that render a chain of inscriptions of light that rises and falls across the two distinct visual fields, unifying them through affective movements in a process repeated in a loop. The images are shown via an indeterminate sound such as a telluric noise that amplifies the effects of the sensuous qualities of light in a state of immersion. This crisscrossing between the two frames of the video makes the images suggest imaginative and evocative feature, figuring what I argue is chiasmus between the image of the city related to a mythical time and the virtual image of a modern cityscape, bridging past and present narrations.

To begin the analysis of this work, it is useful to return and further explain the argument that for the artist, light is the medium and the message of her video-practice. Her interpretation of such statement is clarified when describing her approach to video art. Toderi states: 'the video is the box, the image must be light' (Toderi, 2012, p.22), and by identifying the medium of her work in the electronic technologies of video, she establishes a continuity with the sensuous materiality of her images, both informed by light within the frames of her video. In fact, Toderi herself suggests that the power of information of light derives from drawing onto the electronics, the signals, the luminosity, and the expressivity of her video images. But to this techno-scientific explanation, she adds a pictorial reference to her choice of using video and video-projection as mediums

when in a conversation with the art critic and writer, Maurizio Zuccari, in the interview “Affreschi di (Frescos of Light),” 2007. Toderi states,

The video is made of light and in my work I want the energy beam to run up to highlight when it meets the surface of the wall, which becomes like a bright fresco and that the observer is in the same timbre of light as the video. (Toderi, 2007, my translation)

Video projection, Toderi states, enables a visualization of light as the message and the content of her work without specific content, resulting as a ‘fresco’, almost an abstract sensuous image expressed by the qualities of the intensity, movement, direction, and propagation of light in video. Further, she adds, this non-representational strategy is relevant for investigating the role of the viewer’s experience of her work. In other terms, Toderi regards the force of projected light as a differential movement, a process that acts from a source towards the surface of her video-image and whose effects expand in space to define the atmosphere surrounding the image. Drawing from these observations, I suggest Toderi explains her approach to video as soliciting an affective disposition, a movement resulting as a triangulation between the different components of her work which articulates between the artist’s positioning and projecting, the frame of her double-video installation and the atmosphere surrounding the image in terms of immersivity. In particular, she remarks how ultimately, she is interested in establishing a third identity between the medium, the message, and the viewer’s experience of her work, suggesting a sense of immediacy between the light of her images and the viewer’s conscious experience of this timbre, and this triangulation explains here her choice for extending with the possibilities of video through the immersive format of video-installation.

Within these frames, Toderi suggests how her images constitute a coherent space of light, a space which almost abstract, yet imbued with luminous, sensuous qualities, designating a nonrepresentational strategy for her videos. In fact, the definition ‘coherent space of light’ refers not a symbolic formal register, but to a field of different, yet coherently distributed degrees of intensity, a field of luminosities which define the image both in terms of expressivity and a process of material formations and sedimentations, consistently repeated in a loop. This understanding designates the quality of luminosity of Toderi’s videos, reflecting into surface effects derived from a process of the stratification of images projected into the screens. However, this quality does not only designate a scientific phenomenon of investigation, but the artist connotes this quality with a pictorial meaning when describing how the movement of her image derives from

a study of dozen preparatory drawings of the iconic painting *The Tower of Babel*, 1563, by the Flemish artist, Peter Bruegel. From these studies, Toderi applies a process of superimposition of collected photographic images of nocturnal views of modern, artificial cityscapes to reflect on the coincidence and the difference of grids, lines, and signs of drawing and light over times (Appendix A).⁵¹

On the surface, these luminous effects are manifested through the saturated, sensuous, and artificial colour of *Red Babel* and on the relationship between luminosities and chromatic effects, it is here useful to draw from the account of the art critic and curator, Chiara Pasini, as posited in “The Secret of Reflected Light,” 2004. According to Pasini, Toderi’s interest in luminous effects is a reference to the tonal colours employed in the Renaissance picturality to connote a chromatic field consisting of different glazed shades of the same chromatic tone (Pasini, 2004, p.38). Pasini’s citation helps to explain Toderi’s understanding of a coherent space of light as a field characterized by chromatic saturation and meant to evoke the tradition of pictorial illusionism through the technology of projected light in video. This quality however is not only pictorial, Pasini adds, but is verbal and expressive in ways that relate to time and memory (ibid.). Pasini draws this quality from Duchamp’s notion of ‘verbal colour’ as seen in his work *The Large Glass*, 1915-1923, where the colour applied to the main varnished figures cuts out the silhouettes from the glass surface as a means of enactment and imagination. In Duchamp’s words, in verbal colours ‘there is a kind of inopticity, a kind of cold consideration in those colourings that only affect imaginary eyes...a bit like a present participle turning past’ (Duchamp cited in Paz, 2014, p.136). To paraphrase, Duchamp suggests that beyond the act of looking, colour hides an affective and evocative potential that moves from the viewer’s sensuous experiencing of an artwork to the time of execution and memory and this technique applies similarly to Toderi’s chromatic register with the aim of bridging past and present multiple temporalities. Drawing from Duchamp and Pasini’s reading of the qualities of pictorial and verbal colour, it could be said that the expressive value of *Red Babel* contributes to foreground the power of information and evocation of light over the representation of symbolic forms in video.

The chromatic tone of *Red Babel* is also informed by new media technologies, In fact, the coherent space of light of *Red Babel* reflects an intensive field of different tones, temperatures and luminosities, derived from the process of superimposition of images of

⁵¹ This methodology is discussed in a personal communication with the artist (July 2017). For further references please see Appendix A.

modern cityscapes illuminated by the intensities of vapour sodium lamps which the artist evokes through saturation a differentiation of tones, grades, and shades within her chromatic field. By addressing a scientific, yet pictorial layer to her use of the colour *Red Babel*, Toderi addresses a qualitative differentiation for the use of light as the synthesis of a multiplicity of luminous effects such as signals, swirling, flares, magmas, halos, and crowns, all bridging the atmospheric and telluric aspects of the landscape in the image, drawing an almost abstract, sensuous visual field.

The chromatic field of *Red Babel* is a landscape of intensities, saturated with luminous and sensuous tones where light acts as the unifying agent over representation expressing through motion. In fact, not only as an electronic source, light punctuates the surface of the two videos through a series of spiraling movements crossing the two screens, and this suggest here an investigation of 'moving-images' in Toderi's video-art's practice. This argument finds theoretical justification in a reading of Gilles Deleuze's inquiry into 'moving-images' as discussed in *Cinema 1*, 1983, where the philosopher, drawing from Bergson's ontology in view of Einstein's Theory of Relativity, situates these theories in the ontological realm of immanence, a realm where image and matter are both made of light in terms of energy and seen as undifferentiated (Deleuze, 1983/1997, p.62). Differentiation, Deleuze adds, be it expressed in terms of intervals, subtractions, or reversed movements, is made evident by motion, a motion which helps orientating relative positionings as forms of actualization, a positioning that ultimately is perceived and experienced in consciousness (ibid.). Deleuze's observations offer a framework of investigation for the image of the landscape of *Red Babel*, a landscape traced by indistinct movements of light through video. But not limited to this definition, Deleuze's insight further suggests that *Red Babel* is a special kind of moving image,⁵² an affection-image namely, because between the intervals seen for instance, in strategies of redoubling and inverting the same image between the two screens, and in strategies of interrupting and interweaving the electronic and the pictorial registers of the video, Toderi figures light as an affect. According to Deleuze, an 'affection-image' is not an image of pure perception, neither is an image concerned with the pure action of time, but it is an image that lies 'in between', an image that whilst marking a temporal interval, it does not substitute it but it surges in a state of indeterminacy in ways that modifies the subject's experience (Deleuze, 1983/1997, p.67). On the subject's experience, Deleuze

⁵² In his analysis of moving images, Deleuze differentiates between three different kinds of images, namely perception-image (visual), action-image (behaviour), and affection (expression of feelings) image (Deleuze, 1983/2006, p.68).

adds: 'It is a coincidence of subject and object, or the way in which the subject perceives itself, or rather experiences itself or feels itself 'from the inside (third material aspects of subjectivity). It relates movement to a 'quality' as a lived state (adjective)' (ibid.). Drawing onto the temporal and experiential functions of 'affection-images', Deleuze posits a significant qualitative differentiation for an understanding of the relationship between light, motion, and subjectivity⁵³ through affect and this applies, I argue, to a reading of *Red Babel*, because this moving-image similarly visualizes the intervals of a suspended temporality, through the figuration of an affect that connotes the image with timbers of light and with immersivity. However, differently from Deleuze's interest in an inquiry into motion, I intend to propose a feminist perspective on Toderi's use of an affect-image to focus on the sensuous materiality and the experience of the image of *Red Babel* because by dealing with light, colour, and affect, I argue that the artist posits a visual and semantic displacement of light towards semiotics and sensations.

The atmospheric and immersive qualities of *Red Babel* suggest further considerations of the chromatic register of Toderi's practice and I relate this investigation to a reading of Julia Kristeva's analysis of the chromatic field in Giotto's frescos at the Scrovegni Chapel in Padua, 1300 ca, as discussed in the essay "Giotto's Joy," part of *Desire in Language. A Semiotic Approach to Literature and Art*, 1980, because this reference enables an investigation of the affective dimension of Toderi's use of light over the domain of symbolic representation and pictorial narrative. However, before discussing Kristeva's addressing of a triple register of colour, it is important to address Kristeva's feminist reading of the notion of affect, as she posits in *Revolution in Poetic Language*, 1974, because it gives an insight into affective mode of apprehension in contrast with the metaphysical constructs of representation and signification. Drawing from the psychoanalytical thinking of Sigmund Freud, Kristeva explains affect as a desire and an impulse. Affect, according to Kristeva, is an extra-textual reference that is founded in processes of formations (Kristeva, 1974/1990, p.30). Such processes include material bodily processes of differentiation and/or separation – birth or anality for instance – which are essential, she adds, to the formation of the subject and to meaning that are transposed into the semiotic of language. I shall later return to the relationship between

⁵³ In a different context, Deleuze, in *Spinoza: Practical Philosophy*, 1988, defines an affect image through a qualitative differentiation that is not confined in the order of transcendence or representation, but it deals with affect as a transitive power. An affect image, according to Deleuze, is experienced as a lived duration and involves the difference between two states; of intensity and of body (Deleuze, 1988, p.49). Deleuze's reading of affect is useful to explain Toderi's use of light as an expressivity between flux and materiality.

affect and semiotics, but here it is important to foreground the double connotation of Kristeva's reading of affect both as an index (disposition or drive) and a becoming (index and a process), existing prior to sign or syntax and in this sense, non-representational (ibid., 33). This differentiation is important because it enables an understanding of affect both as an impulse, a force, an intensity that expresses in terms of movement, and a site where affect is figured, is produced, and is perceived as an effect (ibid.). These connotations – both the intensive and material qualities of affect – are here crucial to my questioning of the double register of *Red Babel* video installation, suggesting further considerations on how affect operates, moves, and is perceived.

In the essay "Giotto's Joy," 1980, Kristeva discusses affect to examine the register of colour. The chromatic field is, according to Kristeva, a space for affect that expresses itself by means of verbal qualities. Kristeva observes how colour is not a homogeneous visual field, but rather a field of diverse degrees of intensities which implies different physiological sensations of painting. Kristeva states that these qualities imply three movements, which designate her triple register of colour. According to Kristeva,

Colour can be defined...as being articulated on such a triple register within the domain of visual perceptions: an instinctual pressure linked to the external visible objects, the same pressure causing the eroticizing of the body proper via visual perception and gesture, and the insertion of this pressure under the impact of censorship as a sign in a system of representation. (Kristeva, 1980/1993, p.35)

In Kristeva's words, the visual perception of colour is a process moved by affect, and precisely consisting of three movements: colour acting as an affect against the object of representation; affect making explicit its sensuous qualities; affect returning to the order of composition by carrying with itself the mark of a sign for these three movements (Kristeva, 1980/1993, p.35). Through an analysis of these three different affective movements of the colour register, Kristeva explains how affect figures in a field of intensities by acting in-between a sensuous, a material, and a semiotic register. This triangulation applies to the configuration of Toderi's video-installation and next, I shall discuss these three affective movements in detail, to provide an understanding for the visual, sensuous, and semiotic interpretation of light in *Red Babel* as an affect image (fig.19).



Figure 19. Grazia Toderi, *Red Babel*, 2006
 stills from video
 courtesy TATE Gallery.

Firstly, to understand the intensity of *Red Babel* as an affect or as a pressure, we must refer to Toderi's interest in using light both as a pictorial and an artificial chromatic style jointly. This means to reflect on a different order of temporality that bridges an allusion to the time of the myth of Babel, with processes of superimposition of images marked by signs, and with the installation's lived experience at the present time. To use Kristeva's terminology, it could be said that these chromatic tones act as an instinctual pressure of unconscious time, a resistance that is in contrast with the actual manifestation of materiality (Kristeva, 1980/1993, p. 213). Not only pressures, but more extensively these forces are affective movements seen for instance, in processes of production and sedimentations of the image of the city of Babel as well as in the movement of raise and fall of luminous dots and crowns over the landscape of Babel (fig.19). All of them designate a particular surface effect on video, and in their complexity, these affective movements designate the index of motion of the video image of *Red Babel* repeating in a loop. Here, it is important to recognize this qualitative differentiation because all these expressivities support the argument that the video is an affect-image related to non-representative strategies of visualization.

The second movement identified by Kristeva regards the sensuous quality of colour. She states that colour emerges as an instinctual residue which challenges the ways of reading the image not as a symbolic form, but as the perception of intensities. In support of this proposition, Kristeva explains the relationship between chromatic register and the light, suggesting that 'colour does not suppress light, but it segments it by

breaking its undifferentiated univocity into special multiplicity. It provokes clashes of varying intensity' (Kristeva, 1980/1993, p.28). With this observation, Kristeva posits a significant point that challenges the way of understanding the relationship between light and colour not by means of geometrical and optical representation, but she proposes instead an affective reading of both registers in terms of intensity. In Kristeva's words, light as a unifying agent of visual imagery, is actualized by colour by different and multiple degrees of intensities, and this process of material production is perceived in terms of expressivity as fragmentations (light) and actualization as propagations (colour), defining by contrast the sensuous quality of images. In this analysis, these two essential orientations are interwoven in the affective movements underpinning the texture of Toderi's images: an internal movement that relates both to a process of sedimentation and of a recollection with memory in a mythical time; an external movement of propagation which expresses through the sensuous qualities of the image in a state of immersivity, corresponding to the specific qualities of temperature and propagation of light. Toderi shows how, together, they are interwoven and amplified by the frames of a video- installation which creates a *sensorium* for the lived experience as if the video is a fresco in a state of immersion. Through these affective movements, I suggest, the sensuous quality of *Red Babel* materializes through the interplay between tonal, atmospheric, and immersive qualities.

However, as Kristeva points out in her reading of affect, the sensuous quality of colour is not limited to the detection of movement, but it implies further considerations regarding processes of material reproduction and formation where an affect also figures. This feature is made in *Red Babel* because simultaneously to the affective movements discussed above, the images show how light and colour are elements embedded within processes of repetition and sedimentation as seen in the various, multiple luminous effects rendered over the telluric landscape of the video. It is noted by the artist's statement that light is material itself. Toderi states: 'I cannot forget that, if we are talking about an image, visible or invisible, mental or physical, light is always material, *prima materia*' (Toderi, 2016, personal communication – Appendix A). With the term '*prima materia*', Toderi suggests that her poetics is drawn from alchemy, the ancient discipline that investigates the material transmutation of primary elements manifesting as

illuminations.⁵⁴ Through this reference, Toderi claims the material nature of light in relation to memory and explains its actual manifestation through affective movements of light as the visual manifestation of intensities in a process of material differentiation. The materialism of light suggested by Toderi also contributes to provide a common ground for the events that occur in the image – stylistic citations, affective movements, expressivity luminosity – which are relevant in this context, for an understanding of the power of information of light which I intend to discuss next, through the positioning of a feminist ethical viewpoint.

The third affective movement detected by Kristeva in her reading of the chromatic register, regards the expressivity of colour, a movement which exceeds from any pictorial norms by integrating the other mentioned affective movements through the marking of a sign. Kristeva defines this form of expressivity as the verbal quality of colour, a phonic code used to designate the vitalist function of the chromatic field which is perceived as vibration (Kristeva, 1980/1993, p.35). She discusses how the perception of this sonority is a form of expressivity without contents that prior to the construction of sense and significance, deals with values related to procedures and processes of material formation (ibid.). In fact, Kristeva adds that the quality of verbal colour is not zero meaning but is an excess of meaning which emerges from the affect that sits between the senses and the sign (ibid., p.32). Between senses and signs, she points out, verbal qualities not yet impose a meaning, but the marking of an impression, a rhythm, the index of an affect which modifies the narrative and pictorial norm of painting as a formative process (ibid.). In line with Duchamp's and Pasini's propositions, Kristeva's analysis contributes here to an understanding of the verbal qualities of the landscape of *Red Babel* in terms of vitalist, expressive, and sonorous effects in reason of the temperature, the saturation, and the brightness of light in Toderi's videos.

For a deeper insight into the verbal quality of colour, we must further refer to Kristeva's reading of semiotics as she posits in *Revolution in Poetic Language*, 1974. According to Kristeva, semiotics designates a systematic study which differs from the analysis of symbolic meaning in linguistics, because it deals with the system of signs, signs related to values concerning processes of formation and expressivity (Kristeva, 1974/1990, p.30). In particular, Kristeva states that at the basis of a semiotic investigation

⁵⁴ On the notion of alchemy, Carl Gustav Jung's method of active imagination, as discussed in the *Red Book*, 1915–1917, applies to this analysis because it provides context to a method of investigation that deals with materiality, illumination, *imagines agentes* and the imaginary (Jung, 2012).

lies an affective disposition which regards the expressivity of signs as excesses and extra-textual references attached to materiality in processes of formations (ibid.). These observations are fundamental because over the domain of symbolic signification, Kristeva attributes values to the quality of expressivity of light as they emerge between affective movement and processes of material formations through the marking of a sign or an inscription. These observations are not limited to linguistics, but they also apply to visual practices because as Kristeva discusses in her analysis of the register of colour in the essay "Giotto's Joy," 1980, semiotics contributes to value the expressive connotations of colour over the symbolic and narrative register. In Kristeva's words, colour acts independently from the pictorial norm by imposing a different organization of the pictorial space, such as a 'movement towards relative independence from a signifying practice' (Kristeva, 1980/1993, pp.32–33). In particular, Kristeva reflects on how the chromatic field, as a semiotic field, operates differently from the use of symbolic form by recuperating a spacing for the concatenation of the phonic, the visual, and the spectral (ibid.). With this statement, Kristeva argues that colour should be analyzed as a semiotic field in reason of its expressive qualities. Next, I will apply her reading to an analysis of *Red Babel*, suggesting that here the quality of verbal colour impacts the discursive contents of Toderi's work, soliciting forms of recollection and evocation.

My questioning of the discursive contents of *Red Babel* is mostly evident when thinking about the symbolic meaning traditionally attributed to this image. In fact, the myth of the Tower of Babel is evoked by the artist as an etiology for justifying the diversity and the dispersion of languages in the world. But with *Red Babel*, Toderi intentionally provides an interpretation of the myth of Babel over the domain of symbolic meaning to reflect on the power of communication and the spirit of civilization. In this perspective, Kristeva's reading of semiotics contributes to further understandings of *Red Babel* as a landscape of signs and luminous inscriptions marking onto the surfing of affective movements in relation to processes of material sedimentations and visualizing as surface effects in the video images. In particular here, the quality of verbal colour acts as a reminiscence between past and present narrations, suggesting on the contrary a process of investment and reassignment of meaning through its tonal values as mostly seen in the luminous lines, halos, and crowns that connotate the video-image. In a wider sense, I argue that the expressivity suggested by the verbal (in relation to historicity) and the tonal (in relation to artificial light) qualities of colour connotate a figurative discourse, a

discursivity without contents driven by the power of information of light which moves between affective movements and material sedimentations.

All these considerations enable further understanding of the function of light in *Red Babel*. Here, light acts as an undifferentiated unity whilst reflecting the differentiated multiplicity of lives and voices of the mythical city of Babel and in support to this argument, I refer to Kristeva's reading of the notion of 'heterogeneity' in semiotics. According to Kristeva,

The notion of heterogeneity is indispensable, for though articulate, precise, organized, and complying with constraints and rules (especially, like the rule of repetition, which articulates the units of a particular rhythm or intonation), this signifying disposition is not that of meaning or signification: no sign, no predication, no signified object and therefore no operating consciousness of a transcendental ego. (Kristeva, 1974/1990, p.133)

In her analysis of poetic language, Kristeva addresses the notion of 'heterogeneity' and discusses it as the unity of an experiential dimension of language which is characterized by intentionality and expressivity. As a signifying disposition, a way of standing for, 'heterogeneity' is according to Kristeva, an affective disposition of the subject that operates prior to language and meaning, valuing a different order of composition which is founded in the expressivity of signs and in processes of formation and repetition. In this view, expressivity must be understood as an enactment, the actualization of an affect figuring between sign and sense. According to Kristeva's semiotic analysis, heterogeneity is thus the condition of a signifying disposition in a process of becoming and repetition which differently from the symbolic register, does not build or impose forms, but it enacts and evokes the distant relationship that exists between an undifferentiated unity and diverse, differentiated, actual multiplicities. This proposition allows Kristeva to further state that in semiotics, 'heterogeneity' designates an extra-textual practice because it is concerned with the expressivity of verbal qualities without a signified object. In this sense, 'heterogeneity' is a system of unilateral relations because by replacing the sequence of linear narratives with the rhythm or the intonation that apply to all subjects and beings, it recuperates an experiential aspect of language designating a common ground for all entities. In other terms, Kristeva asserts that 'heterogeneity' is the ethical spacing of semiotics, the principle that gives unity and movement to the articulation of signs (Kristeva, 1974/1990, p.133). In this analysis, I draw

from her statement to suggest that the landscape of *Red Babel* is intentionally grounded in a figurative discourse of light, configuring an ethical space for thinking about unity, affect, and movement as unilateral features over the domain of symbolic forms. By grounding her image onto the undifferentiated ground of light's superimpositions, Toderi addresses a proposition that interprets the myth of the Tower of Babel as a field of heterogeneity that moves through affective movements and sedimentations by bridging past and present narrations. In this sense, in *Red Babel*, 'heterogeneity' is the ethical principle which supports the rethinking of the alliance between light and language by referring to rhythm, intonation, and dispositions as affective movements. From these considerations, I further discuss how Toderi figuratively establishes a chiasmus between past and present evocations, a rhetorical figure for both the visual and the semiotic contents of her video-installation.

A semiotic analysis of *Red Babel* allows here to reflect on the ethical positioning of Toderi in terms civic and civilized purposes. Here, I relate Kristeva's argument to Pasini's commentary on the ethos of Toderi's practice as she discusses in "The Secret of Reflected Light," 2004,⁵⁵ where the art critic and curator discusses the artist's choice of dealing with the image of the city of Babel as a trope for describing the place of human existence and coexistence as the epitome of civilization (Pasini, 2004, p.38). Drawing from this parallel, I suggest that heterogeneity connotes an understanding of *Red Babel* as the place of an undifferentiated unity which actualizes by the power that light in ways that inform social communication and cultural exchange. In support of this argument, it must be noted how, according to Pasini, Toderi's focus on the image of the city is justified by the intention of avoiding any hierarchical order between the spectator and the actor, suggesting that their roles are interchangeable for the construction of meaning (ibid.), and thus supporting an understanding of intentionality and subject-objects' relations over fixed meanings and positioning. From a mythical time to modern times, Toderi suggests that the landscape of *Red Babel* is a trope, a mythical place of civilization, now empowered by the science of communication technology.

At this point, it is necessary to foreground the visual aspects of this 'affect image' within the complex articulation of a double-video installation. The surface of *Red Babel* consists of a system of impressions of light changing from the state of being diffracted lines to the state of a sensuous materiality and moving across the two video-screens. It

⁵⁵ Pasini's reading is based on an analysis on the theatrical works of Toderi such as the videos *Olympia*, 2001, *Orchestra*, 2003, *Centaurus*, 2003.

is useful to draw from the analysis of video-images of the art-theorist Anne Friedberg, as she discusses in "Virtual Window," 2004, where she posits the category of 'surface-screen' to examine the analogy underpinning both the image and the medium in non-perspectival vision. Friedberg draws from Virilio's notion of 'real-time perspective' (Virilio, 1990) and observes how the temporality of video is compressed in a system of multiple formations, imposing a different order of temporality and a different composition in video-images.⁵⁶ A surface-screen, she argues, is the frame of an image constructed without focus, resulting from an intertwining crisscrossing between the grids of composition and the marking of signs (Friedberg, 2004, p.189). Within this frame, Friedberg adds, images are produced not by means of representation, but as the result as the surfacing of a series of effects or the pointing of a trajectory (ibid.). Friedberg's analysis of the image 'surface-screen' suggests an order of figuration that moves by repetition and affective movements, an order given by intertwining the grid of composition with a superimposition of signs to create effects. Whilst resonating with the image of heterogeneity in Kristeva's reading of semiotics, it is useful here to reflect on such an intertwine between the frame and the image, because it resembles Toderi's method of approaching the medium of video. Drawing from the visual and semiotic reading of the verbal and tonal qualities of light, I suggest that in *Red Babel*, this intertwine designates a figurative chiasmus, a crisscrossing supersedes the division between the medium and the materiality of the image through the figuration of light as an affect. This is a rhetorical figure, I state, because it deploys an intensive figure without contents, but resonating with the expressivity of light and sound, bridging the two video-screens to establish a continuity between past and present narrations. Friedberg's notion of surface-screen also allows further understanding of the tonal qualities of *Red Babel*, qualities derived from the artist's interest in positioning the viewer in the same timbre of the artificial light of the work, to create an affective experience. This reflects in the experience of a real-time perspective given by the scale and the frame of the video- installation, suggesting a sense of immediacy and immersion.

Ultimately, I refer to the atmospheric quality of Toderi's images. I have commented on Toderi's interest in the style of pictorial illusionism and I suggest that through affect, Toderi extends the parameters of this style to figure a visual poetics of

⁵⁶ In *The Negative Horizon*, 1990, Virilio posits the notion of 'real-time perspective' in his analysis of the medium of screens. Virilio discusses how the representation of real time and live perception reveal the falsification of an immediacy to reclaim qualities such as the agency and the transmission of light (Friedberg, 2004, p.189).

lightness. Commenting on her use of video, Toderi artist refers to this quality herself: she explains the quality of 'lightness', to reflect the weightless, luminous, indeterminate qualities of projected light when composing an image on video (Toderi in Chiodi, 2006, p.289).³⁶ Toderi's practice focuses on a poetics of lightness when lightness itself describes a visual qualitative differentiation for the representation of light as an 'undifferentiated univocity' and a 'special multiplicity' (Kristeva, 1980/1993, p.38). To use Kristeva's terminology, the unifying element of the image and diffracted into multiple orientations. In particular, lightness, traditionally a parameter used for measuring the tonal values of brightness in colour theory and perception (Gilchrist, 2005), becomes in Toderi's works the figure of multiple intensities in motion, all manifested through its physical material specificity. I suggest that differently from the quality of luminosity, lightness is a quality that refers to existential and relational values of light because it is a way of perceiving light not as an optical or material phenomenon, but as an affective movement that act in a state of heterogeneity and multiplicity. In *Red Babel*, the quality of lightness explains the sensuous qualities of indeterminacy and saturation of the landscape of the two video-images which illuminate the atmosphere of the installation as the immersive emanation of a virtual fresco.

Red Babel posits an important contribution for thinking about light as a medium and a material through the figuration of an 'affect image'. This image reflects the feminist positioning of Toderi's approach to projected light in relation to video and installation practices to address an affective, sensuous, material, and semiotic approach to it over the domain of symbolic form. In particular, I have examined the three affective movements that constitute this artificial image and related these to the rethinking of the relationship between past and present narrations, the verbal and the tonal qualities of colour, and the expressive and the poetic qualities of light. Through these qualities, I have argued, Toderi's work investigates the power that light has in conveying information without contents, resulting in an excess and in a non-representational practice. Further this latter proposition suggests that *Red Babel* is both a visual and a verbal image, suggesting the positioning of an ethics and a rhetoric of civilization through an understanding of communication technologies. These are eloquent propositions for thinking about the impact of thinking about practices of light through a feminist perspective. In the next section, I shall extend this investigation on the affective qualities of light by dealing with the rethinking of the aesthetic categories of abstraction and expressivity and in doing so, I aim to reposition light at the center of an artistic discourse.

4.3. Expressivity and Enactments: an analysis of *The Western Roundtable* by Rosa Barba

This section extends the investigation of women artists' contributions to the practice of light through an analysis of the installation *The Western Roundtable*, 2007, by artist Rosa Barba, presented at the EYE Film Museum, Amsterdam, 2007 (fig.20).⁵⁷ Barba's installation enacts a dialogue which draws from the fragmented documents of the symposium 'The Western Roundtable of Modern Art' convened in San Francisco in 1949,⁵⁸ to address a question concerning the state of art in the contemporary context.



Figure 20. Rosa Barba, *The Western Roundtable*, 2007
two 16mm films, two projectors, optical sound 2 min
installation view – solo exhibition, Museo Reina Sofia, Madrid, 2008.

I am interested in how Barba repositions light at the core of a discourse which revisits the legacies of Modernism and Postmodernism to question the possibilities of dialogical forms through her affective use of projected light. In this analysis, I shall examine Barba's interest in the subject of light as a form of expressivity and the enactment emerging from her performative use of the mediums of film and sculpture and assembled as a mechanical composition. Engaging with the critical reading of Barba's practice (Alemani, 2013; Cooke, 2011; Jonas, 2015) and with the writing of the

⁵⁷ This analysis is based on the exhibition *From Source, To Poem, To Rhythm, To the Reader*, held at the Hanger Biccocca in Milan in 2007.

⁵⁸ Documentation on the second and third meetings of symposium has been curated by the art critic Douglas MacAgy, in 2007. For excerpts of the symposium, please see: <http://www.ubu.com/historical/wrtma/index.html>.

philosopher and art critic Suzanne Langer (1950), I shall discuss the expressive and discursive contents of Barba's installation which posits the conditions, I shall argue, of a feminist visual rhetoric.



Figure 21. Rosa Barba, *Machine Vision Seeker*, 2004–2019, installation view, Galleria Gio' Marconi.

From the late 1990s, Barba has investigated the possibilities of configuring dialogical forms through a practice derived from an interdisciplinary use of film, sculpture, and site-specificity. The language of film is a primary source of investigation for the artist because over the purely visual aspects of representation, Barba suggests how film narrative, rather than conveying meaning, can suggest evocative and imaginative contents, to which she intends to give shape and space through sculpture and site-specific practices. Among early works, the installation *Machine Vision Seekers*, 2004 (fig.21) makes evident Barba's interest in the imaginative potential of the process of the filmic language through her use of projection. In fact, the work consists of a movie projector playing the excerpts of a filmic written script as a statement derived from the use of light projected onto the gallery's walls as presented at the Australian Center of Contemporary Arts in 2004. As Barba states, *Machine Vision Seeker* projects 'a live editing event' (Barba, 2004, n.p.) which is not a complete story or a representation, but is an enactment derived from fragments of narratives and subjects to the viewer's own interpretation of her work. Rather than imposing a fixed narrativity, with this work, Barba focuses on the projective function of light in ways that creates forms of dialogue that are not predetermined by a composition, but they result from a system of free associations. In other words, Barba suggests how the filmic language can be informed by the power of projection over narrativity, opening up to forms of dematerialization which are not conceptual, but they relate to the shaping imagination and forms of engagement with the

viewer. This explains Barba's contribution in extending the effects of filmic projection by figuring an event and positing the conditions for performativity through sculpture, as well as for the viewer's experience through site-specific strategies. In this sense, performativity and discursivity are the key-elements for a critical understanding of Barba's practice which are the body of her experimental approach. Particularly evident in her early works, Barba's practice is characterized by an archival method of investigation which questions the narrative of historical and institutional contexts such as museum archives. Through this approach, the artist is interested in establishing a dialogical exchange between past and present narrations as discussed for the project in three acts *Hidden Conferences*, 2010–2015, a series of filmic investigations focused on an imaginative dialogue between artworks preserved in museum storages, as the result of research conducted at Museum Reina Sofia, Madrid, 2010, the Musei Capitolini, Rome, 2011, and the TATE Modern, London, 2015.



Figure 22. Rosa Barba, *The Western Roundtable*, 2007
two 16mm films, two projectors, optical sound 2 min,
installation view – solo exhibition, Lux, Zoo, London, 2007.

This series of works are eloquent examples of her chosen area of investigation which focuses on the possibility of enacting a discourse from investigations of archival documents and sites with the aim of establishing a dialogue between historicity, present narrations, and the viewer. One of the most significant reasons for adopting an archival method of investigation is the addressing of a different perception of time and historicity, to explore possible ethical relationships. Barba proposes instead a method of archival investigation which is founded in memory, affective movements, and the imaginative potential that lies in the materiality of the archive. In line with her interest in the projective

potential of filmic language, her use of archival methods supports a dematerialized and affective approach to sculpture and site-specific practices.

Film, sculpture, and site-specificity, all support a material investigation which is drawn from the artist's use of projected light. This choice emerges from the early multi-media installation work *The Western Roundtable*, 2007 (fig.22) where two projectors 'speak' at the same time through the projection of two beams of light in an apparently closed circuit, making this source material a form of 'abstraction outside space and time' as Barba states in conversation with critic and curator Cecilia Alemani, in the interview "Rosa Barba, Back to the Future," 2013 (Barba, 2013a, p.22).⁵⁹ The installation gives evidence of her use of archival methods, in fact, it draws on the artist's archival investigation into a symposium held in San Francisco between 1948 and 1949, which comprised only male artists, critics and composers, including figures such as Marcel Duchamp, Frank Lloyd Wright and Gregory Bateson, debating on the legacy of Modernism and its future. Through a philological approach, Barba investigates the contents of the first meeting of this symposium which was held in a military bunker in the Mojave Desert in 1948, and which remained undocumented until 2007. The installation re-enacts and gives shape to the 1948 meeting through an inventory of old machineries that uses two 16mm cinema projectors, sound, and projected light as an archaeology of film techniques (Barba, 2015).

The work is also an eloquent example of her experimenting with film, sculpture, and site-specific practices. Presented at the EYE Film Museum in Amsterdam, in a white-cube environment as a citation of the Modernist style, the installation presents two projectors placed in front of each other on the gallery's floor. The two projectors are conceived as two sculptural objects which together are displayed as an assemblage of interconnected components. From each projector, a 16mm film strip runs from the projector and projects a beam of light that passes through a lens, a process symmetrically repeated by both projectors and creating a looping circuit of projected light. Through this process, Barba develops a performative use of projected light which contrasts the mechanical qualities of composition to display a live-editing event which is vertically projected and figured onto the gallery's walls. This is evoked by the reproduction of a continuous sound that alternates the echoes of old-machinery and melodic film-sounds

⁵⁹ On a critical note, it should be noted that from an interest in archival practices, in a later phase of her practice, Barba maintains her focus on the use of a practice of light and extends her field of investigation to the genres of landscapes (2007), cosmology (2011) and performance (2011).

with references to the 1948's symposium event. Through this mechanical and performative use of projected light, Barba generates a play of light and shadow through silhouettes projected onto the gallery's walls, and orchestrates an abstract, superimposed narrative by engaging the viewer in a process of deciphering.

But the installation, through the artist's use of projected light, is also imbued with material, imaginative, and discursive connotations. In fact, from a critical point of view, *The Western Roundtable* is allegedly recognized by art critics (Jonas, 2015; Cooke, 2011; White, 2011) as Barba's first attempt at making an artist's statement in response to the legacies of Modernism and Postmodernism by drawing from the possibilities of dialogical forms to construct a system of discursive formations. This positioning suggests here a feminist frame of inquiry which focuses on an analysis of the artist's use of projected light as an affect and a sensuous material to draw a dialogical encounter with archival memories whilst opening to the viewer's engagement with the work. In other words, I argue that *The Western Roundtable* must be understood as a seminal piece because it develops a material, affective, and discursive practice of light, a practice understood as an enactment for conveying a chain of discursive formations in a process of free associations, moving from archival contents to the artist's positioning, to the viewer's experience. This feminist approach is remarked by Barba's interest in the possibilities of establishing relations in her work as seen in the dialogical forms of her projection as well as in her setting of an archival community and context.

With reference to the 1948's meeting, Barba uses an archival method of investigation to reconstruct the discursive contents of the symposium as a live-editing event. It must be noted how archival practices differ from historical methods of investigation because they draw from a different perception of time and historicity. The philosopher and historian of ideas, Michel Foucault in *The Archaeology of Knowledge and the Discourse on Language*, 1969, addresses an investigation of archival methods and asserts how these impose a new conception of history that is no longer subject to linear continuity but history itself becomes a lived experience, an experience drawn from events re-enacted and re-inscribed in a system of relations (Foucault, 1969/1972, p.75). Foucault's analysis shifts the focus of historical discursivity and repositions historicity in the ontological framework of events, experiences, and relations, calling into a method of reconstruction and reconfiguration. Another connotation is offered by Foucault in *Nietzsche, Genealogy, History*, 1977, where the philosopher argues that archival methods are genealogical because they do not pursue a predetermined finality as for

historical methods, but they derive from the recollection of events in reason of their singularity and specificity, a recollection which is founded, he argues, 'in sentiments, love, conscience, instinct, it must be sensitive to their recurrence, not in order to trace the gradual curve of their evolution, but to isolate the different scenes, where they engage in different roles' (Foucault, 1977, pp.139–140).⁶⁰ Foucault adds that genealogy reflects an ethical positioning in relation to historicity, a positioning concerned with the possibilities of re-enacting events which have remained undocumented and unrealized (ibid.). Foucault's analysis of archival methods offers here further understandings of Barba's archival positioning because it explains the artist's affective approach to historicity in terms of recollection, a recollection drawn from fragments and memories whose purpose is not to restore an interrupted linearity with history but to re-enact an event as lived. In *The Western Roundtable*, this translates into a practice consisting of performing fragments of texts in a play of free associations to suggest forms of engagement.

In the field of artistic practices, we must add, archival practices define a particular approach to historicity which focuses on the constructive possibility of interpreting historical events as forms of enactment. Among major contributions on this topic (Merewether, 2006; Cook, 2008), the constructive function of archival practices is defined by the art critic, Hal Foster, in *An Archival Impulse*, 2004, when he states that archival practices act as 'found arks of lost moments in which the here and now of the work functions as a possible portal between the unfinished past and a reopened future' (Foster, 2004, p.15). In Foster's words, archival practices act as a catalyst for past and future events and narrations in ways that are not determined, but only suggested by the artist and such an orientation is seen in *The Western Roundtable* because the work establishes a dialogue between past and possible future narrations, questioning the legacy of Modernism through the lens of Postmodern theories as the basis for discursivity in a contemporary context. The medium and the material which allow Barba to construct a dialogue across these temporalities, is light projection which she articulates through film, sculpture, and site-specificity, to enact and figure a live-event experienced and performed in a system of discursive formations. I shall next examine in detail, Barba's use of projected light to construct the forms and the frames of her discourse through sculpture, film, and site-specific strategies.

⁶⁰ In line with Foucault's reading of archeological methods, 'genealogy' involves an ethical positioning, a positioning which does not depend on systems of causality in a linear reconstruction of time, but it regards moral and normative strategies for the ways they inform systems of power/knowledge in historicity (Foucault, 1977, p.61).



Figure 23. Rosa Barba, *The Western Roundtable*, 2007, Installation view, Gallery Gio' Marconi.

Archival practices inform Barba's interest in sculpture, suggesting a process of conceptualization of historicity which she enacts through the projection of light (fig.23). In fact, in this work, Barba intends sculpture as the objectified, conceptualized perception of history enacted and put into play through a composition drawn from the mechanical specificity of the two projectors, the temporal function of the 16mm film strip, and the power of transmissibility of projected light. The artist discusses this formal feature in conversation with the visual and performance artist Joan Jonas (2015). Barba states,

There are two projectors speaking to each other... The two projectors present a dialogue, shadows of the meeting's protagonists staring at each other. This is a bit what we do with history in general – history is like a sculpture we look at. (Barba, 2015, p.7)

The two projectors, the two sources of light, figure a dematerialized approach to sculpture – to use Lippard's terminology – a form of conceptualization consisting in the objectified perception of history, but, I argue, this conceptualization is not only a mental operation, but is interwoven with the construction of multiple temporalities and formative material processes in terms of performativity. The art critic Marjorie Micucci, in the paper "Geologies of Distance," 2015, dwells on this form of conceptualization of history and states that, in Barba's work, 'history therefore resides and is read in a compression of time that the sculpture portrays through this stratified material representation, assembled from the primary, necessary or original element of the technique of the medium, from its production and dissemination' (Micucci, 2015, p.16). Micucci's reading of Barba's

practice offers an insight into the archival dimension of Barba's work, suggesting how the enactment of the event is possible through the play of anachronisms, affective movements, and performativity. These movements explain how Barba rethinks processes of dematerialization - the objectification of historicity - through affective movements occurring between the two sculptural objects, and the filmic and site-specific frames of her installation. I shall return later to an analysis of the sensuous materiality of light projected within these frames but it is here important to address further considerations on the formal composition of this work through an analysis of these affective movements, a composition consisting of a horizontal axis (site-specific and sculptural strategies) intersected with a figural axis (play of light and shadow silhouettes) where ultimately, I anticipate, through the projection of light, Barba figure an affect as projected onto the gallery's walls.

On a closer examination, the two projectors are displayed almost symmetrically to enact a dialogue and this display reflects a strategic positioning or in Barba's words, a 'balancing act' (Barba, 2011, p.35), an archival strategy supplying the absence of images and calibrating the projection apparatus to suggest forms of enactment of past and present narrations. At first, this strategy reflects the constructive function of her work which splits between an archival and an experiential field. In fact, a balancing act is strategic to Barba's archival practice because it allows calibrating different temporalities and different forms of discursivity to explore the possibilities of actualization. But it is also strategic for an encounter with the viewer by suggesting a form of engagement through the free reconstruction of a discourse. Thus, from a critical viewpoint, it could be argued that in *The Western Roundtable*, Barba's 'balancing act' designates both the genealogical - in the archival sense - and the ethical position - in relation to the viewer's experience - of the artist, informing her deployment of a system of multiple frames which gather together the archive, the artist's imprint, the spectator, in the installation through a process of material formations, experiences, and discourse.

Secondly, as an act, this strategy shows how in contrast with the aesthetic category of the specific artist object as well with Conceptualism, the artist centers her work on the power of enactment of projected light. Drawing from the artistic references, stylistically cited in *The Western Roundtable*, it could be said that Barba interprets the term 'balancing act' with reference to Duchamp's notion of 'creative act' (1975). According to Duchamp, as the artist states in the essay "The Creative Act," 1975: 'Let us consider two important factors, the two poles of the creation of art: the artist on the one

hand, and on the other the spectator who later becomes the posterity' (Duchamp, 1975, p.138). In this statement, Duchamp suggests another order of temporality which relates to the presence of the viewer in his work. By rejecting the category of the artistic object as a closed system of interpretation, Duchamp posits the conditions for thinking about the relationship between the artist and the spectator, and their possible engagement around the work of art which has begun to be conceived as a catalyst of transferrable functions between the two poles. In addition, Duchamp states that the 'creative act' is a function aimed to create 'an osmosis' between the conceptual and the material register of his work (ibid., p.139). Echoing Duchamp's aesthetics, Barba extends the frames of her site-specific, archival, sculptural investigation informed by affective movements into the possibilities that projected light has in acting and enacting an event as a dialogue between past and present narrations, creating an affective transfer through the use of projection between the contents of the symposium event, the artist, and the viewer.

Before I discuss the affective qualities of light, however, some observations of the style of Barba's practice may be helpful here. *The Western Roundtable* sits on a balancing act to create analogies between archival contents and new forms of dialogue through a performative reinvestment of contents as free associations between visual and dialogical references. References to the style of Modernist composition are made explicit by the formal features of Barba's work which privileges an abstract, formalist, and ready-made use of sculpture. This reference is particularly emphasized by the artist's use of a looping soundtrack which is meant to evoke the 'aesthetic echo' of the Modernist style, a stylistic term coined by Duchamp for his contribution to the 1948's symposium which can be summarized by his questioning: 'We aren't dealing with any absolutes, are we, in this life? We are dealing only with that which is in motion, not which is an absolute and fixed' (Duchamp, 1949, n.p.). Duchamp's statement here confirms my proposition that Barba's work does not intend to impose a fixed discourse, but it only evokes it and this justifies also why sounds is both a material and a stylistic feature of her installation.

From a critical standpoint, I further suggest that Barba mediates her echo to Duchamp through references to a postmodern critique of representation. This can be drawn from observing how Duchamp's statement reoccurs in the philosophical enquiry of the postmodern philosopher Jean-François Lyotard, when, in *The Postmodern Condition: A Report to Knowledge*, 1984, Lyotard questions what it can be said to be art (and literature) in postmodernity. Citing Duchamp and his method of ready-made as a conceptual operation, Lyotard asserts that postmodern art has dispossessed its

aesthetics value through a constant process of appropriation and recontextualization, contending that the transition from modern to postmodern artistic discourses is characterized by an interest in presenting the unrepresentable, or a sublime attitude towards the withdrawal of the real that leads towards a new index of the unrepresentable (Lyotard, 1984, pp.80–82). I suggest that Duchamp and Lyotard's questioning of aesthetic values in modern and postmodern arts underpins both the discursive contents and the style of Barba's practice as a critique of representation. In fact, both ready-made strategies (e.g. the use of projection machinery, the conceptualization of history as sculpture; the enactment of archival contents through projected light) and a sublime attitude (e.g. the diffusion of light; the play of light and shadow silhouettes) inform Barba's practice in support of a non-representational style. Contents, figures, images, are not directly cited by the artist, but only evoked in conformity with the specific styles of modernism and postmodernism, making the work a process of visual and rhetoric open interpretation for the viewer to experience.

Further, I intend here to demonstrate how Barba's practice also differs from the practices cited because, I argue, her contribution consists in deploying a feminist positioning and an approach to systems of non-representation through her choice of using projected light. This re-inflects the object of her discourse by recounting the affective, immaterial, and figural aspects of this medium practice. This argument is suggested by a reading of this work by the critic Lynn Cooke who, in "Suspended Stories: Rosa Barba's strategic narrativity," 2011, argues that Barba's practice is founded in the formal elements of gesture, sound, and posture (Cooke, 2011, p.169). In particular, Cooke addresses the category 'strategic narrativity' which defines the site-specific, constructive, and situated functions of the artist's work with regard to the possibilities of inducing processes of material-discursive formations. In fact, in *The Western Roundtable*, the artist's purpose consists in situating a live-editing event enacted by light and performing between archival contents and contexts of emplacement. Cooke's commentary also suggests here the proposition of a feminist visual rhetoric, a positioning which similarly to Mary Kelly's interest in placing feminism into context, as discussed in Section 4.1, draws from modern and postmodern stylistic citations to position light at the center of artistic discourse by creating the context of its own practice and rethinking the visual and narrative importance of light through a chain of material-discursive formations.

In support of this feminist argument, it should be noted that Cooke suggests an analogy between Barba's practice and the thought of Modernist philosopher and art

critic Suzanne Langer, who transcribed the speeches of the second and third meetings of the 1948's symposium and whose feminist position was relevant to the theorization of Modernism in the United States in the 1950s. Cooke reports on Barba's use of Langer's introductory notes to the symposium through the sentences: '[a] philosophy is characterized more by the formulation of its problem than by its solution of them' (Langer cited in Cooke, 2011, p.169), which follows Langer's remark: '[i]ts answer established an edifice of facts, but its questions make the frame in which its picture of facts its plotted' (ibid., p.200). With this quote, Barba refers to Langer's discussion on the importance of philosophical language as a formalist construction, a language that proceeds by questioning whilst positing the conditions of all possible discourses without fixed meaning. Langer's philosophical framework is useful for an understanding of Barba's use of projected light to posit, construct, and articulate a discourse that is not a representation, neither a statement, but a process of affective and discursive formations. Through a reading of Langer's theory, I intend to demonstrate the female positioning of Barba's practice by focusing on an analysis of the situating, edifying, constructive, questioning, filmic, framing, and ultimately affective features of her use of light.

In Langer's aesthetic theory, as she discusses in *The Principles of Creation in Art*, 1950, the notion of affect plays a fundamental role and through this notion, the author contributes to a definition of artistic experience beyond the categories of forms and thought. The first point Langer discusses regards the proposition: 'a work of art is essentially an appearance, a form, a perceptual form, addressed to some phase of direct perception' (Langer, 1950, p.515) and this is a crucial argument because it states that forms and perception are joint in artistic experience as expressions of feelings. Langer further makes a distinction between feeling and the thought of a feeling. She states,

What art expresses is not actual feeling, but ideas of feeling, as language does not express actual things and events but ideas of them. Art is expressive through and through – every line, every sound, every gesture, and therefore is a hundred per cent symbolic. It is not sensuously pleasing and also symbolic, the sensuous quality is in the service of its vital import. A work of art is far more symbolic than a word, which can be learned and even employed without any knowledge of its meaning, for a "presentational" symbol presents its import directly to any beholder who is sensitive at all to articulated forms in the given medium. (Langer, 1950, p.518)

In her statement, Langer asserts that although all forms of art are linked to perception, all forms of art are also symbolic and with the term 'symbolic' she refers to abstract forms because they are contents of a semblance or a pure appearance, forms of abstraction detached from material existence, exemplifications of a quasi-illusory medium. This is a crucial feature of Langer's aesthetic theory because it states that abstraction is *per se* an empty form. In fact, she adds, abstraction does not lie in meaning but in the forms of import of meaning as frames, an expressivity which is the function of art and is enacted in relation to the viewer experiencing the work. In this view, not dissimilarly from Duchamp's defense of the experience of art, Langer claims that even the most formalist and abstract art is never detached from experience and the relationship with the viewer because as she remarks, forms in the modernist sense, are not neutral figures but they are frames that enable meaning and interpretation to be conveyed in a particular manner.

In this analysis, the formalist analysis of Langer's philosophy is a useful reference for an understanding of the style of Barba's rhetoric in *The Western Roundtable* which similarly does not focus on introducing a narrativity, but the work is a formalist construction which develops through the frames of a sculptural, filmic, and projective practice of light. If understood as frames, it is evident how these registers do not intend to provide meaning but to enable the conditions for a performativity of light through affective movements induced by the mediums and by the viewer's engagement with the work.⁶¹ From these considerations, I draw an understanding of Barba's rhetoric which, more than the enumeration of contents, defines here a strategic female positioning, or the conditions for a discussion on the state of the art that can be enacted by their interlocutors. The feminist connotation attributed here to Barba's reference to Langer's rhetoric is further justified through a reading by the scholar, Andrea Lunsford, in *Reclaiming Rhetorica: Women in the Rhetorical Tradition*, 1995, who defines the formalist style of Langer's rhetoric as contributing to posit the conditions for 'the epistemic unity of community' (Lunsford, 1995, p.270). In line with the principle of such rhetorical contribution, I suggest that in *The Western Roundtable*, Barba similarly intends to deploy

⁶¹ As a contextual reference, I employ the term 'frame', also used in Section 3.1., to connote a dispositive for formalizing visual and rhetorical strategies, a strategy that contributes to the material articulation of the work, the production of meaning, and the designation of contexts in a way that is not defined by one sentence, but remains open to different interpretations. I refer to Mieke Bal's discussion on 'framing methods' as posited in *Lexicon for Cultural Analysis*, 2013, where she discusses the materialist and linguistic features of these methods and argues that the practice of 'framing' is the strategy that allows to one extend the function of contextual readings to a questioning of the time of interpretation that ascribes to an event and its act (Bal, 2013a, pp. 49-50).

a feminist critical position to draw the formalist construction of a discourse that whilst citing modernist and postmodernists contents, is centered on light as the epistemic unity of an archival, yet experiential rhetorical discourse. Through this strategy, Barba further addresses a feminist proposition and questions the possibilities of light to shape sensations and affects as visual and rhetorical contents.

Stylistically, the formal register of *The Western Roundtable* is characterized by an inventory of the cinematic techniques of analogue film, which Barba conceptualizes both as a material and a medium in reason of their expressive qualities. In an interview by the critic and curator Arne Skaug Olsen, "Ten Questions: Rosa Barba," 2013, Barba states,

[a]nologue film is not nostalgic for me; it is a very specific medium with particular characteristics, like the importance of light, the illumination through a projected image and the materiality meeting time. I wouldn't call it aura but illumination – something only an analogue projector can do. It has been my tool since an early stage and an ongoing research field of mine. (Barba, 2013b, p.12)

Barba explains that the specificity of analogue film lies in the possibility of figuration of her use of projected light, particularly evident in the process of development, when its material specificity comes into play as a matter of thought, as frame and a content without representation but light and the image. Stylistically, this method is a citation of Avantgarde and Experimental filmic techniques which explore the expressive and plastic qualities of light, but the artist contributes to add a personal interpretation of analogue film technique by choosing to focus on light through the interplay between projection, time, and matter, merging into an illumination. This interplay is seen in the affective movements that connotes the sculptural and filmic registers of the installation, informing the phenomena of projection, illumination, and plasticity of light. These qualities are significant because they demonstrate the artist's interest in manipulating and figuring light as an affect and whilst next examining these features in detail, I intend to foreground Barba's contribution to a materiality of light.

Projection, time, matter are the key-factors of Barba's experimental approach to film projection, a medium which she considers almost as if three-dimensional when the affective movements initiated by the camera lens, the process of film development, and the actual projection of light in space, all modulate a form of composition. This composition however, as the artist remarks, is not determined or fixed by the artist but is

subject to the qualities of projected light itself when encountering a medium. Barba makes this argument, explicit:

Using my film camera allows me to be synced with or to be close to time, especially when I film in wide-open spaces where time seems to exist endlessly in every direction—it's almost three-dimensional... I'm very interested in film also, because you never really know when the film actually happens. Does it happen when the light hits the camera lens? Does it happen when it is developed? Or does it actually happen when it comes out of the projector and is thrown into a space? (Barba, 2013b, p.23)

All these questions posit the conditions for valuing the importance of light in Barba's practice. These different affective movements must be analyzed in detailed because they demonstrate the artist's interest in addressing a haptic and plastic approach to light that contrasts with representational strategies to favour instead the construction of a material-discursive formations (fig.24).



Figure 24. Rosa Barba, *The Western Roundtable*, 2007
installation view – solo exhibition, Villa Romana, Florence.

The first element that Barba brings into question is whether or not images are the result of an optical stimulation solicited by the film strip being illuminated when hitting the projector's lenses. In fact, in this work, the artist explores the qualities of projected light by creating a misalignment between the lenses of two projectors which allows her to draw from the bounding back of light and the expressivity which emerges from a difference, a disruption of such a dialectical movement. Such disruption, I argue, is reminiscent

of Duchamp's notion of 'infra-thin',⁶² discussed by the Dada artist in his notes for *Green Box*, 1915, which defines a liminal separation that sits at the background of representation and infiltrates the planes of composition through a certain material corporeality that is not yet visible or tangible (Duchamp, 1915/1975, pp.23–43). In the writing for *The Large Glass*, 1912–1923, Duchamp further elaborates on this definition and argues that the 'infra-thin' is a conductor between the second and the third dimensions of the pictorial plane (Duchamp, 1923/1980, n.p.). Duchamp defines the 'infra-thin' as a difference within the order of composition and he identifies two specific functions of this phenomenon: one related to the material, perceptual, yet intangible qualities of this phenomenon, a second concerned with the capacity of acting as a conductor between the planes of composition. From an aesthetic point of view, this notion is useful for an analysis of the interplay detected by Barba when questioning the effects of light in contact with transparent mediums such as the glass of the lenses of her projection. On a closer look, Barba suggests, this point of contact figures almost an infra-thin, an affect, I argue, which suggests how light is not a transparent medium of the visible, but is a sensuous, porous, ephemeral material which triggers the perception of both the material and figural registers of her composition.

Further understandings of this aesthetic phenomenon can be drawn from a reading of Jean-François Lyotard's essay *Duchamp's TRANS/formers*, 1990, where Lyotard examines Duchamp's contribution to the reinvention of modern artistic forms and practices through a postmodern positioning. Lyotard defines the infrathin as 'a hinge between two devices' (Lyotard, 1990, p.131), a supplement that disrupts the homogeneity of the visual field to suggest a sense of depth where the infra-thin functions almost as a sensuous material and a plastic conductor (ibid.). I add to previous analysis that Lyotard's reading of Duchamp's notion of 'infra-thin' offers specific useful tools for examining Barba's questioning of the optics of light through affect. In fact, she reformulates the optics of light through the interplay between the mechanical use of projection in contact with the glass lenses, time, and the materiality of light, shaping a sensuous beam as almost a plastic composition. Lyotard confirms Duchamp's analysis of the two specific functions of the infrathin and this remarks the affective, material, and

⁶² According to Michel Sanouillet, as he discusses in *The Writings of Marcel Duchamp*, 1989, Duchamp's notions of 'infra-thin' or 'infra-mince' is per se, the epiphany of a renewal. He discusses how by introducing a certain carnality, or corporeality of artistic forms, the infra-thin is the symptom of an incarnation of an epoch (Sanouillet, 1975, p.8). Sanouillet's analysis justifies a reading of Barba's reinvention of the lenses through the notion of infra-thin where it becomes a tool for archival and figural reconstruction.

plastic figuration that Barba attributes to her use of projected light, disrupting the physical, material order of composition to conduct towards the figural dimension of her work. Without supporting any form of representation, Barba deals with projected light as a pure transferrable force, an affect that sits between the objectified materiality of a sculptural assemblage and the filmic and figural projective dimension of her work. Firstly perceived by recognizing the misalignment between the two lenses of the two projectors, this disruption, difference, *infra-thin*, expresses by suggesting a certain corporeality, turning the visual perception of light into an 'optical tactility' (Taussing cited in Berlot, 2011, pp.471-472), a qualitative differentiation concerned with the visual and the haptic qualities of light in terms of plastic sensations and alongside considerations of the affective, material, and plastic qualities of projected light, this is an important perceptual phenomenon to consider because, it deconstructs the domain of vision in systems of representation, suggesting how light is a haptic and plastic perceptual phenomenon.

But not limited to an analysis of the material and perceptual qualities of the *infra-thin*, I suggest that this phenomenon is significant for an investigation of the imaginative, rhetoric, and discursive contents of *The Western Roundtable*. References to the notion of *infra-thin* suggest here a parallel with the Postmodernist notion of 'thickness' of signification, discussed by Lyotard in *Discourse, Figure*, 1971. In linguistics, Lyotard asserts, 'thickness' designates the vertical movement of intentionality and signification (of a subject) in discourse as opposed to the linearity and the transparency of meaning of metaphysical discourses (Lyotard, 1971/2011, pp.93–94). Lyotard defines thickness as the connotation of a sign that emerges and disrupts the order of transparency of signification to designate the subject positioning (*ibid.*). Lyotard adds that 'this depth is an effect of subject-positioning due to the current discourse: which holds signification at a distance and posits that is a sign just as it does any object (*ibid.*). Drawing from this derivative meaning of the term 'thickness', Lyotard's argument is relevant to this analysis because it tackles the fundamental units of discourse to foreground the role of the subject-self positioning in a discourse, an intentionality which disrupts any linear narrativity which I understand as the affective disposition of the artist/viewer when experiencing the work. In other terms, Lyotard's analysis of the thickness of discourse explains how Barba's use of projected light is a material, perceptual, site-specific, yet affective practice informed by the intentionality of enacting an archival, formative discourse. For the purpose of this research, thickness is an important quality because whilst suggesting how discourse is not a transparent, but an inherently articulated

formative process in terms of contents, it foregrounds here the feminist, ethical tone of Barba's practice who, through the projection of a thick beam of light, positioning herself as an artist in the figurative discourse of *The Western Roundtable*.

The second formal element that Barba brings into question regards the phenomenon of illumination which she defines as an effect derived from the process of development of projection, and supported by the archival, constructive framework of her work, all suggesting the trajectory of the two beams of light being projected onto the gallery's walls. I have discussed how the axis of the installation consists of an archival scene (the mechanical, sculptural, and site-specific assemblage of the two projectors) and a figural plane (the projection onto the gallery's walls), and here I discuss how this axis supports the performativity of the two sources of projected light in a loop. According to the film theorist Harun Farocki, as he discusses in the essay "What an Editing Room Is," 2013, this performativity defines a conceptual, yet expressive operation, a 'gestural thinking' in his word, or a method that recounts for excesses and the exteriorization of differences in processes of formation (Farocki, 2013, p.111). Farocki adds that, in particular, Barba's images are the projection of a gesture which emerges from the suspension created by the artist in the time and the process of development of the analogue film and this observation is useful for an understanding of the interplay between projection, time, and matter from the viewpoint of the artist's engaging with the film medium. In other words, I suggest, the performative feature of *The Western Roundtable* lies in the interplay between the artist's developing of analogue images, projection, and time, in ways that are not simply expressive, but affectively calibrated by the artist in response to the medium, and in this sense, performativity applies both to the projection of light and the artist's gesture. In analogy with her affective conceptualization of history as a mechanical sculpture, Barba conceptualizes her use of analogue film through an affective positioning, turning the formalist and expressive use of avantgarde film, into a gestural, performative act. In fact, in Barba's work, in the absence of representational elements of composition, light performs by figuring a dialectics between the sculptural and the filmic registers, enacting the contents of the 1948's symposium through the projection of an illumination. This results not in a formalist, linear projection, but in a play of free associations between multiple mediums which set the conditions for experience and new levels of engagement.

The third question that Barba addresses regards the interplay between light, matter, and time. In her work, this is shown in the play of light and shadow silhouettes

standing from the figurative archival scene of her work, as the result of performative enactments which ultimately conveys a filmic, figurative imaginative transfer of images and contents onto the gallery's walls. With a focus on the effects of light in such a figurative image, I argue that through this projective process, Barba turns the modernist representation of form, traditionally resulting from the projection of a rationalist method of investigation, into a frame, a frame – in Langer's words – that without representation or contents, imports, and transfers contents. This argument is suggested by the artist when, in conversation with artist Gil Leung, in "White is an Image," 2010, the artist states that her use of projected light is the affective manifestation of 'white frames' (Barba, 2010, p.22). As a derivation of Avantgarde Experimental film techniques, 'white frames' supports the figuration of light as an affect, figuring as a suspension of the performativity of the analogue film, and enabling the conditions of an affect that manifests as an almost three-dimensional figure (ibid.).

Firstly, it is important to discuss which particular relationship these frames entail with time and in this regard, Barba states: 'white frames' disrupt the continuity of linear narrative, functioning as 'a constant reposition of time, a breaking up of linearity... a moving perspective' (Barba in Varadinis, 2013, p.22.). A moving perspective is, according to Barba, a method of configuration that anchors the image in a system of multiple temporalities marked by temporal suspensions, and thus induces an affective movement meant to evoke an event dispersed in the flux of time. In addition, Barba remarks how a moving perspective imposes an affective movement of light that is captured and formalized in a white frame, an expressive form that emerges as a non-representational image and becomes almost three-dimensional (ibid.). Drawing from these statements, it could be argued that In *The Western Roundtable*, 'white frames' are the result of a time-based strategy which draws upon the sculptural and archival articulation of history from site-specific strategies. In this sense, white frames act as a dispositive to convey contents between the material and figural contents of the installation.

Secondly, I suggest that 'white frames' are important features because they entail a specific relationship with the materiality of light, a materiality supporting the filmic figuration of an affect. According to the architecture critic Ian White, as he states in "An Idea in Three Dimensions," 2011, 'white frames are the figure of a superimposition through a theatrical effect' (White, 2011, p.39). Almost as empty forms, 'white frames' are projective figures, supplements resulting in a superimposition of light's effects and imposing the suspension of temporal, visual and narrative forms. 'White frames', he adds,

is a metaphor or an idea of the filmic language which supersedes the level of experience by reconciling form and content with the figure of a white sensuous square' (ibid.). In this context, I agree with White's reading of Barba's image of 'white frame' and I suggest that in *The Western Roundtable*, this figure contributes to an affective mode of figuration beyond abstraction. White frames are figures of the expressivity of light in a frame of time, figuring an affect. Conceptually, they can be understood as visual spatial metaphors because of their empty and non-representational contents which rather than signifying, determine a configuration that resists any textual connotation and emphasizes the expressivity of light as an illumination. But not limited to this figuration, 'white frames' I suggest, are also figures grounded in the materiality of light because through the superimposition of sensuous effects, they result in a form of plasticity, a superimposition merging into the projection of a three-dimensional object of figuration. As both frames and figurations, 'white frames' designate the highest degree of intensity of light in Barba's work, sitting as a visual and enunciative statement within the context of an archival discursivity. In fact, 'white frames' designate a non-representational practice of light for an understanding of the visual, discursive, and epistemic values of *The Western Roundtable*. Through the power of projected light, they support and figure a live-editing event, a form of enactment of archival contents through a chain of formal analogies achieved through the combinatory use of sculptural and filmic media that balance archival and figural configurations.

I have discussed how her rhetoric lies in the forms of expressivity of light and, in so doing, Barba shows how to reject the linear, transparent, horizontal succession of the units of discourse of the grand narratives aligned with Modernist and Postmodern thinking⁶³ to make a statement that resonates through the importance of light. With *The Western Roundtable*, Barba sets the frames and the conditions of a discourse that calls into question the forms of enactment, discursivity, and engagement of light. Her visual rhetoric, I suggest, moves beyond narrativity, and establishes an alliance between light and language through a statement that becomes a co-constitutive practice for genealogies, legacies, ethics, discourse, and contexts.

⁶³ In line with postmodern thinking, it is important to remark Lyotard's contribution to a critique of the meta-narratives, as posited in the *Postmodern Condition*, 1984, that characterized historical epochs, suggesting that there is no legitimization for such a discursivity in front of the power of individual events in history.

4.4. The Posture of Feminist Practices of Light

This chapter has examined the works of artists, Mary Kelly, Grazia Toderi and Rosa Barba, foregrounding their feminist contribution to a practice of light. By having examined how Kelly's, Toderi's and Barba's practices respond to the contexts of Minimalism, Video-Art, and Modernism, respectively, I have situated their works within the context of feminist practices with references to different ideological feminist positions and approaches (Irigaray, 1974; Kristeva; 1968; Langer; 1950) drawing from the debate on the dematerialization of art (Lippard, 1967, 1973; Rosenthal, 1967). In particular, I have discussed how their works, *Multi-Story House*, *Red Babel*, and *The Western Roundtable* namely, all deploy a feminist positioning by rethinking the alliance between light and language through affect and material formations which I have framed in terms of visual and rhetorical contents. This positioning, I argue, indicates a specific posture with regards to the contexts of artistic, historical, mythical discourses and here I intend to dwell further on these features because they all inform the ethos of a feminist appropriation of practices of light.

The feminist positioning of Kelly's, Toderi's and Barba's works makes explicit the artists' attempt to contrast the metaphysical system of representation and signification of light to deploy an approach to light which is grounded in experience. This reflects into a feminist politics such as in the case of Mary Kelly's practice examined in Section 4.1, who employs light to give visibility to the private and the political dimensions of women's experience through a questioning of the legacy of feminism. In particular, this analysis has given importance to Kelly's tuning of light into dwelling, an experience to be perceived affectively by the act of self-positioning. In a wider view, I suggest that Kelly turns the light of *Multi-Story House* into a path of existence and coexistence, a path that moves towards the matter as a process of material formation. In Section 4.2, the analysis of *Red Babel* by artist, Grazia Toderi, extends this investigation through the re-grounding of light into a landscape of intensities, given by the chiasmus between a sedimented field of luminous signs the luminous surfaces' effects of two video-screens. This displacement, I have examined, is significant also for a questioning of past and present narrations that Toderi situates in a mythical time. In Section 4.3, I have focused on an analysis of Barba's work *The Western Roundtable* to further reposition a critical debate on the role of light in the contemporary context. Departing from an analysis of Barba's site-specific and sculptural practices, I have discussed the archival grounding of the artist's approach to light in ways that balance affective dispositions and archival contents with the

construction of discursive contents, whilst opening up to the viewer's interpretation of her work. Whilst foregrounding a feminist reading of these works in relation to these artists' positionings, this research has assessed here the possibility of framing an approach to light grounded in materiality, turning representation into a process of repetitions and formations.

The feminist positioning of this research has further posited an argument for foregrounding the constituent features for the relationship between light and female subjectivity. This parameter reflects a fundamental aspect of an ethics of light because it contrasts the metaphysical epistemic bond for a transcendental understanding of the notion of subjectivity to be concerned with a politics of 'sexual difference' and an understanding of subject-object's relationship. In particular, in a reading of Kelly's *Multi-Story House*, I have dealt with the category of 'sexual difference' to claim a feminist appropriation of light, an appropriation which is not autoreferential, but it deals with the Other, further informing an ethics of coexistence, belonging, and fidelity. In an analysis of *Red Babel* by Toderi, I have applied a feminist positioning in relation to the artist's choice of this medium and this has been useful to reflect on the ethics of civilization in relation to the evolution of communication technologies. In a reading of *The Western Roundtable* by Barba, I have examined how the artist posits the conditions for thinking a feminist appropriation of light by creating an assembly, a community, and a context. All these propositions demonstrate here the importance of valuing the contribution of women artists dealing with the subject of light because their ethical positions and their questioning of subject-object's relationships extend the frame of a discourse on light in a way that applies to multiple subjects, experiences, and contexts. Further investigations on subject-object relations will underpin the analysis of Chapters 5 and 6, through considerations on light in relation to other ethical subjects, such as the categories of 'human-non-human' and 'natureculture'.

This chapter has justified the artists' feminist interest in the subject of light through the principle of affect. It has discussed how Kelly's, Toderi's and Barba's practices critique the systems of representation of light, traditionally founded in the aesthetic categories of form, medium, message and object, and regard light as an affective disposition, a drive, and an intentionality. All these approaches lead to an affective mode of apprehension of light that can be drawn from a feminist questioning of events and experiences as constituting systems of relations. These understandings are significant to posit an understanding of the affective turn of feminist practices of light, because the

artists' approach to this subject, be it manifest in a medium or by the framing of an experience, reflects an empathetic and emotional experience of light that the artists modulate through the experiential dimension of their works. I have examined how the affective turn of feminist practices of light translates into an investigation on the ephemeral, sensuous, and plastic qualities of light in terms of transferrable qualities. By examining the specific registers that each artist proposes for their configurations in particular, I have discussed how affect imposes forms of enactment of light that translate into projection, movement and action. An affective approach to light challenges the ways of experiencing the work of art as a system of free associations that convey evocative, imaginative, and immersive aspects of an experience over the domain of logos. Drawing from these considerations, this research posits the affective turn of feminist practices through an understanding of light in terms of emotion and empathy.

Ultimately, this chapter has addressed an understanding of the visual rhetoric of light by reflecting on the ethos, the discursivity and the context of the works examined. From an investigation of the frames that support the affective dimension of women's investigations, I have identified in the enunciative function of light, the affirmative proposition of a feminist visual and narrative practice. Through an analysis of the notions of material-index, material-semiotics, and the thickness of discursive formations, I have discussed how the affective turn of feminist practices provokes a shift for the system of representation of light and establishes a bond with sensations and materiality through forms of visualization and linguistics. This is evident in Kelly's *Multi-Story House* where her work 'speaks' of an intergenerational illumination that plays through the form of intertextuality and meta-narrativity. It relates to the poetics of lightness of Toderi's *Red Babel*, which connotes the rhythm and the semiotics of sensuous signs. It is remarked by Barba's *The Western Roundtable* where the importance of light emerges from a system of formal analogies to draw a discursivity of light in terms of expressivity. Through analysis of the artists' use of rhetorical figures in their works, this chapter claims a feminist rhetorical position that contributes to the alliance between light and language.

Chapter 5. The Dialectical Movement of Light

This chapter focuses on an analysis of the installations *Representation d'un corps rond*, 1996, by Ann Veronica Janssens and *Momentum*, 2014, by the multimedia collective United Visual Artists which will be examined through the writings of the feminist thinkers Mieke Bal (2013b), Catherine Malabou (2010), and Dorothea Olkowski (2003). These works have been chosen because they deal with a philosophy of perception of time and space which is founded in the image of duration and the relativistic topology of curved space. I will discuss how in contrast with the representation of transcendental schemata, Janssens's work draws from a phenomenology of the perception of time derived from Henri Bergson's notion of continuous duration (Bergson, 1896) and Gilles Deleuze's account on the virtual (Deleuze, 1988) to convey an experiential encounter with light. In parallel, I will examine how United Visual Artists' work draws from the scientific model of the four-dimensional space-time continuum derived from differential geometry (Riemann, 1854) and theories of Relativity (Minkowski, 1908; Einstein, 1905) to reflect a sensibility that is at the basis of forms of live-art. Drawing from these findings, I suggest that these practices impose a question concerning light, experience, and human and non-human's relations at the intersection of art, phenomenology, and science.

Both the installations *Representation d'un corps rond* and *Momentum* are light installations that cite the legacy of Minimalist sculpture. Stylistically, they relate to early experiments of light-art examined by the critic and art historian Jack Burnham in the essay *Light as Sculpture Medium*, part of *Beyond Modern Sculpture*, 1968, who discussed the impact that light, science, and technologies have had in Minimalist sculpture. In Burnham's words: 'the trend of Light-Art is to eliminate the specific art object and to transform the environment into a light-modulating system sensitive to responses from organisms which invade its presence' (Burnham, 1968, p.26). The gradual implementation of technological lighting materials, Burnham adds, has placed under discussion the aesthetic concern for the specific art object to explore the capacity that light and technology-based practices have in modulating a perceptual system in a specific environment. In particular, Burnham cites the work *Lumia Suite*, 1963–1964, by artist Thomas Wilfred, an installation consisting of a projection of light onto a translucent glass screen which testifies the potentiality that light and the assembling of composition technologies have in creating a systemic perceptual environment (ibid., p.287). By extending the boundaries of sculpture over fixed categories, Burnham's analysis sets the

parameters for investigating the use of light and technology in art in ways that involves a perceptual investigation that challenges the relation between the work, the viewer, and the context of emplacement. In this context, Burnham's account justifies Janssens and United Visual Artists' references to Minimalism because through their use of light-modulating systems informed by projection and new media, their works expand the possibilities of sculptural investigation through plastic and spatial practices.

Janssens's and United Visual Artists' work reject the aesthetic preoccupation for the specific art object to configure an event that is actively or passively perceived and experienced by the viewer. In this fashion, it is helpful to introduce here the category of 'immaterialism' to address a method for thinking about light as intangible, yet perceivable phenomenon controlled by the technology, be it projection or digital media, that regulate these works.⁶⁴ The media theorist Vilém Flusser, as he discusses in "Immaterialism," 2012, states that 'immaterialism' defines a system of representation for a materialism consisting of data, speed and information as seen in electronics and computation, and characterized by the coding and decoding of forces in systems of distribution (Flusser, 2012, pp.218–219). In this analysis, Flusser's proposition offers a useful frame of reference for an understanding of the immaterial, sensuous, and modulating qualities of practices of light. In addition, the function of transformation and modulation of Janssens' and UVA's practices can be further understood by rethinking the notion of 'immaterialism' through the category of 'practice of light' as posited by the media theorist and critic Sean Cubitt in *The Practice of Light: A Genealogy of Visual Technologies from Prints to Pixel*, 2014, which extends with the modulating and constructive function of light in art in terms of 'transmissibility'. Whilst analyzing the system of processes and procedures involved in the configuration of light-works, Cubitt asserts that new media technologies have made transmissibility a principle of art where communication takes place as the ground for relationships (Cubitt, 2014, p.10). Practices of light, Cubitt adds, imply a level of engagement that precedes the construction of subjects and objects by constituting the primal flow for experiencing and connecting human and non-human relations (ibid.). In other terms, Cubitt's reading of the practice of light enables here an understanding of the immaterial function of light in digital practices, suggesting that light is a force and a flow,

⁶⁴ On the notion of 'immaterialism', we must refer to Jean-François Lyotard's critical account as discussed for *Les Immatériaux*, at the Center Pompidou, 1985, an exhibition that reflected on how modern technology has impacted the ways of understanding materiality not simply by means of human activity but for the capacity of drawing networks and associations. With the term 'immaterial', Lyotard defines both the support of a message and the hardware where the material is acquired, transferred and collected (Lyotard, 1985, pp.202–205).

a transitive carrier of information, imposing a renegotiation of the divide subject-object in terms of relation.

For the purpose of shifting the attention towards the sensuous experience of light, this research integrates here a questioning of a politics of light by referring to the notion of 'political agency' addressed by the visual culture analyst, Mieke Bal in the essay "Light Politics," 2007, where the author anachronistically draws from the style of the Baroque to define a particular style and sensibility. According to Bal,

Baroque is the name of a relationship between subject and surroundings, or reality, that is neither relativist nor nominalist but literally engaging. Considering the work as baroque requires a sense of history that breaks through the linearity of evolutionism and is instead anchored in memory. This opens the way to the political in this art – the sense that subjects must engage with their environments, neither detached nor immersed but active, on innovative, creative, and responsible terms. (Bal, 2007, pp.156–157)

According to Bal, the Baroque does not connote only a style in art-history but is a trope in visual arts. The Baroque, she argues, conveys a sensibility that relates to a lived perception of time and space in a way that affects perception beyond the mind–body dualism, an immanent condition grounded in memory. Epitomized by a perception of time as duration in analogy with the relativistic representation of space-time, the style of the Baroque, Bal adds, implies an understanding of the 'dialectic of the mirror that threatens to conflate the subject and object of knowing' (Bal, 1999, p.14) and this dialectic is here crucial for rethinking 'subject-object' in terms of responsiveness and engagement. In this analysis, I intend to demonstrate how light in *Representation d'un corps rond* and *Momentum*, can be regarded as a form of political agency that expresses through the qualities of plasticity and interaction. These works configure a *sensorium* that supersedes the scission between conscious and bodily perception merging into an embodied experience. Ultimately, I argue that the dialectic of these works reposition light in a place of ambiguity,⁶⁵ reconciling the schematism and sensibility through the methods of discovery and invention at the intersection of arts, science, and phenomenology.

⁶⁵ The term ambiguity is used as a reference to the writing of Simone Beauvoir whose existential position, as posited in *The Ethics of Ambiguity*, 1948, lays the basis of a feminist ethical approach questioning about freedom and facticity in order to reach not absolutes, but values.

5.1. Forms of Virtuality and Plasticity: an investigation of *Representation d'un corps rond* by Ann Veronica Janssens

This section focuses on an analysis of the installation *Representation d'un corps rond*, 1996 (fig.25), by Ann Veronica Janssens, a work consisting of a conical light projection which unfolds as a solid volume infiltrated by artificial mist in a three-minute loop, presented at De Vleeshal, Middelburg, the Netherlands in 1996.⁶⁶ This analysis intends to demonstrate how, in contrast with the representation of Euclidean geometry and transcendental schemata, this conical volume designates an immersive virtual environment, establishing a temporal duration that is manifested through a flow of projected light, whilst articulating a dialectical movement between the states of virtuality and solidity as seen in the interplay between concave and convex surface of the installation.



Figure 25. Ann Veronica Janssens, *Representation d'un corps rond* – 2nd ed., 1996–2000
cyberlight, programmed projection and artificial fog
installation view, Galerie Micheline Swajcer, Antwerpen, 1996.

From an analysis of Janssens's practice, I will focus on investigating how inside this virtual volume, the flow of projected light functions as an affect and an action, an affect that modifies perception between the states of virtuality and plasticity within the cone. In support of this statement, I shall employ Catherine Malabou's theorization of plasticity as a cognitive and perceptual phenomenon (Malabou, 2010) to examine how in

⁶⁶ This work has been chosen from an analysis of Janssens's body of work, based on archival research and the retrospective exhibition *Mars*, at the Institut d'art contemporain at Villeurbanne, 2017.

Janssens's *sensorium*, the use of projected light acts and modifies perception in a state of embodiment. In a wider perspective, this analysis draws from Mieke Bal's reading of *Representation d'un corps rond* (2013b) which contextualizes Janssen's interest in sculpting a conical virtual volume as a citation of the style of the Baroque, a style that foregrounds a lived perception of space and time, informing a politics of light. Drawing from Malabou and Bal's writings, I shall argue that the ethos of *Representation d'un corps rond* consists in rethinking the relationship between light, technology, and the human subject through the articulation of a dialectical movement merging into an embodied experience.

From the late 1970s, the work of Ann Veronica Janssens has explored the possibilities of sculptural construction through forms of spatial extensivity of existing architectures. As the artist discusses in her statement for the catalogue of the exhibition *Ann Veronica Janssens: Experienced*, 2009, curated by critic Michel François, this practice merges in the construction of 'superspace'⁶⁷, or in her words: 'the spaces surrounding a given space, spaces without space, places for capture of light, cement and glass cases, spaces conceived as springboards towards the void' (Janssens and François, 2009, n.p.). Among early 'superspace' works, the installation *Gallery Inexistent*, 1988, a site-specific project consisting of various concrete blocks taken from an external construction and displayed inside the gallery's space at Gallery Detour, Antwerp, not only makes evident Janssens's interest in extending with the possibilities of sculptural construction, but also it makes explicit the Janssens's interest in exploring 'the permeability of contexts' (ibid.), a strategy that aims to supersede the threshold between the concrete and the immaterial aspects of an artistic experience across architectural, cultural, and social spaces and contexts. Commenting on Janssens's practice, Mieke Bal, in the monography *Endless Andness. The Politics of Abstraction according to Ann Veronica Janssens*, 2013, introduces a syllabus of the artist's practice to begin with reflections on space and she suggests strategies of spacing and traversing as a way of incorporating relationship, a qualitative approach to space that differentiate relationships (Bal, 2013b, pp.25-29). I shall return to Bal's observations later, but drawing from these premises, it is important here to examine these spatial strategies in detail for an understanding of the immaterial aspects of her work.

⁶⁷ Janssens's use of the notion of 'superspace' refers back to her contribution to the Festival Werf in Utrecht in 1999, for which she conceived a series of twelve works displayed within the urban environment to establish a network of experiences (Janssens, 1999).

In terms of the material used, Janssens states that the focus of her investigation is 'the fluid perception of matter' (Janssens, 2009), a form of dematerialization of sculpture derived from privileging the use of ungraspable materials such as water, air and above all, light as testified by the continuous project *Le Cabinet en Croissance*, 1991–2006, a cabinet displaying a collection of sculptural objects made of almost intangible materials and subject to the artist's observations of the viewer's engagement with her work during a long exposure of the duration of fifty years.⁶⁸ In this view, by refusing the categories of form and objecthood in sculpture, Janssens's practice focuses on an investigation of 'elusive materials' - as she defines them - materials that help in modulating a phenomenology of experience in relation to memory which fulfils the lack of formal presence of an object. In other words, Janssens's sculpture focuses on an event that significantly affect the viewer's perception of space and time within a specific context of emplacement. In this fashion, I intend to demonstrate that the artist's use of elusive materials and among all light, have sensuous qualities that privilege a tactile perception and forms of engagement and embodiment beyond the domain of vision.

With specific focus on Janssens's use of light, it could be said that the quality of elusiveness is defined by the artist by rethinking the relationship between light, perception, and space. As observed by Mieke Bal, *Endless Andness*, 2013, Janssens's interest in this triangulation, is in line with the aesthetic investigations of Minimalist artists Robert Irwin and James Turrell, discussed in Section 2.1. of this thesis. In Bal's words, the power of making light close to materiality, the investigation on the dynamic nature of space, the use of machinery, and the viewer's participation in the work beyond the act of viewing, are parameters that show similarities among all these artists (Bal, 2013b, pp.86-87). However, whilst Bal continues her investigation by addressing political agency in relation to the language of abstraction used by the artist to deconstruct the category of abstraction itself to include a questioning of engagement and embodied perception,⁶⁹ I propose a different perspective which regards the artist's use of light as a material in relation to the perception of time-space.

⁶⁸ On the use of ungraspable materials, the sculpture *Aerogel*, 2003, part of the project *Le Cabinet en croissance*, 1991–2006, composed of 95.5 to 99.9% variable percentage of air, being transparent as a mist, in support of the representation of the atmosphere, is claimed the lightest material yet manufactured.

⁶⁹ Within the major framework of 'political agency', Bal discusses a politics of abstraction with reference to Ann Veronica Janssens's work, suggesting a different connotation of the term 'abstraction' away from absolute and rationalist thinking, and focused on the power that sensuous experience has in shaping forms of embodiment and embodied knowledge (Bal, 2013b).

In so doing, I intend to demonstrate that Janssens's choice of using light in relation to transparent materials such as glass, mirrored surfaces, and projection, is indicative of a feminist approach to minimalist sculpture. Her approach contrasts with the idea of modulating forms and occupying space through the positioning of sculptural objects and puts forward instead an investigation of the inherent qualities of matter in relation to the phenomenology of perception. In fact, the project *Le Cabinet en Croissance* testifies how the artist is interested in monitoring the evolution of her work in relation to the environment rather than imposing a static form or a conceptual, objectified perception as fixed. In this view, I argue, her sculptural investigation opens to forms of experimentation and engagement, acting as a means of transformation and further suggesting a questioning on the relationship between light, the viewer, and space.

As anticipated, another important contribution regarding Janssens's interest in the elusive quality of sculpture regards the integration of a flux and the orientation of movement. In Bal's words, the function of Janssens's sculptural practice rests in a 'coordinate of movement' (Bal, 2013b, p.87) or a framing that values the dynamic nature of time (and space) and suggesting an orientation for the effects of an event in sculpture. In her reading of Janssens' practice, Bal asserts that this strategy is particularly concerned with the 'capturing time through images' (ibid.), a method of investigating space in relation to time and memory which resonates with the work of early Modernist structural films in the 1970s, also referring to Bal's reading of the Baroque as a style concerned with a perception of time that is evolutionary (ibid.). On a closer investigation, Bal adds, this coordinate of movement seen in Janssens' work, modifies the viewer's perception of time in the work, a perception affecting the viewer's 'natural feeling' (ibid.). Bal draws the term 'natural feeling' from Henri Bergson's study of the perception of time and space in relation to memory, a feeling perceived from the act of recollecting images as a lived experience and thus soliciting not an abstract but a vitalist and fluid perception of time.⁷⁰ This consideration is crucial to an understanding of Janssens's sculptural practice because it explains how by addressing such a coordinate of time in her sculpture, Janssens's work touches on the natural, lived perception of time-space of the viewer, soliciting forms of responsiveness and engagement towards the work. I will

⁷⁰ In her analysis of filmic language, in "The Time It Takes," Bal uses the term 'natural feeling' as a derivation from Henri Bergson's philosophy of the perception of time and space which differs from the geometrical, measurable and abstract representation of these categories, to deal with a system of heterogeneity that is different from every subject's positioning and concerned with the recollection of a lived experience (Bal, 2011, pp.44-45).

discuss this proposition later, but here, as Bal remarks, it is important to point out how Bergson's use of the term 'natural feeling' is also symptomatic not of a formalist conceptualization of time and space, but of a relativistic experience whereby time actualizes by means of a positioning. In this view, Janssens's practice establishes a chiasmus between time and space suggesting that these are not formalist, abstract categories, but they are mutually interdependent to the viewer's positioning. In Bal's words: 'natural feeling is deictic...therefore, it is heterogeneous, different for everyone depending on their position' (ibid., p.88), and through this statement, Bal rethinks phenomenology of perception through lived sensations and memories. In this sense, 'deixis' designates the framing of the coordinates of space-time in her work, suggesting a lived experience of the work, an experience drawn by recognizing the act of positioning as relativistic as well perceptually related to contexts. In this view, the notions of 'coordinate of movement', 'natural feeling', and 'deixis', gives evidence to the constructive, yet elusiveness qualities of Janssens's practice.



Figure 26. Ann Veronica Janssens, *Le Corps Noir*, 1994
plexiglas noir, installation view - Institut d'art contemporain, Collection Frac Rhône-Alpes.

These strategies are made explicit in Janssens's sculpture *Le Corps noir*, 1994, a work consisting of a rounded convex mirror displaying onto the gallery's walls at the viewer's eye-level, presented as part of the exhibition *Begin the Beguine / Inside the Visible*, at Fondation d'Art Kanaal, Kortrijk. In particular, with this work, Janssens uses a mirror as a dispositive to reflect the image of the viewer and as a negative sculptural space where she suggests a capturing of time through the image of the self and returns it to the subject in its own positioning. *Le Corps noir* is emblematic of how Janssens reformulates the practice of sculptural composition by exploring the perception of time and space through image, modulating a dialectical movement which shapes the image of the viewer's self. In Janssens's words, such a movement: 'it is almost like a hypnosis',

a way of shaping images through the processes of reflection and recollection in memory (Janssens, 2009). Drawing onto the perception of time and space through a recollection of images, with *Le Corps noir* (fig.26), Janssens demonstrates how ultimately her sculpture aims to establish an encounter, a modification perceived as a dialectical, affective movement which supports forms of engagement. Drawing from these essential observations, I will now focus on an analysis of her specific use of light in sculptural practices.



Figure 27. Ann Veronica Janssens, *Representation d'un corps rond*, 1996–2001
cyberlight, gobo of engraved glass, fog machine
installation view - Kunstverein München.

Drawing on the study initiated with *Le Corps noir*, *Representation d'un corps rond* is a sculptural projection presented by Janssens at the De Vleeshal, Middelburg, 1996 (fig.27). With this work, the artist experiments with moving mirror technologies and implements them with a cyberlight projection and glass, a media-technique traditionally employed to illuminate stages and performance. In particular in this work, the cyberlight projection is a mirror fixture consisting of multiple sources of litho patterns which move synchronically on a rotating disk and modulate the projection of multiple beams of light, simultaneously configuring a solid cone which materializes in a three-minute loop. On a closer look, the use of cyberlight generates an optical zoom which serves to orientate the viewer's experience towards the source of the installation and suggesting a movement towards the interior of a conical volume when the viewer engages in an experimental process. Inside this cone, at the moment of maximum expansion of the projection, light temporally arrests and expresses in a flux configuring a state of virtuality.

When subsequently the projected light circularly moves and unfolds within the gallery's environment to return to its original state, light marks the surface of the cone with straited patterns to remark an interplay between states of fluidity and solidity. Through this process, the sculptural projection gives evidence how the flow of projected light challenges the perception of time and space in relation to the viewer's experience and the surrounding gallery's context. Only supported by the beam of multiple cyberlights moving from a rotating disk, the volume of the cone reaches 10 metres in diameter and 30 metres in depth at its completion, pervading the gallery's environment as if positioning a concave sculptural object.



Figure 28. Ann Veronica Janssens, *Photo-stills from Representation d'un corps rond*, 1st ed., 1996 installation view – MAC Galeries contemporaines des musées de Marseille.

As discussed by Bal in her review of the installation visited at the De Vleeshal, Middelburg, the projected cone almost occupies the entire space of the gallery, leaving only a marginal space between the artwork and the gallery's walls (Bal, 2013, p.68). In this interstice, Janssens employs another strategy consisting in infiltrating the volume of the cone with artificial mist, disrupting the order between the interior and the exterior of

the cone and articulating a play of a convex or concave surfaces depending on the viewer's positioning (fig.28). In this view, time expresses through the coordinate suggested by the conical projection's movement and space is designed around the presence of the viewer immersed in the installation and in relation to the existing gallery's context as forms of detachment and attachment. At the intersection of these perceptual fields, from its highest moment of intensity when configuring a virtual volume, *Representation d'un corps rond* materializes as a plastic cone of solid light.

In the monographic study *Endless Andness*, 2013, Bal asserts that *Representation d'un corps rond* corresponds to the genre of 'theatricality' (Bal, 2013b, p.98), or a theatrical performance articulated by means of a machinery (ibid.). Differently from Minimalist forms of sculptural composition, Bal states that theatricality, designates a non-representation practice, a strategy concerned with the setting of a scene – consisting only of the medium and the event figured – such as projecting an encounter with the viewer who on the counterpart, is engaged with the recollection of an image, an image that is not fixed but is figured only depending on its own positioning. The strategy of theatricality, Bal observes, raises the dilemma of acting or not to acting response to the installation, and this is a crucial point because it imposes agency (ibid.). In this view, the theatrical performativity of *Representation d'un corps rond* designates an important feature of Janssen's practice because it explains the choice of the artist to construct a frame that could stage an event that actualizes through the use of cyberlight projection in relation to time, movement, and the viewer in a process that is both perceptual and agential in terms of experimentation and engagement.

On a perceptual level, agency, Bal adds, designates a response to a stimulus (ibid.). It becomes an important feature of Janssens' dialectic because it challenges the ways of thinking the dichotomy between the work and the viewer, suggesting that beyond the domain of representation, agency triggers the perception of a lived experience by making the viewer responsive to the work. In fact, in *Representation d'un corps rond* Janssens presents a theatrical staging for light being projected through a cyberlight system which creates a dialectic movement, a movement that turns the representation of transcendental schemata into a two-folded conical volume that can be experienced physically by the viewer through performative and engaging responses that connotes a form of live-art. This dialectical movement in addition, is important for an understanding of light as a material which unfolds in space through projection in a flux and it is important

to note how this unfolding affects and modulates the surrounding environment, reflecting into a threshold between the void and materiality.

In particular, at the highest moment of expansion of the conical projection, the installation designs a volume of solid light which is delimited by a convex–concave surface and whose perception depends on the viewer’s positioning. The theatricality of the work is evident by observing how the concave surface of the cone can also be perceived as convex depending on the viewer’s positioning. According to Bal, the categories of concavity and convexity are strategic in Janssen’s practice because they enable a different perception of time and space, a perception founded in memory as for the style of the Baroque (Bal, 2013b, pp.103-104).⁷¹ They suggest a new level of engagement with the work because by introducing the viewer to the negative, elusive space of sculpture, they impose a performativity, a performativity aimed at recollecting an image whilst on the contrary facing the impossibility of any representation, and thus ultimately returning to the viewer’s positioning as a form of embodiment. In addition, from a perceptual viewpoint, concavities and convexities, Bal remarks, trigger perceptual modes, suggesting the viewer a perception of time and space that is lived (Bal, 2013b, p.12).⁷² They also reorganize the perception of the existing gallery’s space, suggesting ways to incorporate relationships within the existing context (ibid.), acting as a dispositive for detachment from the physical condition of the gallery’s context to pursue an abstract politics of space. Drawing from Bal’s theorizing of the terms ‘concavity’ and ‘convexity’, this analysis further offers an insight into the conical configuration of *Representation d’un corps rond*, departing from considerations of how these strategies reorganize the perception of the gallery’s context. In fact, at the moment of completion of the cone, in its highest form, the double-sided concave–convex surface touches on gallery walls and this turns the perspective of seeing a reassuring order of composition from the exterior

⁷¹ As a theoretical contextualization, some observations on Deleuze’s philosophical account on the style of the Baroque should support the argument of this investigation. In *The Fold, Leibniz and the Baroque*, 1988, Deleuze discusses the style of the Baroque as characterized by a process of unfolding and folding of an experience. In particular, in the categories of concavities and convexities, Deleuze envisions the occluded front of a rolled surface which envelopes the living experience and articulates by revealing a process of undifferentiated differentiation between totality and singularity (Deleuze, 2006, p. 92).

⁷² In *Endless Andness*, 2013b, Bal posits a critical point that relates to Janssens’s philosophy of space, a form of abstraction that imposes a conceptual, yet embodied perception of light, space and relation. In this analysis, I focus on the temporal aspects of Janssens’s *Representation d’un corps rond* because this critical positioning is useful to my argument of a relativistic experience of light that manifests through a questioning of the perception of time as an affect and a sensation in opposition to the representation of transcendental schemata.

into an experience to be lived from the interior of the cone. Through the concave surface of the cone, Janssens' work deploys an elusive frame that bridges light, time, space, and relations, orienting the viewer towards the source of cyberlight at the center of the installation, opening up to a virtual experience.

Representation d'un corps rond articulates a "dramatic" tension between the virtual and the perception of a haptic and solid materiality evidenced by the use of artificial mist. Janssens states: '[i]t is this void that I try to set in motion, conferring upon it a kind of temporality. I always experiment with the possibilities of rendering fluid the perception of matter or architecture which I see as some kind of obstacle to movement and sculpture' (Janssens, 2008, n.p.). With this statement, Janssens describes her approach to sculpture as a perceptual field of action. She explains her choice of using cyberlight projection by observing how 'light weaves into the matter and the architecture and it destabilizes its resistance which ends up dissolving, leaving room for new visual perceptions' (Janssens, 2020, n.p.).

Commenting on Janssens's choice of using light as the only material of a perceptual investigation, Bal states,

Janssens's work with light is not limited to shades and nuances, nor does she 'create' or 'represent' light... In her work, light becomes a primary material whose materiality – its status as matter – has important consequences for our sense of being in space, as well as for our commonplace notion of possession and objecthood which we can now distinguish and set apart from engagement and interaction. (Bal, 2013b, p.76)

From theorizing the frames that constitute Janssens's practice of light, Bal dwells on Janssens's choice of using light as a non-representational practice, a material approach gathered with perception and sensuous qualities which redefines the boundaries of Minimalist sculpture. However, whilst acknowledging Bal's account on Janssens's questioning of the relationship between light, the sense of space, and the sensuous, in this analysis I take a step beyond to suggest that *Representation d'un corps rond* imposes an immaterialism which is displaced in the virtual. In support of this argument, we must observe how inside the convex surface of the cone, the vertical axis of *Representation d'un corps rond* projects a continuous live-duration or a different perception of time placed in lived-experience and memory whereby light expresses in a flow through the

projection of a virtual volume. To observe this strategy is important because it gives evidence to the artist's interest in turning traditional systems of representation concerning the use of formal and abstract categories into the configuration of a temporalized sculpture in motion. I argue that the artist's addressing of a temporal coordinate to sculpture, imposes here a continuous duration, a duration that supports a dialectical encountering⁷³ through the elapsed time that exists between the light source and the viewer's experience. Next, by drawing on a number of theoretical references that explain the perception of time as lived and virtual, I intend to demonstrate how this configuration imposes an affect and a modification which are both perceived in the body (fig.29).



Figure 29. Ann Veronica Janssens, *Representation d'un corps rond*, 1996 Installation view – MAC Galeries contemporaines des musées de Marseille.

I suggest that Janssens's choice of dealing with the image of a cone of solid light draws from the image of the 'cone of pure memory' discussed by the philosopher Henri Bergson in *Matter and Memory*, 1896, as part of his inquiry into the perception of time, consciousness, and recollection (Bergson, 1896/2001, p.103). Bergson deals with the image of the cone to reflect on the temporal distance that exists between pure memory and bodily memory and describes it as a continuous duration, a trajectory that is explained by the argument that: 'a recollection should reappear in consciousness, it is necessary that it should descend from the heights of pure memory down to the precise point where action is taking place' (ibid., 197). Within this distance, Bergson states, time

⁷³ The term 'dialectical encountering' is drawn from Catherine Malabou's reading of plasticity as a material and temporal phenomenon in philosophy, a phenomenon concerned with the disruption of presence and the event of a disruption and transformation (Malabou, 2005, p.17).

results as a differentiation between the planes of the virtual (real experience) and the actual (manifestation) and is perceived as an action and a mode of taking place (ibid.). Differently from the linear conception of time, Bergson's image of the cone of pure memory designates the model of a continuous live duration which by bridging time and action, is simultaneously perceived as a conscious form and a form of embodied experience. Bergson's image of the cone of pure memory offers a useful model to discuss the coordinate of time in Janssens's conical projection because similarly, by turning the perception of time from linear to the dimension of a time-curve, the artist suggests a recollection and an experience of light and time as lived. Figuratively, this can be observed when at the highest moment of completion of a conical volume, *Representation d'un corps rond* draws the figure of a continuous lived-duration that is made evident by the beams of projected light and resting within the interiors of the cone to impose a descendent movement from the cyberlight source towards the viewer who inhabits the space of the installation. In so doing, Janssens's work suggests that the perception of time and light is not absolute, but it designates a virtual experience that ultimately actualizes in material, solid, and plastic terms. In other terms, *Representation d'un corps rond* supports a continuous duration, a duration that turns the formalist representation into a state of virtuality, articulating the relationship that exists between duration, the action of projected light, and the viewer. This is an important feature of the work because it also turns the traditional representation of light as a medium between the transcendental and the sensible, suggesting that light is a flow that modifies perception beyond dualisms (energy-matter; mind-body) to establish an encounter. In other terms, in Janssens's work, light is a flow of energy that acts between the source and the viewer by modulating perception and, as I shall further discuss, merging into a matter as a form of experiential plasticity.

Inside the cone, the machinery – the use of cyberlight projection of multiple litho pattern sources repeated in a loop – designate a state of virtuality. This form of virtuality is relativistic in ways that actualizes only in reason of the viewer's positioning. In support of this argument, I draw from Gilles Deleuzes's philosophical account on the image of a 'virtual volume', as discussed in the *The Fold. Leibniz and the Baroque*, 1988, where the philosopher extends and relativizes Bergson's theory of the perception of time to state that a lived-duration is not a coherent, homogeneous, conscious perception, but rather a synthesis between totality and multiplicity (Deleuze, 1988/2006, p.109). According Deleuze, a qualitative ontological differentiation applies to the perception of time in the

state of the virtual because in the virtual, a multiplicity of events coexists on the same plane as heterogeneous (ibid.). In other words, the figure of a virtual volume, Deleuze points out, imposes a way of thinking about the perception of time which is not limited to the subject's viewpoint, but time should be perceived as the perception of a virtual coexistence, a way of perceiving a multiplicity of events from a single, subjective viewpoint in a state of immersion (ibid., pp.60–61). This follows, Deleuze remarks, that the image of a virtual volume demonstrates that a lived duration is not a conscious experience perceived by the rational mind, but it is the absolute interiority of an embodied experience (ibid.). In addition, Deleuze states that the expressivity or performativity resulting from the perception of a lived duration is not only an act, but is an act of transformation, 'a transformation of the perceived real world into an objectively real world, into an objective Nature' (ibid.), or in other words, the objectification of an event that affects the body as a lived experience. To conclude, Deleuze states, 'it is in the body that something is realized, through which the body itself becomes real' (ibid., pp.119– 120)⁷⁴ and his observations are important because they explain lived duration as the synthesis of a multiplicity, a synthetic experience which is perceived in the body as a modification in ways that impose agency.

Both the images of a virtual volume and the lived-continuous duration apply to the experience of *Representation d'un corps rond* because they offer us a way to understand how light, time, and space operate inside in a dialectical relation with the viewer. Within this virtual conical frame, Janssens suggests that the use of a cyberlight projected light is a synthetic operation, an operation projected in a state of flux and actualizing as an action which affects and modifies experience. Inside the cone, *Representation d'un corps rond* visualizes a virtual volume that unveils a form of virtual coexistence between light, time, and the viewer, a lived-experience consciously perceived within the body as a form of live-art. I will further analyze how from its highest degree of intensity, this volume

⁷⁴ In *The Fold*, 1988, Deleuze discusses the perception of time in terms of totality and virtuality and this allows him to address an understanding of the ethics of the incorporeal. According to Deleuze, 'The world itself is an event and, as an incorporeal (= virtual) predicate, the world must be included in every subject as a basis from which each one extracts the manners that correspond to its point of view (Deleuze, 1988/2006, pp.60–61). An ethics of the incorporeal is a way of living in intensity, in a state of virtuality, as an objectified feeling of Nature perceived not in consciousness, neither in sensory perception but in the body (ibid., 119–120). Deleuze's ethics of the incorporeal is at the base of an investigation into the experience of light as a form of live-art because away from the scission between the mind and the body, it reconciles subjectivity with a natural feeling and forms of embodied knowledge.

gradually articulates with the action of the beam of light, making light the sensuous, elusive, and ungraspable material of a fluid perception of time reflecting into an embodied, plastic experience.

Further on the coordinate of time addressed by this work, I return here to Bal's reading of *Representation d'un corps rond* because whilst drawing from Bergson and Deleuze's philosophies, Bal extends their inquiry of the perception of time to suggest that the figure of a lived duration pertains to realm of experience and memory, reflecting into an anachronistic and evolutionary style which is epitomized in the arts by the style of the Baroque (Bal, 1999; 2007). Bal's critical account offers here useful understandings of the specific relation between the coordinate of time and the projection of light as an action inside Janssens's installation, and in a wider view, it sets the fundamental premises for thinking the ethical and political functions of Janssens's practice.

For my purpose, I shall begin by questioning to what planes memory refers (virtual; actualization) and I refer to what Bal defines as 'memory act' as she discusses in the article "Memory Acts," 2001, a phenomenon consisting of a form of actualization of memory and behaving by means of a visual spatialization through an interweaving of relations with other subjects and the materials involved in the process of manifesting itself (Bal, 2001, pp.10-11). Observing how memory is an intangible phenomenon, Bal states: 'Memory cannot transport its time frame' (ibid.) and this follows that memory itself requires to draw onto the fabric, the metrics, and the trace of its own encountering with materiality (ibid.). A 'memory act', Bal adds, is a form of unfolding that occurs without supplement but through its encounter with time and space, thus resulting as a form of active engagement (ibid.). Bal's reading of 'memory act' suggests that memory is neither an entity, neither a supplement, but it is interweaved with processes of material formations, and these considerations are useful in a discussion of how Janssens's use of projected light operates because it explains the relationship between time and light and between the states of virtuality and actualization in terms of action, affect, performativity, and metrics. In fact, in *Representation d' un corps rond*, the multiple sources of a cyberlight projection act as a form of actualization of time and whilst figuring a duration, they make the beams of light expanding and moving in time and space through controlled modulations, materializing a fluid sense of perception. In this process, the conical projection does not rest on any formal expedient or frame, but the projection of light

articulates through the traces of the fabric of time seen in the striated patterns⁷⁵ of the cyberlight marking the concave surface of the cone. These traces unveil a space of ambiguity and manifest different grades of permeability between virtuality and actualization. Next, I shall discuss how this ambiguity reflects in the experiential dimension of the installation, imposing form of political agency.



Figure 30. Ann Veronica Janssens, *Representation d'un corps rond*, 1996
Installation view, Kunstverein Muchnchen.

According to Bal, *Representation d'un corps rond* (fig.30) is imbued with a political and agential dimension which the author defines in terms of 'meta-art', or a way of putting forward an experience for the viewer to be engaged with (Bal, 2013b, p.71). Differently from the aesthetic category of the specific artistic object, 'meta-art' is according to Bal, a way of thinking about the work of art as questioning the relationship between two possible actions – that of the artwork having an effect on the viewer and that of the viewer responding to it – implied by an artistic experience. Thus, Bal adds, meta-art involves a form of political agency, a proposition which explains the specific relation between artwork and the viewer in terms of action, a questioning of the artwork acting upon

⁷⁵ The adjective 'striated' refers to Gilles Deleuze and Felix Guattari's differentiation of smooth and striated spaces. According to the authors, whilst smooth spaces designate an affective, intensive, nomadic space (Deleuze and Guattari, 1985, p.279), striated spaces are metric spaces in ways that intertwine fixed and variable elements, intersecting horizontal and vertical planes (ibid. p.280).

the viewer and the viewer choosing to act or not to act against the work (ibid.). All these considerations are useful to explain the dialectic and the ambiguity inherent to *Representation d'un corps rond* in political and ethical terms. In fact, I argue that in Janssen's work, the action of light reflects the manifestation of an act in memory, a manifestation that modifies the perception of phenomena to refer instead to a politics of affect, embodiment, performativity, and engagement (fig.30). Drawing on these considerations, I shall analyze how in *Representation d'un corps rond*, the action of light turns into ethics of encountering and of plasticity.

Following the trajectory of this analysis, some last considerations regard the forms of actualization of the virtual volume into a solid cone incorporating relationship and experiences. Yet, the concave surface of the cone functions as a strategic supplement to shift the perspective from virtuality to actualization. In particular, in the process of folding and unfolding of the cone, the installation is infiltrated by using artificial mist at the margin of its concave surface, giving material evidence to the use of projected light, and functioning as a strategy to bridge this sculptural projection to the existing environment of the gallery. As Bal observes, this strategy takes as reference experimental filmic techniques used among others, by artist Anthony McCall for the work *Line Describing a Cone*, 1971, which, not dissimilar to *Representation d'un corps rond*, uses light projection to draw a solid cone of light in time. As the artist Anthony McCall explains, the use of mist, originally introduced as an accidental expedient, becomes a strategic dispositive when employing projected light because it disrupts the visual order of representation into a multiplicity of particles illuminating the atmosphere (MacCall, Godfrey, 2007, np.). In addition, McCall asserts that the use of projected light challenges the ways of perceiving light as an expanded, objectified form that does not apply to a specific object but rather to an atmosphere. Both in McCall's and Janssens's practices, this strategy, according to Bal, makes it impossible to differentiate between the inside and the outside, the virtual and the concrete aspects of composition (Bal, 2013b, p.92). However, as Bal points out, differently from McCall whose practice focuses on the forms of designation of light in time, Janssens makes her practice a form of political agency, using the material qualities of artificial mist as a way of modulating light and constructing spaces by means of relations and striated traces (ibid., p.93). The double-sided concave and the convex surface of Janssens's cone is functional to interweave the virtual and the solid qualities of projected light, emphasizing within the exterior aspects such as the haptic and atmospheric qualities of light.

In particular, the strategy of using of artificial mist imposes further considerations on the perception of space in the installation, a perception that is not formalized in terms of abstract categories but is designated by the act of a positioning such as the viewer's act of taking space. In this fashion, *Representation d'un corps rond* is grounded on a field that results from a method of excavation from the negative, virtual space of sculpture and this designates a perceptual space that is not defined by formal expedients or physical boundaries, but this perceptual space is a dwelling, a way of perceiving space as lived and immersive. In support of this argument, we must return to Mieke Bal's reading of Janssens's abstract philosophy of space as a mode of thinking about topology through perception (Bal, 2013b, p.63).⁷⁶ In particular, Bal discusses this spatial perception as a deictic sense of space, a term derived from the notion of deixis in literary studies, as she discusses in *Narratology. Introduction to the Theory of Narrative*, 1985, and employed as reference for suggesting the contextual elements of an action in narrative forms. Translating this term in her inquiry on perception, Bal proposes an understanding of the deictic sense of space, a strategy of contextualization of space that requires the presence of a subject in order to materialize experience (Bal, 1985/1999, p.72.). Bal adds how this implies a heterogeneous perception of space depending on the viewer's positioning, a heterogeneity that resists fusion whilst suggesting a haptic sense of space (ibid.). Drawing from Bal's analysis, it is important to understand Janssens's interest in the perception of space in sculpture, not as an abstract category but as a way of establishing and incorporating relations. In this context, a deictic sense of space is understood as a fluid sense of perception of space which establishes a sense of belonging between light and the viewer and is based on perceptual and physiological responses. In other terms, a deictic sense of space relies on an inner, unconscious perception of space. Inside the cone in fact, the perception of light by the viewer is mediated by a deictic perception of space which is responsible for soliciting forms of haptic perception that put in relation light, the viewer, and the surrounding gallery environment. In this sense, in *Representation d'un corps rond*, space is visualized as a perceptual field that through the viewer's presence inside the cone, becomes a positive sculptural form, a form of live art

⁷⁶ Discussed by the philosopher Gottfried Leibniz (1678) and further elaborated in the mathematical and geometrical thinking of Bernard Riemann (1854), topology is a field of geometry that studies the behaviour of figures – curves, manifold, knots, webs – whose forms do not alter under deformations and particularly those such as twisting and bending. Differently from Euclidean geometry, topology is crucial to Deleuze and Guattari's notion of abstract space as discussed in *A Thousand Plateaus*, 1980, because it designates a space characterized by position, junctions, relations and connectivity as pure intensities, metrics and singularities (Deleuze and Guattari 1980/2014, p.224).

that imposes forms of agency and engagement. In particular, deixis, Bal remarks, indicates a form of dwelling through embodiment and in so doing, it contributes to a process of reconfiguration of the surroundings in a way that is marked by the traces between the represented and the representational (ibid., p.73), which means that a deictic sense of space functions as a threshold between the void, the virtual, and actual representation.

Inside this space, light affects the viewer's experience as an act at distance. From the viewpoint of the viewer's positioning, the perception of projected light is drawn from a point of focalization identified by the relation between the cyberlight sources and the viewer's positioning. Here, I use the term 'focalization' from Bal's reading of this notion in *Narratology. Introduction to the Theory of Narrative*, 1985, where she distinguishes between the pure act of narrating and the point of view of the narrator in the context of literary studies.⁷⁷ Bal states that the implication of narrating from a distant point of view is not a mental construction but an act of perception (Bal, 1985/1999, p.32). Focalization is in this sense, a critical position that frames an event at distance and whilst focusing on the event *per se*, it draws a system of relations surrounding the field of its action. I suggest Bal's notion of focalization is useful to an understanding of perspectival vision of *Representation d'un corps rond* which does not lie in the act of viewing, but in the act of perceiving light at a distance as an affect, the encountering between light in a flux, and all the systems of perceptions and relations entailed within the gallery's context. Through focalization, *Representation d'un corps rond* acts as a form of political agency that rests between light and the viewer, articulating the ambiguity between virtualization and actuality manifested by the movement of reduction and expansion of light within the cone.

As a sculptural projection, *Representation d'un corps rond* reflects the lived perception of an experience of light in a flux which actualizes, I argue, through the power of plasticity. In this context, I discuss plasticity as both an affective experience and an affective sculptural form and I draw these understandings from Catherine Malabou's account on the phenomenon of plasticity, as posited in *The Future of Hegel. Plasticity, Temporality, Dialectics*, 2005, in relation to Bal's notion of political agency because both theories rest in an approach grounded in experience and investigate the dialectic underpinning subject-object relations. In fact, Malabou questions the phenomenon of

⁷⁷ According to Bal: 'Focalization is the relationship between the vision, the agent that sees, and that which is seen' (Bal, 1985, p. 135). Not limited to literary studies, the term is important in theories of visual representation because it rethinks the act of looking into an act of agency.

plasticity, departing from considerations on how plasticity is the quality of materials of both giving and receiving forms in a process of transformation (Malabou, 2005, pp.7–9). In fact, drawing from the art of modelling in sculpture, plasticity is, according to Malabou, an inherent and perceptual quality of materials that gives and receives form whilst being subject to material transformation (ibid.). These considerations make explicit the meta-function of plasticity as a perceptual phenomenon and a form of objectification, resulting from sensibilities acting upon each other in a process of transformation.

In *Plasticity at The Dusk of Writing: Dialectic, Destruction, Deconstruction*, 2010, Malabou addresses the notion of plasticity with reference to Hegel's movement of dialectical sublation within a philosophy of history (Hegel, 1807/2019) and states that plasticity applies to an order of temporality that is in a flux but it does not express through the forms of exteriority or multiplicity, rather in an internal movement that is given as an implosion of the living form (Malabou, 2010, p.3). This understanding reflects a qualitative differentiation for the notion of plasticity itself which is explained as a differential movement between synthesis and materiality. In Malabou's words: '[a]s a concept plasticity, is also endowed with a dithyrambic gift for synthesis, enabling me to perceive the form of fragmentation and my spot in the movement' (ibid., p.7). Especially, Malabou remarks, plasticity corresponds to a synthetic material that is characterized by the mark of the graphic, the expressivity of internal synthesis, and the potency of its own internal form (ibid., pp.8–10.). Because of these perceptual qualities, plasticity should be understood as an internal form, a synthesis and a metamorphic process that is constitutive of the inherent qualities of matter that are expressed by unfolding within its own structure (ibid., p.5). Malabou's insight into the qualities of plasticity are useful in understanding the viewer's affective experience inside Janssens's cone, as an encounter with light as an affect, that is, in this context, an inner, subjective experience, a synthesis perceived by the mind and a modification of a natural feeling in the form of an embodied, plastic perception. Within this process, the quality of plasticity of Janssens' use of projected light is a useful parameter to understand how Janssens' work supersedes the mind–body dualism to impress an image within the body that is the conscious perception of visualizing the body itself in a state of movement in a way that becomes a form of inner reflexivity perceived as lived. In other words, through the plastic qualities of projected light, *Representation d' un corps rond* focuses on the affect of light acting upon the viewer's body through a process of transformation that becomes a way of conceptualizing sensations as pure and lived in a process of plastic transformation.

In Janssens's work, the power of plasticity of light also affects the form of the solid cone in terms of plastic materiality which acts between the virtual and the form of a solid light. By using a theatrical frame supported a machinery, the plastic qualities of light of *Representation d'un corps rond* articulates as a differential order of material composition that rests in a synthetic form and articulates between the states of fluidity and plasticity in a dialectical movement, merging into the projection of a solid sculpture of light.

Further on the notion of plasticity, Malabou claims that this phenomenon imposes a 'new economy of sensation through a material phenomenology' (Malabou and Sparrow, 2015, p.10) and in line with her positioning, I argue that *Representation d'un corps rond* connotes the projection of cyberlight with a fluid, virtual, haptic, and solid perception of light in a dialectic that becomes a pure act of plasticity. In this analysis, the phenomenon of plasticity designates a form of political agency where light, in Janssens's work, acts upon bodies and transforms their perception, but also it connotes a perceptual phenomenon that applies to the viewer's experience of the work by contributing to the articulation of a projective, sculptural, solid form.

To conclude, it could be said that *Representation d'un corps rond* focuses on the formalization of the affect of light into a plastic form through a dialectic that splits between a way of conceptualizing sensations and the lived experience of the work. In so doing, Janssens's work reflects on new ways of thinking about the relation between light and the human subject through forms of embodiment. In this analysis, I have discussed how this model imposes an ethical positioning which is concerned with responsiveness to a lived perception of light, time, and space. This model, I argue, implies a politics of affect that articulates through the frames of the artist's use of a cyberlight, suggesting a new level of engagement with artworks that is defined by the principle of the action of light in relation to agency. *Representation d'un corps rond* articulates through a process of unfolding and folding of light by provoking a lived perception of time over the continuity of history and linear narrative and it evolves by reflecting a sensibility concerned with the forms of affection, modification, engagement, and embodiment. Drawing from these formal features, Janssens's conical projection contributes to a practice of light that bridges relations and contexts and in the next section, I shall extend this investigation by questioning the relation between light, subjectivity, and the category of multiplicity.

5.2. Forms of Interaction and Immersion – an analysis of *Momentum* by United Visual Artists

This section examines the site-specific work *Momentum*, 2014, by the multidisciplinary collective United Visual Artists, a large-scale installation presented at the Curve Gallery at the Barbican Museum in London in 2014 (fig.31).⁷⁸ With this work, United Visual Artists revisit the legacy of lumino-kinetic art (Popper, 1963; Weibel, 2006) and address a reality of movement that simulates the phenomenon of the angular momentum of light in motion. For this purpose, the artists configure the frame of a relativistic model of space-time that relates to the image of duration and the representation of curved space (Einstein, 1905).



Figure 31. United Visual Artists, *Momentum*, 2014
steel, aluminium, custom electronics, 3D printed speaker chamber, LED installation view,
Curve Gallery, Barbican Centre.

I will examine how within this context, United Visual Artists address an experimental approach through their use of computation, sound, and LED sources, and propose a form of immaterialism of light. This analysis focuses on how this form of immaterialism informed by composition technologies, actualizes the exchange of the momentum of light by modulating projective movements as affect that modifies the perception of the gallery's context. Drawing from an analysis of these formal features, I shall examine how *Momentum* explores the phenomenon of diffraction of light as a means of experimentation, interaction, and immersivity. I will focus on examining the perception

⁷⁸ My engagement with the work exhibited as part of the Curve Art project focused on forms of public and interactive art, promoted by the Curve Gallery at the Barbican Museum from 2006.

of light, time, and movement in this work, drawing from Dorothea Olkowski's interpretation of Deleuze's *Logic of Sense*, 1969 (Olkowski, 2003) to discuss how *Momentum* reflects an experience of light in a milieu.



Figure 32. United Visual Artists, *The Speed of Light*, 2010
148 lasers, projection, optical fibres, mixed media.

Since 2005, United Visual Artists have pursued an interdisciplinary investigation that uses the methods of scientific experimentation and the forms of invention of new media. Their practice reflects on the potential that visual arts have in implementing techno-scientific models as a response to the critique of traditional systems of representation addressed by Postmodernism. The argument addressed by the philosopher Felix Guattari regarding the category of post-media practices, here explains the artists' position because the work of United Visual Artists, as Guattari intuitively discussed in *L'Impasse Postmodern*, 1986, reflects on how the advent of electronic and new media technologies imposed innovative forms of dialogue and collective interactivity (Guattari, 1986/1996, p.24). As an example, among early works, the immersive installation *Volume*, 2008, consisting of an array of forty-eight columns standing as sculptures and creating an immersive environment as displayed at the Victoria and Albert Museum, explores the dynamics of light through the emission of sound and pulsed LEDs in response to the dynamic of movement derived from the viewer's presence within the installation. The work *Volume* testifies the artists' contribution to new media practices, suggesting methods and strategies to design and shape a virtual and interactive experience. United Visual Artists intercepted the potential of new media technologies and in the words of Matt Clark, founder of the multimedia collective, United Visual Artists' practice emerged in that particular evolutionary and technological moment of transition

that occurred in the 1990s when ‘the digital worlds and the physical worlds merged’ (Clark, 2018, n.p.). In this view, it could be said that UVA experiment with a form of immaterialism of light that whilst dealing with elements such as data, speed, and information, it opens up to an experiential dimension of the artists’ work through forms of interaction and immersion. I shall examine how United Visual Artists’ experimental approach gives evidence to the emergence of a new sensibility of light, questioning about light, technology and humans and non-human relations.

United Visual Artists use light as a primary source of investigation. This choice stems from a background in lighting design for stages and live performances which explains the large-scale format of their installation works. In “The Unexplored Dimension of United Visual Artists,” interviewed by Fabio Colturri, Clark states that United Visual Artists’ practice focuses on investigating the ‘power of light in its minimal form’ (Clark, 2020, n.p.). With this statement, Clark explains his choice of using light by explaining the ambiguity of this material in terms of potency when projected in an environment, and in terms of immateriality in reason of its computational qualities consisting of data, information, speed, and velocity. These aspects are evident for example, in the early work *The Speed of Light*, 2009, an installation composed of a labyrinth of light-sculptures connected by 148 laser and optical fibres which designs a network of interconnections through the dynamics of light moving across objects and orientating the viewer’s movement inside the installation, designing an environment across six rooms at the Southbank Centre. Commenting on *The Speed of Light*, the trio artists Troika, in *Digital by Design. Crafting Technology for Products and Environment*, 2011, asserts that the contribution of United Visual Artists lies in their use of technologies of light at the intersection of processes of codification, controlling, and manipulation of data as forms of transmissibility. On the other hand, Troika states that the artists’ use of light lies in a ‘humanism of technology’, that favours ‘the importance of the materiality of technology and the tangibility’ (Troika, 2011, p.13). Troika’s analysis offers in this context, useful parameters to investigate the inherent dialectic of United Visual Artists’ practice of light, addressing an important question on the impact of light and innovative technologies in relation to the viewer’s experience of artworks.

With *Momentum*, 2014, United Visual Artists explore the behaviour of light in relative motion and within a topology of curved space, using a site-specific operation that responds to the space of the Curve Gallery at the Barbican Museum. The theoretical framework of the installation is the pendulum experiment by the physicist Leon Foucault

conducted at the Academy of Science at the Meridian of the Paris Observatory in 1851. The historian of science Amir Aczel, reports that Foucault's experiment consisted in using a pendulum instrument hanging from to the dome of the observatory and left free to oscillate for twenty-four hours onto a measuring graduating circle placed at the basis of the meridian observatory. The experiment proved that the arch of oscillation of the pendulum differs from the plane of oscillation of the earth by moving transversally at a different speed and orientation (Aczel, 2014, XII), and based on these observations, Foucault's experiment testifies the theory of the rotation of the earth.



Figure 33. United Visual Artists, *Momentum*, 2014
steel, aluminium, custom electronics, 3 D printed speaker chamber, LED
installation view, Curve Gallery, Barbican Centre.

In this analysis, Foucault's experiment provides a scientific model for the installation *Momentum* because similarly, the work experiments with a reality of movement through the configuration of a spatial instrument displayed within the Curve Gallery of the Barbican Museum (fig.33). But *Momentum* extends the boundaries of Foucault's experiments to deal with the simulation of the phenomenon of the angular movement of light using multimedia practices (digital media, light, sound, design) and experiments with the effects of light-based technologies on humans through the designing of a relativistic immersive experience. In particular, the work is designed through a programmed control system that distributes and orientates primary sources such as light and sound through a sequence of twelve pendula. At the Curve Gallery, the twelve pendula, composed of a series of wooden frames and gimbals, hang from the gallery's ceiling, and undulate along the longitudinal and transversal axes of the gallery's environment. They particularly support the use of twelve visual and aural sources

mounted on the gallery's ceiling and fabricated as printed acoustic chamber in a 3D format which act as a dispositive for the emission of light and sound projected through mechanical arms. Controlled by these computational dispositives, *Momentum* sits within the gallery's context as a sculptural armature and acts through the synchronic movement of twelve pendula which induce motion to the physical space as if sculpting the atmosphere and the environment of the gallery. But it must be noted that, whilst the movement of the twelve pendula is synchronic, their orientations differ following the curve space of the gallery, and this imposes a different distribution of light and sound's sources within this relativistic landscape. To be precise, the sequence of pendula uses LEDs to project different beams of light that transversally modulates the experience of the gallery's environment, suggesting forms of interaction and immersion. In parallel, the sequence of the twelve pendula distribute sound, a telluric sonority that longitudinally pervades the curve space of the gallery. Drawing from an analysis of these formal features, in the next section I aim to demonstrate how *Momentum* experiments with the phenomenon of exchange of the momentum of light, implementing a coordinate of time as a duration and a spatial investigation concerning the topology of a curved space, to examine the effects of projected light and sound in the relativistic experience of a *milieu*. In particular, I will focus on analysis of the phenomenon of angular momentum of light through the diffraction of light, drawing a number of formal analogies derived from the methods and the models of modern techno-scientific discoveries, to examine the affective, experiential, interactive, and immersive dimension of United Visual Artists' installation.

Stylistically, *Momentum* revisits the legacy of lumino-kinetic art by integrating the use of kinetic components. As discussed in Section 2.1., according to the art historian Frank Popper, the genre of lumino-kinetic art emerged in the work of Neo-Avantgarde artists in the 1960s, with interest in experimenting with the real movement of the physics of light that, depending on the use of mediums, differently conveyed a mechanistic movement, a natural wave movement, dynamics, and synthetic rhythm (Popper, 1967). Whilst drawing from this legacy, I suggest, United Visual Artists extend artistic and scientific research to deal with the dynamics of light in relation to the four-dimensional model of time-space in Theories of Relativity, to question perception. To justify this statement, some basic scientific observations help to understand the artists' use of scientific methods and models of investigation in *Momentum* which redesign the frames of the gallery's context as a relativistic experience.

To begin with, it must be noted that the installation is site-specifically designed for the Curve Gallery at the Barbican Center. This specific context suggests the artists an analogy with the model of the fourth dimensional continuum postulated by the physicist Albert Einstein in “General Theory of Relativity,” 1905, a relativistic system of representation which contradicts the schemata of abstract representation of Euclidean geometry and Cartesian coordinates, implementing the coordinate of time as contiguous to space, hence the category of space-time is a measurable parameter in a continuum concerning experience and the cosmos. According to Einstein, the model of the space-time continuum is the result of the postulates on differential geometry and topology formulated by the mathematicians and physicist Bernard Reimann in the paper “On the Hypotheses which Lie at the Foundation of Geometry,” in 1854, which posits a method for conceptualizing space in terms of metrics, a method of measuring forces and intensities that complements an analysis of spatial figures such as the surface and the curve (Einstein, 1905/2002b, p. 75).⁷⁹ Further, Einstein postulates the space-time continuum model by drawing from the system of the fourth-dimensional manifold discussed by the physicist Hermann Minkowski, in the lecture “Space and Time,” 1908, who first postulated the fourth coordinate of time for such a system of differential geometry, following significant contribution to the representation of events in space-time, because such a model regards systems of multiplicities as manifolds (Minkowski, 1908). Drawing from Reimann’s metrics and Minkowski’s theories, Einstein posits the representation of the space-time continuum and defines it as the model that allows one to understand the coordinate of time as fundamental for the representation of experience in a way that implies a real and relativistic perception because experience itself is a field consisting of multiple points in motion (Einstein, 1905/2002b, pp.86–87). In support of this theory, Einstein demonstrates this statement by observing the presence of gravitational fields in the cosmos and how with respect to the continuum, masses, and materials impose a perception of the categories of space and time that is not abstract or fixed, but it results from that the velocity of light as the only constant parameter for

⁷⁹ Through a site-specific strategy, *Momentum* uses differential geometry to reorganize the space of the Curve gallery as a topological field. The artists’ approach resonates Gilles Deleuze’s abstract theorization of space (Deleuze, 1969; Deleuze and Guattari, 1980) derived in turn from the mathematical language of the physicist Bernard Riemann who postulated the fundamentals of a geometry which deals with metrics and the representation of surfaces, curves and manifolds as posited in the lecture “On the hypotheses which lie at the foundation of geometry,” 1854. By assimilating this theoretical framework, United Visual Artists formulates for *Momentum*, a practice defined by forms of spatialization, design and computation that question the behaviour of light in motion in a curved space.

measuring distances between the continuum, masses, and positions (ibid.). Notably, Einstein's continuum radically challenged the representation of light – or real light, as discussed by Peter Weibel in Section 2.1. – and in this analysis, I suggest that the installation *Momentum* by United Visual Artists specifically draws from the space-time continuum model, to experiment with the phenomenology and the perception of light as a constant through the frames of a relativistic environment. At the intersection of techno-scientific approaches and phenomenology, I intend to demonstrate how *Momentum* establishes new modes of interaction and immersivity.

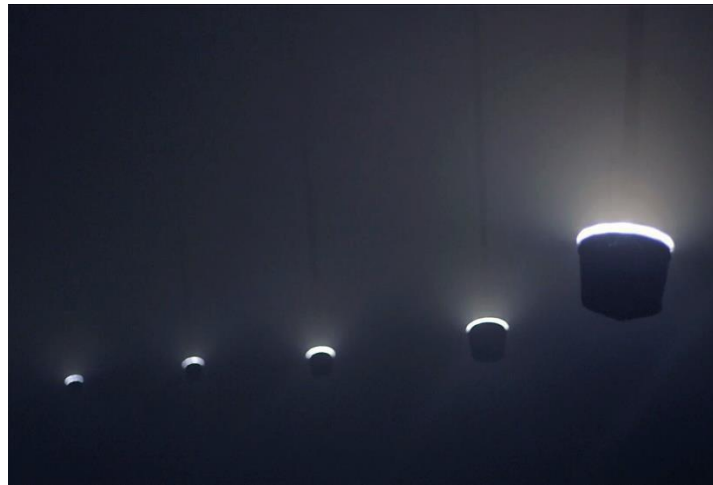


Figure 34. United Visual Artists, *Momentum*, 2014
steel, aluminium, custom electronics, 3 D printed speaker chamber, LED
installation view Curve Gallery, Barbican Centre.

Momentum deals with an investigation of the specific phenomenon of the angular movement of light (fig.34). Discovered by the physicist James Clerk Maxwell in 1862 and experientially experimented by the physicist Piotr Lebedev in 1900, as discussed by the scientists David Andrews and Mohamed Babiker in *The Angular Momentum of Light*, 2012, this phenomenon describes the force that applies to all objects subject to rotation in an electromagnetic field (Andrews, Babiker, 2012). As a force, it designates a vector-quantity for measuring the magnitude of light travelling in transitional motion in terms of metrics. From a cultural perspective, as discussed in the symposium *The Future of Light Art*, curated by critic Peter Weibel at the ZKM, Center for Art and Media Karlsruhe in 2018, this scientific phenomenon is symptomatic an epochal turn because it states the impact of light as energy in the cosmos and whilst the implications of this phenomenon are object of investigation in the scientific fields of photology, optics, and photonics, in

visual arts, it informs a significant number of practices interested in the prolific intersection between arts and techno-sciences.⁸⁰

At the Curve Gallery of the Barbican Museum, United Visual Artists explores the impact of the phenomenon of the angular momentum of light, visualizing the frame of a cosmic event in the space-time continuum and simulating a relativistic experience. Especially, *Momentum* experiments with the power of exchange of the angular movement of light which acts transversally between the frame of a virtual continuum and the environment of the Curve Gallery to focus on the action of light within these fields. This further explains here the artists' choice of using Foucault's experiment as a spatial instrument to explore the impact of light as an action diffused and dispersed in orbital motion in relations to the human experience. It also justifies the artists' interest in using the model of the space-time continuum to visualize the dynamics of the velocity of light in rotational motion. But, I argue, that to focus on analysis of this phenomenon in relation to *Momentum* is important because it suggests a questioning of the impact of light behaving in the real motion of a continuum and perceived as a live experience in the relativistic experience of a milieu.

Simulating the frames of the phenomenon of the angular momentum of light, *Momentum* experiments with the qualities of magnitude, propagation, and distribution of light in a landscape. But this frame deconstructs the line of the continuum through aural and visual sources joint as 3D dispositives which designate twelve different momenta, controlling motion and the propagation of light and sound distributed through the twelve pendula undulating synchronically. The twelve momenta function as vectors that control, render, and design a field of intensities, suggesting twelve different orientations both vertically and transversally. For an understanding of this metrics, we must refer to the term 'vector-fields' proposed by the film theorist Felicity Colman in *Deleuze and Cinema: the Film Concepts*, 2011, who addresses a materialist reading of the concept of vectors because she argues that metrics should be understood not only as a system concerned with the rendering of different degrees of intensities in a field, but as a method that recounts also for the registering of modifications that alters perception in relation to materiality. This allows Colman to state that vector-fields are both measuring quantities and trajectories which determine (or not determine) a process of material transmutation

⁸⁰ Among major contributions to the symposium *The Future of Light-Art*, 2018, held at the ZKM, Karlsruhe: Hess, Ortwin, on the relation between nanophotonics and materialism (2018); Na Liu Laura, on dynamic colour (2018), Frimmer Martin, on optical forces (2018); Leising Gunter on waves and visual intelligence (2018).

(Colman, 2011, p.175). Colman proposes a reading of the vector-field that is both related to metrics and the material, the qualities of intensity and spatial extension, and this offers here a useful contribution for examining how in the installation, forces render and orientate movement focusing on the power and the impact of modification of forces against forces in this landscape. To use Deleuze and Guattari's terminology (Deleuze, Guattari, 1980/2014),⁸¹ it could be argued that in the installation, the twelve momenta act as vectors to induce movement, suggesting a process of derritorialization which consists of two trajectories: one of elevation which triggers perception from the relativistic experience of the curved gallery to simulate the experience of the angular momentum of light, and a second consisting in the re-orientation of forces in order to territorialize the stability of the spatial instruments (ibid.). In addition, returning to Colman's analysis, it is important to observe how these noted how momenta also inform materiality because they an impact in modifying forces. This suggests a questioning of the power of exchange of light which I shall examine by discussing the effects of affect in relation to metrics and materiality in a milieu.



Figure 35. United Visual Artists, *Momentum*, 2014
installation view at the Curve Gallery, Barbican Centre.

Light and sound are the primary sources of UVA's artistic investigation (fig.35). Interviewed by the design critic Fabio Colturri, Matt Clark states,

⁸¹ 'Derritorialization' and 'territorialization' are terms employed from Gilles Deleuze and Felix Guattari's theorization of abstract spaces as discussed in *A Thousand Plateaus*, 1980, and used to designate a form of detachment/attachment from the actual conditions of fields and territories to be concerned with metrics (Deleuze, Guattari, 1980/2014, p.321).

Light...it's not tangible like other materials, so you have to guide it into form. And so, through our work, we're considering how light manifests as form and shape, an illusion constructed from something itself lacks physical materiality. (Clark, 2019, n.p.)

When describing light as a non-tangible material, Clark makes explicit his interest in thinking about light not as a neutral, purely visual medium, but rather as the intangible and sensuous material of a form of live-art. Clark elaborates on an economy of digital practices and computation which conceives light in terms of energy, velocity, and information. Such a statement can be explained through a reading of the term 'immaterialism' posited by the media theorist Vilém Flusser in "Immaterialism," 2012, in his enquiry of the materiality of computational practices. According to Flusser, these practices impose a synthesis of what traditionally is considered material, suggesting how the materiality of computation foregrounds features such as interconnections, data, and information which support an understanding of metrics and materiality. In his analysis, Flusser gives an example by examining electromagnetic images and observes how the system of distribution of forces in these images does not apply to a homogeneous field of vision, but they provide a system of information that move as a trajectory, a vector, and an orientation for articulating materials in a state of dispersion and metamorphosis (Flusser, 2012, pp.218–219). This systemic order, he adds, implies a liberation from formal composition in favour of a system of codification of metrics and information⁸² and his analysis contributes here to foregrounding another important function to the materiality of light which together with motion, metrics, modification, is seen in information. In fact, the designing of *Momentum* consists in a process of coding and decoding of metrics which makes explicit the artists' design-led approach used to distribute and convey light and sound as kinematic forces without contents in the installation. Essentially, Flusser's reading of 'immaterialism' contributes to an understanding of the materialism of computation formulated by United Visual Artists which conceives light as data, information, and speed, through a synthesis applied at the operational level in support of a multimedia practice.

⁸² Flusser's use of the term 'immaterialism' differs from the proposition addressed by Lyotard (1985) which has discussed in the Introduction of this section as Flusser departs from a critique on the binary opposition between matter and form to address an insight into the constituent aspect of matter at the molecular level to configure a system of variability and multiplicity. Flusser's reading of immaterialism focuses on the aspects of information and the artificial representation of techno- images (Flusser, 2012).

The notion of 'immaterialism' is also useful for an understanding of the politics of light suggested by the installation. In response to the lack of representational evidence, the work builds on the magnitude, propagation, and velocity of light to establish an exchange but as Clark observes, light itself imposes the condition of a form, a frame, a trajectory, or an orientation in order to act. To argue that light is an act means to reject the representation of light as a medium, understanding it instead, as an affect. The ways of perceiving such an affective, qualitative differentiation, as Clark suggests, is through movement (Clark, 2019, n.p.) and this is evident in the installation where light rests in an ambiguity, an ambiguity suggested by light acting as an electromagnetic force distributed in the landscape continuum and light acting as a sensuous, tangible material permeating the gallery, and traversed by the viewer.

But, before I analyze in detail how this qualitative differentiation operates in the installation and how it determines a form of political agency, we must here make a distinction between the specific functions of light and sound in *Momentum*. Whilst both light and sound are distributed by vectors through a control-system applied to the momenta, their orientations differ by determining two different fields of action: a field of intensities and one experienced materially. These are evident if observing the trajectories of motion where sound acts as a mechanical wave along the longitudinal axis and reorients the dispersion of forces within the frame of this relativistic continuum whilst light acts transversally both as an electromagnetic wave and a tangible material, modifying perception in terms of hapticity almost like a form of solid light in motion.

This differentiation is at the basis of my argument that the work figures light as an affect. I shall return to an analysis of the coordinate of movement in the installation by observing how the twelve pendula synchronically modulate the frames of a continuum along the longitudinal axis, whilst distributing light and sound transversally. In this process of de-territorialization as I have defined it, both forces reorientate towards the angular momentum of light and this movement, I argue, is determined by the impetus given from their contact with the curved space. *Momentum* suggests that light's and sound's sources whilst maintaining intact their specific physical qualities, are both subject to the impetus of a relative motion, contributing to movement because of their continuous action and interaction. In particular, the notion of impetus, scientifically describing a force that enables one body to move in a predetermined direction whilst maintain intact the principle of conservation of energy (Galilei, 1632/2013), is particularly significant in this context, because I propose, it designates the figure of an affect perceived as lived. In a wider

view, it could be said that *Momentum* experiments with the possibilities of perceiving the angular momentum of light as an affect and a lived experience.

This argument is supported by the critical account by the anthropologist Tim Ingold, who in “Against Soundscapes,” 2007, discusses the qualitative differentiation that exists between light and sound through observations of space and perception. Ingold states that light and sound are neither materials nor objects of perception but rather they should be understood as phenomena of experience because they do not imply a physical presence, and nor impose a differentiation between mind and the body. Light and sound, Ingold states, impose the condition of being within their perceptual field such as a dwelling, an existential precondition that defines the ways to be immersed as both a state of embodiment and of emplacement (Ingold, 2007, pp.45–46). Ingold’s argument contributes to further understanding of the impetus and the affective dimension of sound and light in the work, by addressing a questioning of immersivity. Here, immersivity, I suggest, is a form of political agency and in the next sections I intend to examine the frames that support this configuration in *Momentum*. I begin with an analysis which confronts the trajectory of movement given by the installation as a frame of the continuum with the phenomenon of the diffraction of light as a form of actualization.

The vertical axis of *Momentum*, I suggest, is a partial frame of the space-time continuum. In terms of temporality, it figures a continuous lived duration which articulates through twelve different momenta, resulting thus, as a non-coherent model of duration consisting of multiple speeds and orientations. This qualitative differentiation relates to Gilles Deleuze’s model of a multiplicity of durations, as he posits in *Bergsonism*, 1988, which he defines as a synthesis, a unity of multiple durations which supports in his work, the affirmation of a radical plurality such as the image of time ad infinitum (Deleuze, 1988/1991, p.76). According to an immanent ontological framework of reference and a conception of time as a becoming, Deleuze discusses the notion of ‘multiple duration’ in relation to memory and the lived experience where life, he states, ‘itself is compared to memory into different degrees of vital memory’ (ibid.). In other terms, Deleuze discusses how here the perception of time is not linear and coherent, but is made up of modifications, disturbances, and changes of tension and energy in their evolution.⁸³ It is interesting to note how in support of his argument, Deleuze analyses the controversial

⁸³ Opposed to the movement of transcendence, ‘immanence’ is understood in this context, as the ontological plane of consistency of the living forces characterized by a state of unqualified immersion, according to the definition addressed by Gilles Deleuze in *Pure Immanence: Essays on a Life*, 1991 (Deleuze, 2001, pp. 27-29).

relation between Bergson's philosophy of time and Albert Einstein's representation of duration in relative movement (1912) to defend the relativistic principle according to which duration is not the result of a distinction between forces in their relation to time, but it is rather a simultaneity of multiple forces interacting with the movement of dilation and expansion of real time on the same immanent plane (ibid., 79–80). In this view, Einstein's notion of relative movement and Deleuze's relativistic notion of duration offers here an insight into the coordinate of time of *Momentum* because similarly to the model of multiple perceptions of time, United Visual Artists make explicit how the simulation of the phenomenon of the angular momentum of light imposes not a linear conception of time, but a multiplicity of events as momenta, a multiplicity perceived in this landscape and on a wider-scale, universally if one realizes how the work sits as a site-specific installation in the gallery's context, but like for all human experiences in becoming, is subject to the continuous orbital and rotational motion of the continuum. Perceptually, this synthesis of multiple of durations induces a series of affective movements and modifications drawn from these intensities in a state of immersivity.



Figure 36. United Visual Artists, *Momentum*, 2014
installation view, Curve Gallery, Barbican Centre.

In *Momentum*, I suggest, this non-continuous duration acts as a shifting perspective because along the longitudinal curve of the installation, duration acts as a rotational spin that reflects the exchange of momenta of light in relation to human experience in a curved space (fig.36). One of the major consequences of applying this framework is that the perception of time and light is not identifiable by a single, localized positioning but given as a multiplicity of speeds and orientations in a state of becoming, is perceived in the act of traversing space. Experientially, I argue, this shifting of perspective moves from a state of illusion (a subjective point of view) to a state of

immersion (the experience of living in multiplicity) and to explain this operation, I draw from the formalist philosophical thinking of the feminist philosopher Dorothea Olkowski in "Immersed in an Illusion: Realism, Language and the Actions and Passions of the Body," 2003, where she draws from Deleuze's image of duration to examine the constructs of illusion and immersion as experiential dimensions to bridge phenomenology and modern science. Departing from considerations of the perception of time and space in classical metaphysics, Olkowski states that this school of thought has perpetuated the false assumption that time and space lie as abstract categories on the same level of perception (Olkowski, 2003, p.10). This is evident in the phenomenon of illusion for example, which she describes as a false perception. According to Olkowski,

This illusion goes under many names and substantiates many philosophical systems, but its root, for Bergson, is that in the history of philosophy and science, time and space have been placed on the same level; they have been treated as if they were of the same nature or kind, so that no one has objected to privileging space by applying to time the same inventory of characteristics and behaviours. When the understanding examines time, it takes snapshots of its mobility and substitutes these for temporal flow. The situation is the same for change. The understanding breaks change into successive and distinct states that are supposed to be invariable. If these states do vary, they are broken up into even smaller states until real change disappears along with duration (Olkowski, 2003, p.10).

The perception of an illusion, Olkowski states, demonstrates the categories of space and time should be conceived differently, suggesting that time cannot be defined in terms of abstraction or schematism, but time affects experience as a flow in terms of duration and mobility. Illusion in fact, she observes, carries human perception along with it in a state of immersion that is inseparable from human consciousness and conditions. As a mental construction, Olkowski states, illusion defines a subjective, conscious image which recognizes that time relates to recollection of memory. In other words, drawing from Olkowski's argument, one should understand illusion as the subjective experience of perceiving oneself as inscribed in this temporal flow that makes his position existential, relativistic, and part of a multiplicity in the virtual (ibid.). In this undifferentiation, illusion, she adds, is the conscious perception that time is a flux and should be perceived as an

affective mode of apprehension derived from observing movement in a becoming and ultimately suggesting a way of inhabiting space as a lived experience through immersion.

Olkowski posits a second significant qualitative differentiation concerned with the modes of perception of time. The author states that illusion and immersion deal with a representation of time which is not actually linked to perception, but to affect as an embodied experience. According to Olkowski, illusion is not the conscious perception time acting on a localized position, rather is an affect, the form that separates past and present experiences and letting the ego feels itself as live (Olkowski, 2003, p.8). She describes this phenomenon in analogy with sound which can be simultaneously perceived as a rhythm and an affect in a way that is both a sonority and a movement. Olkowski continues and observes how this qualitative differentiation results as a consequence not of an act at distance, yet of movement and this informs here reading of the notion of 'affective duration' (Olkowski, 2003, p.8) which differs from Bergson's notion of continuous duration as discussed in Section 5.1., because it explains time instead, as an action whose effects are forces and figures of an affect. Olkowski adds that 'through affective duration, past and present form a whole by emerging in the upsurge of each present. Each present is a whole past and a whole future' (ibid.). In her reading, Olkowski states that affective duration in other terms, designates a way to perceive time in a state of becoming and multiplicity, suggesting that the experience of perceiving the present consists in an affect past and future merges, soliciting an experience perceived as lived.

Drawing onto Olkowski's analysis of the states of illusion and immersion, I suggest that the phenomenon of affective duration applies here to the synthetic duration of *Momentum* because in this work, time, light and sound cannot be perceived from a fixed, localized position since they relate to the different speeds and orientations, but they are perceived through momenta and motion where the affect of both light and sound imposes a lived experience repeated by the act of traversing the landscape. This phenomenon can be particularly evidenced by observing the single movement of one pendulum which operates through an oscillation that projects light according to three differentiated movements: a first oscillation where light is free to undulate in space, a second oscillation where light acts upon the viewer's traversing the installation as if incorporating relations and space, a third oscillation that acts as an impetus, a force tending to the simulated orbital movement of a continuum. This can be extended by observing how these three movements of each pendulum act simultaneously in a series of twelve pendula in a state of immersion.

But with regard to light, I argue that this affective duration corresponds to diffraction, a diffraction that actualizes the exchange of momentum between the angular movement of light and the milieu.⁸⁴ As a scientific phenomenon, diffraction connotes the time-effect of light behaving as a wave as made evident for example by phenomena of superimposition and interference (Grimaldi, 1655/2010). Drawing from Olkowski's reading of the perception of affective duration, we can refer to diffraction as an act in time that formalizes as an affect. Olkowski makes explicit the relation between diffraction and the perception of time in the essay "The Cogito and the Limits of Neo-materialism and Naturalized Objectivity," 2016, where she defines diffraction as an immanent model of duration, a paradigm for thinking about the relation between subjectivity and the multitude as undifferentiated prior to actualization in a state of becoming and immersion (Olkowski, 2016, p.33). Aligned with feminist posthuman positions (Haraway, 2003; Barad, 2007), Olkowski uses the model of diffraction to oppose the dominant system of representation concerning the phenomena of reflection and refraction and proposes a definition of diffraction as a superimposition derived from of multiple actions interacting with each other and expressing between resolutions and effects (ibid.). Diffraction in other words, according to Olkowski, is the formalization of multiple actions that take different orientations depending on the relationship between causes and effects. In fact, Olkowski proposes a reading of diffraction as a system of acts in a state of multiplicity and her ethical positioning is useful to this analysis of *Momentum*, because it offers a method for examining the temporal and the physical properties of light acting in space as a system of differentiating actions through the figure of an affect between the states of illusion and immersion. I have discussed how *Momentum* is the frame of a continuum, an affective duration deconstructed into twelve momenta and into the twelve figures of an affect to reveal a relativistic perception of light. Given this configuration, diffraction should be thus understood in this analysis, as the formalization of the twelve different acts of light that move in space as affects in a state of immersion to modulate the sequence of a reality

⁸⁴ 'Diffraction' assumes an important role in feminist thinking because, by being concerned with a critique of traditional systems of representation, it deconstructs the metaphorical construct of light to reposition it in relation to subjects and contexts. Among major references, the feminist theorist Donna Haraway, in *Modest_Witness at Second Millennium : Female Man Meets Oncomouse : Feminism and Technoscience* , 1997, draws the notion of diffraction from a critique of the speculative model of representation of light traditionally founded in the epistemic bond mirror-reflexivity to suggest a way of thinking about vision as a form of emplacement in relation to subjects and contexts. Here, I draw a lineage between Haraway, Olkowski and Barad's analysis (2007) of diffraction to indicate different attempts of deconstructing the system of optics in order to posit a framework of analysis that reconciles light with difference, materiality, practices and power of relations.

of movement in a continuum. *Momentum* makes use of diffraction as a strategic operation that is concerned with the formalization of the pendula undulations as the multiple figures of the affect of light that act, move and distribute light at different speeds and orientations within the installation. Thus, diffraction makes explicit the exchange of the momentum of light between a synthetic experience and multiplicity, modulating the scale of a sensory perception in relation to relativity and the existing gallery's environment. Diffraction imposes an affective and sensuous experience. The diffraction of light in fact, is not an optical phenomenon but an act of time at a distance, an affect that formalizes as an image within the body, a form of embodied knowledge perceived through time and motion such as the perception of the self in a relativistic experience. As for the perception of time as an illusion in a state of immersion, so diffraction should thus be understood as a form of actualization of light in a state of motion and dispersed in the milieu. With reference to Olkowski's qualitative differentiation between the states of illusion and immersion, she examines how experientially, this perception of time is a way of unlocking areas of sensation, a way of perceiving the asymmetry between affection and perceptions, biological and bodily functions, physics, and matter (Olkowski, 2003, p.3). I suggest a parallel with Olkowski's analysis of these senses which explains the diffraction of light in *Momentum* as an unconscious perception of light in terms of force and motion. In fact, in this analysis, diffraction makes explicit the magnitude and the force of the angular moment of light as a form of undifferentiation between the self and multiplicity. In *Momentum*, diffraction reveals the quality of power light in a state of undifferentiation whilst suggesting multiple ways of actualization.

As the reflection of an affective duration, light, in *Momentum*, is the form of the affect that induces motion to the assemblage and performs through momenta, oscillations, rotations, and relativism as the parameters of a physical reality of motion. In particular, I suggest that light is a diffraction or the propagation of multiple affects induced by the pendula and actualizing through a series of undulatory movements to suggest an experience that can only be perceived as form of embodiment, an embodiment achieved by proximity with the pendula and actualized by the act of traversing. In this sense, in *Momentum*, light is an affect that acts directly upon bodies, reconciling the dualism between conscious and bodily perceptions into an image of the self that is reflected in the body. On this topic, Olkowski observes, 'affections arise in the interval between excitations coming from other perceived images and one's own movements in response to these excitations. What affection reveals is what later might be called one's own body,

a center of action but also of choice' (ibid., 5). Olkowski's comment explains affect as a bodily response to the stimuli of an external image, and *Momentum* figures these dynamics by articulating a form of embodied experience that articulates in terms of action, motion, multiplicity. Diffraction, however, does not only affect the viewer's experience of the work in terms of movement and embodiment, but it acts as a form of renegotiating perspective and spatial perceptions in relation to the gallery's environment. The diffraction of the angular momentum of light in fact, affects and modifies the perception of time and space through the oscillatory planes of the pendula and these affective movements become a modification, a way of modulating experience by incorporating space through movement, proximity, and relations as a form of envelopment.

I further discuss diffraction as a form of enactment that informs a form of political agency. In *Momentum*, the diffraction of light is not only the formalization of different figures of an affect but is also a form of actualization of the relativistic condition of the viewer in relation to the phenomenon of the angular momentum of light. In this sense, I propose, diffraction defines a state of multiplicity, a synthetic but non-homogeneous system of light and sound forces differently distributed by the twelve pendula in the curved space of the gallery. This compositional arrangement implies a constant renegotiation of perspectives that reflects or not reflects the impetus of a continuum. In this sense, diffraction corresponds to a reality of light in motion, and this imposes a form of political agency concerning experience in terms of becoming and traversing space. In particular, as an affective duration in a state of multiplicity, I argue that in *Momentum*, diffraction acts as an internal modification, designating a form of interaction. In fact, the artists focus on visualizing the phenomenon of the diffraction of light as an act that operates transversally between the states of illusion and immersion, measuring the responses to the force of the exchange of momentum of light in a milieu. This action defines a form of political agency, a counteraction concerning the viewer's bodies acting upon the simulated phenomenon of the angular momentum of light.

Momentum experiments with the exchange of the angular movement of light through a political agency that implies a perceptual experience in terms of embodiment, traversing, proximity, and ultimately hapticity. Hapticity, as Clark observes, results as the ultimate perception of this experience that aims at fulfilling the lack of tangibility of light (Clark, 2019, n.p.) and in this work, this perception informs the phenomenon of interaction through a questioning of human and non-human actions. I argue that the phenomenon

of interaction further opens to an ethical dimension because it questions how/what the viewer takes for this event. As observed by the critic Lukas Feireiss and Robert Klanten in *Staging Space. Scenic Interiors and Spatial Experiences*, 2010, United Visual Artists' practice is more than three-dimensional because it stimulates a new scale and dimension by introducing a scalable process, working through direct interaction through electronically augmented environments (Feireiss and Klanten, 2010, p.3). Feireiss and Klanten's commentary points out the implications for thinking about relativism as a scalable process informed by digital technologies, suggesting here that the phenomenon of interaction is not only a perception, but a form of political agency multiplied in the work to solicit an experience of becoming in space-time.

Momentum deals with light as a force that reflects a quality of power of life, designating a form of live-art. I draw this understanding from Olkowski's reading of the style of 'Arts as Life', as discussed in "Birth in Beauty and the Power of Sensation," 1997, a style that is not of representation but a way of rendering a multiplicity of sensations (Olkowski, 1997, p.67). Drawing from the writings of the art historian Wilhelm Worringer, Olkowski proposes a way of thinking about intensities and sensations as the forms of an artistic experience. Olkowski contextualizes this style in relation to the trait of the 'Northern Line' and the aesthetics of the Gothic which contemplates the configuration of a synthetic experience as a complex of multiple sensations. Theoretically, the trait of the 'Northern Line' refers to the figure of a 'line of flight', a term employed from Deleuze and Guattari's theory of abstract machines discussed in *A Thousand Plateaus*, 1980, to describe the synthesis of a topology that deals with intensities in terms of multiplicity (Deleuze, Guattari, 1980/2014, p.9). Olkowski employs this figure in her reading of the aesthetics of the 'Northern Line' and defines it a synthesis of multiplicity which acts as a catalyst of all forces and orientations as a means of transformation and connectivity. (Olkowski, 1997, p.67). Drawing from Olkowski's reading of this style, I suggest that *Momentum* simulates a line of flight, a trajectory of light within the continuum that designs a dimensionality for immersion.

In this chapter, *Momentum* extends the understanding of a politics of light through the scaling of an immersive and relativistic experience to configure a phenomenology of multiple actions and sensations. Focusing on the functions of the exchange of the momentum of light through interaction, United Visual Artists' practice posits an ethical perspective which draws from a questioning of light, computation. and augmented environment, renegotiating the relation between humans, non-humans, and the milieu.

5.3. An Ethics of the Sensible

The chapter has discussed the turning of a dialectic of light through an analysis of *Representation d'un corps rond* by Ann Veronica Janssens and *Momentum* by United Visual Artists, which I have examined through a feminist position drawn from the writing of feminist thinkers Mieke Bal (2007), Catherine Malabou (2010), and Dorothea Olkowski (2007) at the intersection of phenomenology and science. This investigation has aimed to demonstrate the emergence of a relativistic model of configuring practices of light with the emergence of a new sensibility. In particular, this model, I have argued, is framed by the phenomenological image of continuous duration and the scientific model of space-time as a continuum, designating an ontological realm concerning a real, yet augmented experience of light. In this analysis, this model has been useful for rethinking an experience of light that is virtual, but relative to the subject, and this ambiguity has been crucial to my questioning of light and human and non-human relations. In particular, whilst exploring the framework that supports an understanding of a virtual, immersive light in a continuous duration, this analysis has set the conditions for the emergence of a new sensibility concerning an experience of art as lived. From the viewpoint of a feminist analysis, I argue that this orientation towards the sensible is more widely symptomatic of an ethical turn that challenges the ways of experiencing light through a politics of agency. By relating to Mieke Bal's reading of the style of the Baroque (2007), I will now discuss the ethical implications of these propositions.

Representation d'un corps rond and *Momentum* are centered on an ambiguity, a dialectic between light and human subjectivity through a questioning of the perception of time-space in relation to the place and the context of their modes of display. In particular, the sculptural work of *Representation d'un corps rond* rests on a dialectical movement that figures on the one hand, the action of light acting upon bodies whilst questioning on the other hand, the action of the body in response to light in the artwork. This configuration is crucial to this study because it establishes a bond between these two subjects in terms of agency. An analysis of *Momentum* further extends this proposition by introducing an inquiry of Relativity which shifts the perspective from the subjective point of view to deal with the renegotiation between light, subjectify, and multiplicity. In so doing, Ann Veronica Janssens and United Visual Artists further contribute to this dialectic by experimenting with the power that post-media, performative, and digital practices have in renegotiating subject-object's relations by addressing a bifurcation

between both the virtual and the actual states of a work, and anticipating here a questioning of posthuman positioning.

The theatrical, technological frame of these works supports the function of an action of light. In support of this argument, I have drawn a parallel between Bal's theory of memory act (2001) and Olkowski's philosophical account on diffraction (2003) because these notions, although applied to different planes concerned with singularity and multiplicity respectively, both contribute to extend ways of thinking about light in terms of expressivity and materiality as seen in analysis of the phenomenon of plasticity and magnitude. Further, I introduced Bal's notion of 'political agency' to questioning the role of the viewer in response to light. Whilst examining how affective movements and modification occur in the works examined, I applied a politics of affect in relation to agency to discuss phenomena of embodiment and interaction as forms of meta-art imbued in this complex dialectic.

Representation d'un corps rond and *Momentum* contribute to a non-representational use of light, imposing new levels of engagement with artworks that suggest the emergence of a new sensibility. Focusing on investigating the perception of light in a duration and within the topology of a curved space, these works configure a *sensorium* that conveys forms of innovation, discovery, and experimentation. In this sense, these artists deconstruct the mind-body dualism to set an image of light that is perceived in the body in motion, manifesting through the phenomena of plasticity and immersion. In Chapter 6, I shall extend these arguments through considerations on ethics as agency by addressing an investigation of the incorporeal and questioning the relation between light and natureculture.

Chapter 6. The Surfaces of the Continuum: Investigating the Geometry of Light

This chapter focuses on an analysis of the installations *2m006lle*, 2006, by the Venezuelan artist, Magdalena Fernandez and *163.000 Light Years* by the Argentinian artist Tomas Saraceno, which I will examine from the position of feminist nonhuman (Haraway, 2003) and posthuman ethics (Braidotti, 2006; Barad, 2007).⁸⁵ These works have been selected because they renegotiate the relationship between light, experience and nature from a non-anthropocentric position, focusing on the fields of ecology and cosmology, respectively. These are prolific realms of investigation because whilst scientifically relating to the physical laws of Thermodynamics, Theories of Relativity and Quantum physics, which have problematized the pre-constituted epistemological bond of subject–object in the twentieth century, they define experiential fields. Ecology and cosmology – to use Gilles Deleuze’s ontology (Deleuze, 2001) – are experiential fields that relate to the nature of events as systems of connectivity in a state of becoming. I shall argue that *2m006lle* and *163.000 Light Years* reflect ways of encountering light within nature and the cosmos by providing models for agency and sustainability.

Traditionally, in philosophical discourse, the categories of nature (object) and culture (subject) have been regarded as epistemic values that reflect on the role of nature in relation to human practices.⁸⁶ On this binary opposition, poststructuralist and postmodern schools of thought have initiated a critical discourse which explains the differentiation of subjects and objects not as pre-existing, distant, and fixed categories but as entities in formation and becoming (Deleuze and Guattari, 1980; Deleuze, 1991). In the context of feminist ethics, from a scientific position, the biologist and theorist Donna Haraway, in *The Companion Species Manifesto. Dogs, People and Significant Otherness*, 2003, develops a feminist ecological argument that responds to the urgency of thinking about subjects and objects as systems of conjoined interdependent relations. According to Haraway, techno-sciences, the system of scientific methods and technological tools

⁸⁵ Whilst acknowledging the debate on the nonhuman in the fields of cultural studies and techno-sciences which aimed to provide sustainable methods for the categorization of the human subject in the contemporary context (De Landa, 1998; Jorion, 2022), this research uses the critical framework of feminist posthumanism (Braidotti, 1996; Barad, 2007) because it focuses on de-centering the role of subjectivity and in terms of ethics to construct a system for investigating human and non-human relations through the principle of Life.

⁸⁶ As a major reference, I refer to the thinking of the philosopher Baruch Spinoza who, in *Ethics*, 1677, posits a distinction between the concepts of *natura naturans* and *natura naturata* to question the relation between nature and human action (Spinoza, 1677/1996, Part I. Prop. 29).

that connotes the contemporary approach to knowledge (Latour, 1987), have made explicit the necessity of thinking about nature and culture not as pre-constituted singularities but rather as conjoined forces of the living in the evolutionary time of becoming (Haraway, 2003/2011, p.7). This implies, Haraway states, that the metaphysical tradition of nature and culture divide must be rethought in support of practices of 'significant otherness' (ibid.). According to Haraway, to pose a question about 'significant otherness' means to assume an ethical approach that is aimed to recognize that the principle of life – essentially perceived through light and the sign – applies to all subjects, be they humans or non-humans, at every scale (ibid., 19-20). 'Practices of significant otherness', Haraway remarks, operate through a method of material-semiotic analysis that allows one to recognize that nature and culture are mutually interconnected systems. In Haraway's words, 'flesh and signifier, bodies and words, stories, and worlds, these are joined in naturecultures' (ibid., 20). Through her statement of such practices, Haraway deploys a feminist ecological positioning⁸⁷ and contributes to the addressing of a method of material-semiotic analysis within the debate on nature and culture. This method consists in paying attention to the trace of living forces for the ways they constitute human and non-human knowledge and this session draws from Haraway's model to assess the possibility of structuring a feminist ecological model for a reading of practices of light.

For the purpose of this analysis, it may be noted that Haraway's notion of practices of otherness inform her model of the 'natureculture continuum', a framework of analysis posited in *When Species Meet*, 2008, which questions how techno-scientific practices contribute to renegotiate human and non-human actions as systems of connectivity. In 'natureculture', Haraway asserts: 'all the actors become who they are in the dance of relating, not from scratch, not ex nihilo, but full of the patterns of their sometimes-joined, sometimes-separate heritages both before and later to this encounter' (Haraway, 2008, p.25). This framework implies, Haraway remarks, that human actions should be rethought within a system of mutually interdependent relations where all subjects become actors as if they are responsible for a system of re-enactments within the possibilities of life (ibid.). Haraway's model of the 'natureculture continuum' is an epistemological framework for addressing non-human and human agencies as mutually interdependent

⁸⁷ The term 'eco-feminism' designates a field of feminist studies that emerged in the 1980s, which asserted that the passive connotation traditionally given to the natural world and to women by patriarchal power structures must be examined together as the same social and political issue (D'Euabonne, 1974/2022; Griffin, 1978; Merchant, 1980; Shiva, Mies, 1993). Here, the term 'eco-feminism' is understood from the posthuman position which problematizes the question of nature and gender roles by measuring the impact of techno-sciences in society.

forces that contribute to the constitution of knowledge and in this context, her model offers a useful method of analysis to question how in practices of light, light, humans, and non-humans' actions interact. I will further engage with the writing of Rosi Baridotti (2006) and Karen Barad (2007) because they contribute to extend the boundaries of Haraway's eco-feminism through their propositions of radical ethics and agential realism, respectively and in so doing, I aim to develop a feminist ethical posthuman perspective.

Fernandez's and Saraceno's practices respond to the model of a natureculture continuum through their use of light. Most significantly, *2em006II* and *163.000 Light Years* deal with an experience which is not limited to the perspective of human subjectivity. In fact, both works question the specific interrelation between light, technology, human, nature, and the cosmos as systems of interconnected agencies. This implies, I argue, an ontological qualitative differentiation according to which light is not a neutral medium of representation, but it is rather agency, an agency which sustains relationship and systems of connectivity. Through an analysis of the formal features of Fernandez's and Saraceno's works, I intend to discuss how these artists conceive light in terms of 'intra-action', a principle formulated by the feminist thinker Karen Barad in her reading of Quantum Theories in *Meeting the Universe Halfway*, 2007, and designating an agency that makes all these subjects and entities mutually interdependent, participating in action with each other (Barad, 2007, p.33). Departing from a critique the classical dualism between life and reason, nature, and abstraction, I shall assess the principle of intra-action in a reading of practices of light, valuing the engendering and affirmative function of light, and reflecting the ethical and sustainable position of the research.⁸⁸

In conclusion, Fernandez's and Saraceno's works suggest an analysis of the image of a surface of light, an image of immanence that reflects a system of interwoven and interconnected relations between the planes of the virtual and the actual (Deleuze, Guattari, 1980). I shall discuss the image of a surface of light through a differential geometry and systems of assemblage informed by affective movements, emphasizing how this figure enables an understanding of light as a system of intra-actions and connectivity in the natureculture continuum, extending the boundaries of artistic, technoscientific, cultural, and social practices.

⁸⁸ The term 'Anthropocene' emerges in 2000 in the thinking of the atmospheric chemist Paul J. Crutzen, to reflect on problematics of this geological time through a questioning of human action in relation to the living environment and the history of technologies. Among significant projects, the exhibition the *Anthropocene* project, curated by Anselm Franke in Berlin in 2014, and the publication *Art in the Anthropocene*, 2015, edited by Heather Davis and Etienne Turpin.

6.1. Radical Geometry and Becoming Nature: an investigation of *2em006II* by Magdalena Fernandez

This section examines the mobile painting *2em006II*, 2006 (fig.37), by Magdalena Fernandez, presented for the personal exhibition *Surfaces*, 2006, held at the Museum of Contemporary Arts, Caracas, for which the artist revisits the language of geometric abstraction, drawing from the legacies of Modernism and Suprematism. I suggest that *2em006II* references the image of the square in abstract painting by integrating light sources and the temporalized geometry of a surface in motion to formulate a minimalist aesthetics of transparency. In particular, Fernandez makes use of materials such as lighting, fibre optic filaments, and spheres of PVC, to support the configuration of a weightless, penetrable, and suspended surface.⁸⁹



Figure 37. Magdalena Fernandez, *2em006II*, 2006
PVC, fibre optics and lighting,
installation view – CIFO, Miami, 2006.

In this analysis, I suggest this configuration designates a system of intra-acting forces in a state of becoming, underpinning the relationship between abstraction, nature, and the viewer. I shall examine how these formal features turn the representation of the square in abstract painting into a radical geometry and challenge the ways of thinking about reflection as a system of light vibrations. In my analysis, I shall refer to Sandra Pinardi's writing on Fernandez's practice (2006) and Rosi Braidotti's philosophy of radical

⁸⁹ My engagement with Fernandez's work is based on a correspondence with the artist and research on the literature on the artist's practice. It is also testified by my contribution to the catalogue publication for the monographic exhibition. Magdalena Fernandez. *Ecos*, held at Museum Carillo Gil and Museum Amparo, Mexico City, in 2019.

ethics (2006) to examine how *2em006ll* renegotiates the relationship between nature and abstraction as a continuum.

From the 1990s, the work of Magdalena Fernandez has emerged from the context of Venezuelan and South American Modernism and has explored the potentiality of the language of geometric abstraction. The art critic and curator Carlos Palacios, in the essay accompanying the monographic exhibition *Ecos*, 2019, explains the artist's choice of dealing with this language as a matter of cultural identity (Palacios, 2019, pp.39–40). Through a genealogical method of analysis,⁹⁰ Palacios finds the roots of Fernandez's practice in the legacy of Modernist Venezuelan art and in particular, in the work of artists Jesus Soto and Gertrude 'Gego' Goldsmith. In the 1960s–70s in Venezuela, as Palacios points out, these artists dissociated the modernist language of abstraction from the excessive formalism and the preoccupation for the purely visual aspects of composition which characterized European and North American abstract movements, to recuperate a sensibility towards nature. By contextualizing Fernandez's practice within this genealogy, the art critic and curator states that the artist's contribution lies in an empathetic interpretation of the language of geometric abstraction, traditionally one of the most 'masculine styles' in Modern art. He asserts that Fernandez's art responds to formalism through an affective and material investigation that bridges abstraction and nature (ibid., 40–41). His reading offers us a starting point for examining Fernandez's approach to this style through a feminist positioning, focusing on the artist's interest in renegotiating the relationship between abstraction, human sensibility, and nature.



Figure 38. M. Fernandez, *3d096*, 1996,
Dibujos – Drawings

⁹⁰ As discussed in Section 3.3. in the context of archival practices, I stress the relationship between genealogy and ethics posited by Foucault's theorizing of history, as posited in *Nietzsche, Genealogy, History*, 1977, to suggest an affective mode of appropriation towards history that results in these works examined, as a collection of stylistic references and styles.

In particular, as Fernandez herself observes, the work of the artist Gego plays a major role in this genealogy, because, in Gego's use of materials, Fernandez recognizes the emergence of an order of composition which is not formalist but is grounded in nature to reveals its inherent dynamics in motion and processes. One of the most significant examples is the ongoing series of works *Video Apuntes*, initiated by Fernandez in 2002 and consisting of a series of graphic exercises of details of natural elements as abstract patterns of composition (fig.38) which, as the majority of Fernandez's works, is a citation of the experimental series of works *Drawing without Paper*, 1978–1988, by Gego, a collection of spatial drawings that without physical support, use metal materials as graphic signs in motion to visualize the abstract, spatial representation of a human thought concerning physics and nature. Fernandez assimilates the essential traits of Gego's practice and reinterprets her method of investigation to explore the potentiality of mixed-media materials such as aluminium, nylon, optic fibre, PVC, and LEDs, to investigate space in a state of motion and suspension and marked by graphic signs. Fernandez defines this practice as a method of 'graphic spatialization of space' (Fernandez, 2020, personal communication, Appendix B) and, as I shall analyze in detail, this allows the artist an insight into the inherent and dynamic expressions of nature to reformulate the constituent aspects – shape, line, rhythms, and colour – of abstract composition. This method further explains the artist's interest in the structural aspects of composition over form, whose functions lies, as I intend to demonstrate, in the force of enactment, and connectivity.

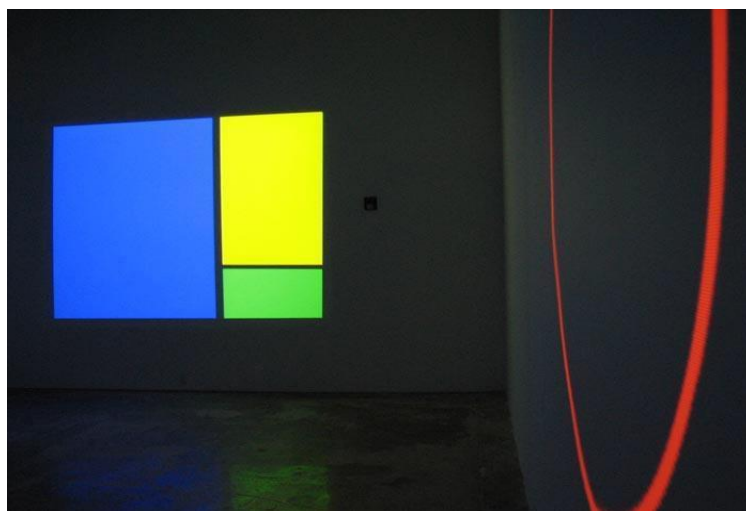


Figure 39. Magdalena Fernandez, *1pm006 Ara Araauna*, 2006
mobile painting, digital animation.

From a background in physics and mathematics in the 1980-90s, Fernandez's practice sits within the context of geometric abstraction, because in this style, the artist recognizes a useful method of analysis for her investigation of natural phenomena through the synthesis of pure forms of visualization. As a major topic of investigation, nature is the chosen subject of the mobile painting *1pm006 Ara Araauna*, 2006 (fig.39), part of the series *Mobile Paintings (Pinturas Moviles)*, an abstract composition which alludes to the image of a bird common in Venezuela through the geometry of three rectangles, one blue, one yellow and one green divided by black bars, and reproducing the sound of the bird 'ara ararauna'. With this mobile painting, art critics unanimously stated (Palacios, 2019; Suchan, 2019; Herzberg, 2011), Fernandez establishes a realistic bond between abstraction and nature by referencing the Venezuelan natural and urban landscape through the language of abstract geometrical abstraction. According to the art historian and art critic Alicia Torres, Fernandez's work specifically engages 'the process of naturalization of the abstract and abstraction of the natural' (Torres, 2006, p.14) and her statement delineates the two essential parameters of Fernandez's practice useful to this analysis: I shall next focus on the artist's renegotiation of the term nature and abstraction in relation to her practice of light, using the model of the 'natureculture continuum.'

This genealogical investigation continues for *Surfaces*, 2006, an exhibition held at the Museum of Contemporary Arts, Caracas, in which Fernandez extends her series of formal coincidences, as she puts it (Fernandez, personal communication, 2020), by comparing the language of South American geometric abstraction with those of the masters of Abstract painting and in particular the work of the Suprematist artist Kazimir Malevich. This dialogue is evident in the triptych of mobile paintings *2pm006*, 2006, *3pm006*, *4pm006*, 2006, which uses the geometric abstract image of the square by citing the non-representational theory of Malevich's painting. Theorized in the "Suprematist Manifesto," 1915, and later published in the treatise, *The Non Objective World*, 1959, the image of the square is, according to Malevich, the epitome of non-representation, the zero point of form in painting, a form that refuses the modes of realism and representation to reflect the non-objectivity of a pure feeling (Malevich, 1959, p.68). In this regard, commenting on the painting *The Black Square*, 1915, the first painting by the artist using this geometrical figure through the image of a black square superimposed onto the void of a white canvas, Malevich defines the geometry of the square as a primitive figure, a weightless form that does not intend to express an ornament but rather 'the feeling of

rhythm' (ibid., 8). The square, in other words, according to Malevich, refers both to the geometrical figure of the rhythm of life and the form of a feeling of such a thought. Later, in *White on White*, 1918 (fig.40), a painting consisting of two white squares floating onto a white surface in juxtaposition to a diagonal axis, Malevich further addresses an investigation of the possibilities of movement in abstract geometrical, suggesting a transversal trajectory. Void, rhythm, diagonal axes, all define the line of movement of Malevich's abstract language, and in *Surfaces*, Fernandez extends this orientation by dealing with the image of the square through an exploration of structure, light, motion, and immersion which all reflect in her choice of using video-installation formats (fig.41).

It should be noted how Fernandez's reference to Malevich is also mediated by the legacy of the work of Venezuelan artist Jesus Soto whose practice contributed to the superseding of the excessive formalism of Modernist art in the 1960s–70s. Soto's series of installations *Penetrable*, 1973–1995 (fig.41) for example, reflects an approach to the language of geometrical abstraction where geometric composition relates to the categories of interior and exterior, background and foreground, plenitudes and voids. With this series of works, Soto contributes to a reassessment of the figure of the square as 'an absolute minimum and a total plenitude' (Soto, 1980/2006, p.12). According to Soto, the square is 'a total plenitude of vibrations' (ibid.), the geometry of multiple rhythms, feelings, and vibrations in a form. Soto's interest in the potentiality of abstraction towards the concrete justifies in this context, Fernandez's interest in opposing formalism to investigate abstract geometry as a system of relations and connectivity. A second important element that emerges from Soto's practice is the introduction of an experimental and material approach to the language of geometric abstraction which integrates in his painting materials of various nature such as plastic tubes, metal, and transparent lighting sources. As testified by the installation *2i997*, the first work in which the artist uses light materials such as a mirror surface, PVC tubes and a system of Scotch Optical Lighting Film, to create a retro-illuminating environment as presented at the Museo de Arte Moderno Jesus Soto, 1997.

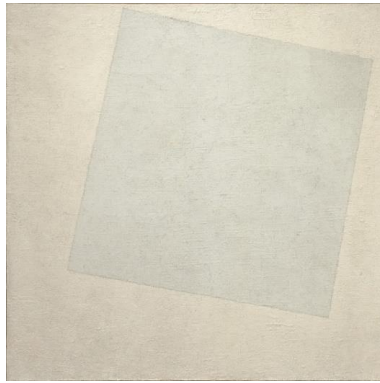


Fig. 40. Kazimir Malevich
White on White, 1918
Museum of Modern Art, New York.

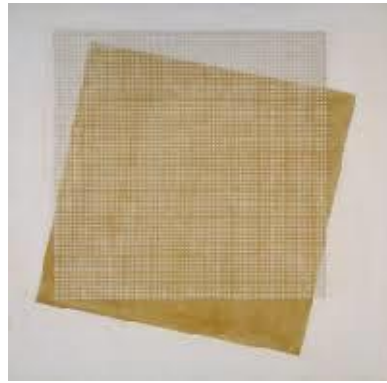


Fig.41. Jesus Soto
Penetrable square, 1948
Guggenheim Museum, Bilbao.

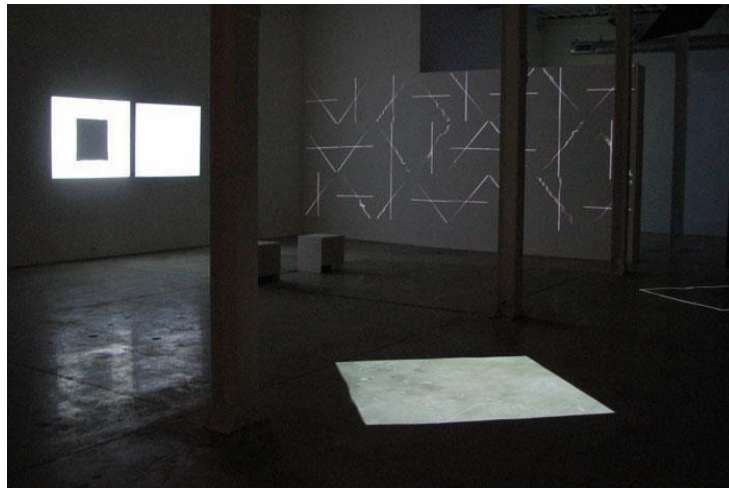


Figure 42. Magdalena Fernandez, *2pm006*, 2006, *3pm006*, *4pm006*, 2006
installation view, Museum of Contemporary Arts, Caracas.



Figure 43. Magdalena Fernandez, *2em006II*, 2006
installation view, Museo Arte Contemporanea, Caracas, 2006.

Within the context of the *Surfaces* exhibition, I focus on an analysis of the mobile painting *2em006II*, 2006 (fig.43), because in this work, I argue, Fernandez investigates the relation between nature and geometric abstraction through an investigation of light, geometry, and motion. Whilst the other works presented for *Surfaces* make explicit Fernandez's interest in the register of black and white as a form of virtualization, in the painting *2em006II*, I suggest, Fernandez integrates lighting fabricated materials to configure a penetrable structure which plays between the state of virtuality and actualization through immersivity. Presented at the Museum of Contemporary Arts in Caracas, the mobile painting *2em006II*, figures a penetrable square consisting of multiple filaments of fibre optics hanging from the gallery's ceiling and suspended as a surface at half-height of the gallery's space. The painting consists of multiple lighting filaments merging in transparent spheres of PVC and interacting among them by movement and the viewer's traversing such a mobile. Whilst being structured on this geometrical figure, such an interaction enacts movements of undulation and dispersion, redesigning the space surrounding the mobile painting and simultaneously enacting the phenomenon of refraction of light between the filaments as a form of actualization. In this regard, it must be noted that these lines of movement are conceived by the artist in analogy with the movement of water surfaces, to suggest symbolic interconnections between the pure elements of water and light in a state of becoming. Due to this structure, the suspended positioning of the mobile painting is intended to reveal how the figure of the square is a two-folded geometry and is conceptually placed by the artist at the upper and lower registers of the painting in a state of possible interaction, corresponding simultaneously to forms of nature and abstraction, actualization, and immersion. In fact, the suspended surface of the painting reflects neither a void nor a solid geometrical figure, but rather it suggests the rhythms of elements as forces enacted by the viewer and intertwined in a system of connectivity. In this view, the painting structures an unstable equilibrium by reflecting an asymmetry between an abstract order (the geometry of the square) and a natural, immanent order of composition (the heterogeneity of multiple forces), sustaining the transposition of forces between virtuality, actualization, and immersivity. In other terms, the mobile painting figures an interstitial plane that alternately shifts the order of composition between the interior and the exterior, the upper and the lower register through motion and these operations redesign the abstract geometry of the square in response to the viewer's interaction and the gallery's space. Drawing from this analysis, I intend to demonstrate how the mobile painting *2em006II* actualizes the transfer of waves and energies between an immanent order of composition and the affirmation of actuality.

One of the most evident innovative features of *2em006II* regards Fernandez turning the frontal view of traditional painting into a structure and a surface. This turn supports the integration of fabricated lighting materials such as a series of fibre optics filaments assembled with PVC spheres which all make explicit the artist's interest in rethinking the inherent features of geometric abstraction through a material, structural, experimentation. The choice of experimenting with lighting materials however, as the art historian and art critic Alicia Torres discusses in the essay "Magdalena Fernandez: When the Spirit Blows upon the Water," 2006, is not an artist's invention but Torres notes how the subject of light was already implicit in Malevich's painting *White on White*, 1918, where the absolute white of the painting served as a visual metaphor - in Torres's words - for thinking about light before the creation of the world, before it illumined objects giving them form (Torres, 2006, p.22). Here, Torres's citation suggests drawing onto Fernandez echoing Malevich because in both artists light assumes a spiritual, immanent dimension but, I suggest, distantly from metaphorical and formalist meanings of light of Malevich's painting, in *2em006II* Fernandez employs light to turn the order of abstract composition into a naturalized and immersive field. I shall next discuss how this turn informs the proposition of a radical geometry in relation to a female approach to geometric abstraction.

Before doing so, however, it must be noted that the style of 'radical geometry' designates an existing aesthetic category addressed by the critic and curator Gabriel-Perez Barreiro in his analysis of the work of Modern Abstract Latin American artists such as Gego and Lygia Clark, among others, to reflect on the political connotation that these artists have attributed to the language of abstraction by grounding this style into a precise geo-political context of action in the 1970s–80s (Barreiro, 2014, p.18). Radical geometry is, according to Barreiro, a form of abstraction that refuses the forms of rationalism traditionally pursued by Modernism to be applied to practice and politics as a means of political and social action. Whilst acknowledging the importance of this lineage in the work of Fernandez, in this analysis, I intend to propose an ecological feminist interpretation of radical geometry and in particular, I suggest a semantic displacement that substitutes the field of political and social action with an ecological and sustainable model of investigation. This will allow the grounding of Fernandez's method of 'graphic spatialization of space' onto nature and experience, and a reformulation of the term of 'geometric abstraction' in terms of agency and connectivity.

Commenting on the works presented for *Surfaces* exhibition, the theorist and art critic Sandra Pinardi, in the essay “Surfaces: On Water, in the Sonority of a Line,” 2006, examines Fernandez’s interpretation of the image of the square within an immanent order of composition. According to Pinardi,

The square is a visual metaphor of the place where becoming happens, where senses are articulated. The geometry is then articulated with its own difference, with that which it is not, abandoning the modes of ideality to surrender and understand itself as trace, incision, of that which affects us in and with the world. It is a geometry in which the universality of its constructive condition presents itself as growth-force and nonstop development, a plexus of tension in constant re-composition. (Pinardi, 2006, p.8)

According to Pinardi, Fernandez proposes an understanding of the image of the square as a place of the senses where events happen, and knowledge is produced. Pinardi states that the tension that characterizes Fernandez’s work concretizes the ideal and pure language of abstract geometry by giving principle to bodies and desires (ibid.). Hence, Pinardi adds, Fernandez’s order of composition does not belong to the order of transcendence or ideality but rather to that of sensuality, nature, and experience. Drawing from Pinardi’s account, I argue that the turn suggested by *2em006II* is a radical turn which turns abstract composition into a questioning of the sensuous, nature, and experience. In this view, we are allowed to consider the pictorial surface of the mobile painting as sitting at the intersection of the planes of immanence and actuality and I shall next examine features such as the tension, the difference, the trace, the incision - in Pinardi’s words – that informs a geometry of movement, action, and connectivity.

In support of this argument, I am proposing that Pinardi’s observations relate to the philosophy of ‘radical immanence’ posited by the feminist theorist Rosi Braidotti in *Transpositions: On Nomadic Ethics*, 2006, as a critique of the Enlightenment and the unitary vision of subjectivity and universalism in transcendental thinking. Braidotti defines ‘radical immanence’ as an ontological realm that considers nature and the living environment a model, she states, ‘of life- sustainability and diversity, interdependence and bringing differences’ (Braidotti, 2006, p.113) not yet dependent from subject-positioning. With reference to the thinking of Luce Irigaray and Gilles Deleuze, Braidotti posits this ontological stance to provide an insight into nature over binary categories (nature and culture as fixed). Braidotti states,

Both Irigaray and Deleuze embody and embed the universal, according to the principle of carnal materialism. They also conceptualize the spatio-temporal space of Relation, the interconnection among forces and entities. The universal therefore is located transversally, in the specific singularity of immanent interrelations among subjects collectively engaged in the expression and actualization of *potentia*. The intersubjective space is a laboratory of becoming. (Braidotti, 2006. p.182)

Drawing from an embodied theory of subjectivity, Braidotti explains subjectivity in terms of sensuous materialism. This supports her proposition of radical ethics as a critical position founded on the principle of relationality, a qualitative ontological differentiation which defines living in terms of potency and agency and actualizing from the underpinning asymmetry of the planes of becoming and immanence. In other words, radical ethics defines a critical stance which acknowledges the relationship between subjectivity and the Other – the living forces of nature – not as fixed but, Braidotti argues, relationality and connectivity, are ethical positioning in potency because all living forces – subjects and objects in the traditional sense – are subject to a state of becoming.⁹¹

Braidotti's philosophy of radical immanence explains in this context, Pinardi's reading of the unstable equilibrium of Fernandez's mobile painting as a diagonal movement that rests between the states of immanence and that of actuality, traversed by becoming and the viewer's body engaging with the work. Braidotti's proposition of radical immanence is thus, useful to identify the different planes that configures *2em006II* which consists in a traversing plane defining the viewer's positioning (agency and relations), light (actualization), temporalized motion (becoming), and the grounding into nature (immanence). I shall examine in detail this configuration with the aim of foregrounding the ethical positioning of Fernandez's practice of light.

Firstly, it is essential to demonstrate Fernandez's interest in the relationship between nature and geometric abstraction which I discuss in terms of ecology and

⁹¹ A different position is posited by Karen Barad in her questioning of the virtual when defining immanence as the 'open-ended becoming of the world' (Barad, 2012, p.13). In "What is the Measure of Nothingness?" 2012, in her attempt to configure the vacuum and its reverberations in a state of virtuality, Barad proposes a deconstructive reading of the virtual and contends that virtuality should not be understood as a potency that sits in the void between energy and actuality but as an indeterminate orientation of the void within the possibility of becoming in the continuum.

radicalism. This proposition is testified by observing how Braidotti's philosophy offers a method to elaborate on what Pinardi defines as a 'growth-force and nonstop development, a nexus of tension in constant re-composition' in Fernandez's *2em006ll* (Pinardi, 2006, p.8). In particular, the tension identified by Pinardi, I suggest, reflects the transversal line of Braidotti's radical positioning which defines the embodied and experiential dimension of Fernandez's painting where both the viewer and the vitalist forces of nature exemplified by PVC sphere act on the same surface. To justify this proposition, I suggest, it is important to understand the tension of Fernandez's painting as a radical geometry grounded in deep ecology.

According to Braidotti, an eco-feminist position is a way of thinking against the self-evident, appearances and phenomena (Braidotti, 2006, p.34). It is an approach grounded in experience that reflects the heterogeneity of forces in nature (ibid.). Braidotti defines an eco-feminist position as a critical positioning, the practice of 'a deep ecology' such as a critique of the body-mind dualism that imposes a synthesis of both ecological and human habitats and a recognition of their heterogeneous formations as complex systems of connectivity across time (ibid., 116). Braidotti adds: 'deep ecology provides a sort of 'bio-spherical egalitarianism': the unity of cosmos and humanity's place in the wider scheme of things' (ibid.).⁹² In other words, Braidotti's feminist ecology is an immanent vision of nature which understands subjectivity and nature as systems of agencies and interconnected relations. In addition, at the core of Braidotti's argument, is the rethinking of binary oppositions (subject-object; body-mind; nature-culture) through an understanding of the living forces. The author addresses the categories of 'bios/zoe' (ibid., 129), the human and the bare life, to give evidence to the productive nature of transversal interconnections that exists between humans and nature (ibid., p.129). Braidotti adds that 'bios/zoe' are undifferentiated expressions of the living that reflect the flow of vitality prior to any rationalist categorization (ibid., 202), and this foreground an ethical position which values the generative vitality of all forms prior to logics and abstraction. This differentiation is at the core of her ethics of deep ecology whose purpose is concerned with the addressing of a transversal practice that could value the inherent and constituent order of nature and culture as expressions of the living.

⁹² To contextualize Braidotti's philosophy of radical immanence, we must refer to the ethics of Baruch Spinoza (1677) revisited through the philosophy of Gilles Deleuze (1970), because Spinoza's notion of conatus explains the connotation that Braidotti attributes to affect in terms of potency and the affirmative aspect of power. Conatus, potential, becoming, are for Braidotti affects as modes of expression of immanence (Braidotti, 2006, p.148).

Braidotti's philosophy of radical immanence and ethics of deep ecology apply to an analysis of *2em006II* because they explain Fernandez's understanding of a radical geometry. In fact, the adjective 'radical' in this view, does not only defined a situated approach, but most specifically, it designated a geometry that could account for the unstable and suspended structure of the painting as a surface subject to a temporalized motion to figure the state of nature and human experience as possibly interconnected. In addition, the fact that Fernandez's geometry is not fixed (a square without a fixed perimeter or boundaries) is also a strategy of deep ecology, a radical approach aimed to ground geometry not in rational abstract order of composition, but in the inherent order of the living. All these strategies and ethical positions reflect in the pictorial plane of *2em006II*, a surface where living forces, be they "natural" or human, sit horizontally in a state of undifferentiation prior to formalization and division, actualized by light. I shall return to this point later but here, drawing from these observations, I shall next discuss other features of Fernandez's work which explains her radical geometry.



Figure 44. Magdalena Fernandez, *2em006II*, 2006
installation view Museo Arte Contemporanea, Caracas, 2006.

Secondly, we must continue with observations on how the unstable equilibrium of *2em006II* supports an investigation of time and motion. The multiple filaments of fibre optics hanging from the gallery's ceiling, structure an instable equilibrium between an immanent and an actual order of composition and the transversal plane of the pictorial surface is subject to an indefinite, undulatory motion (fig.44). These functions can be explained through Braidotti's reading of the notions of becoming and potency in her philosophy of radical immanence. Within this ontological realm, Braidotti discusses how the perception of time is subject not to causal effects but to duration and affective

movements in ways that induce transformation (Braidotti, 2006, p.83). According to Braidotti, the turn of radical ethics in fact, consists especially in perceiving duration as a sustainable model of time which reflects into a becoming and in evolutionary time (ibid.). Through her reading of duration in evolutionary time, Braidotti posits a qualitative differentiation which explains the perception of time not as linear, neither as categorizable in fixed categories, but, as the author explains, becoming in an extensive manner in ways that is interconnected with the power of transformation of life (ibid., 110). In other words, Braidotti asserts that to think about becoming as an expression of the evolutionary time, is a contingent way of thinking about time as constructing possibilities of becoming, becoming other, thus implying agency, relationalities, and connectivity (ibid.). Drawing from Braidotti's evolutionary reading of becoming, it could be argued that the temporal function of Fernandez's mobile painting is not a non-aprioristic way of representing time within the installation, but instead, a way of structuring time by taking into account the possibilities of motion, encountering, relations and transformation in a becoming. In fact, the pictorial of *2em006II* is a mobile plane, an undulatory horizontal plane in motion induced by lighting filaments fabricated in analogy with the movement of water waves, potentially traversed by the viewer's immersion and interaction with the work in the gallery's space. This transversal possible orientation demonstrates that in the painting, the temporal factor is not fixed, but is subject to relations and interactions between the filaments and the viewer. In this view, the mobile painting induces a process of structuring time whose effects are seen in undulatory and affective movements not only as mimetic operation, but a mimicry⁹³ or a transformation as a way of becoming nature⁹⁴ by means of immersivity. This is an important feature of Fernandez's practice because through the temporal function of becoming, the artist contributes to extending the dimensionalities of geometric abstraction in relation to immanence and immersivity. Suspension, affect, undulations, immersivity, all reflect a perception of time as an evolutionary becoming and this relativistic, yet relational connotation of time provides theoretical support for an understanding for the ethical dimension of Fernandez's practice as well as to the use of the model of nature-culture continuum.

⁹³ The notion of 'mimicry' plays an important aspect in eco-feminist ethics because against representation (Irigaray, 1974), this phenomenon made evident the in-depth level of transformation as a collective evolution, the evolutionary time and the ethics of human and nature-subjects (Braidotti, 2006, p.213).

⁹⁴ Braidotti's reading of 'becoming' is intertwined with her questioning of female subjectivity and posthuman ethics (2017). Although here only partially contemplated, Braidotti's feminist ethics informs the reading of Fernandez's work, by suggesting a neomaterialist and posthuman approach in support of an ethics of affirmation.



Figure 45. Magdalena Fernandez, *2em006II*, 2006
installation view Museo Arte Contemporanea, Caracas, 2006.

A third relevant feature of Fernandez's painting relates to the artist's revisiting the language of abstract composition through a radical, sensuous geometry (fig.45). As stated by Pinardi, the surface of *2em006II* is drawn by a geometry of the senses which is marked by trace and incision (Pinardi, 2006, p.8). Whilst referring to Fernandez's method of graphic spatialization, Pinardi's observations resonate with Braidotti's philosophy of radical immanence because when asserting that underpinning becoming is the geometrical, constituent, and vitalist order of the living. This expresses itself, Braidotti states, by intensities and affective movements and thus it inherently pertains the realm of the senses where is fixed by the mark of a graphic sign. A radical geometry, Braidotti adds, is not a system of representing ideality, but the practice of reducing the flow of becoming as a fixation, a rigorous method of investigation aimed to measure the expressivity of vital forces as the form of a sensibility of the continuum, a way of living in intensity and recognizing the eruption of events that constructs possible futures (Braidotti, 2006, p.254). Radical geometry is in other words, a method for mapping and tracing the intensities and forces of the living in their becoming to question possible relationalities and connectivity. It is a geometry of passions and affects, Braidotti states, because radical geometry is embedded within immanence as the expression for the sustainability of possible futures (ibid., 209). In this view, the contribution of radical geometry lies in valuing the vitalist, intensive, sensuous, and affective forces of the living as signs. This method defines Fernandez's practice because unlike traditional canons of abstract composition, the artist investigates the inherent living forces of nature and culture which underpin and mark the geometrical figure of a square.

On a closer examination, the method of radical geometry allows an understanding of the surface of *2em006II* as a system of intervals (fig.45.). The interval is an important trait of Braidotti's radical philosophy because, as discussed in "Becoming Woman, or Sexual Difference Revisited," 2003, it describes a particular character of difference which acts between metamorphosis and relations (Braidotti, 2003, p.629). Braidotti derives her interpretation of the concept of the interval from Irigaray's notion of sensible transcendental,⁹⁵ and defines it as a difference in motion, a trace subject to becoming in a constant renegotiation of relations (ibid., 40). In particular, according to Braidotti, the interval is the marking of the incorporeal, an interruption used to unset perception and reveal the points of connectivity emerging from differences in a constant renegotiating with the surroundings (ibid.). It generates a new order of composition that is not imposed from the exterior, but it emerges from within, as a temporalization, a system of relations and proximities between forces in becoming. Braidotti's reading of the interval allows here to state that the surface of *2em006II* is inherently a system of intervals, intervals marked as traces of the vitalist, lived forces of nature-immanence, and actualized by the interwoven of lighting filaments and transparent spheres in terms of interconnectivity. In particular, the interval reflects the mimesis of the movement of water surfaces in analogy with the becoming of lighting filaments within the unstable perimeter of the square. In this sense, the intervals of *2em006II* reflect a system of heterogeneity and impose a system of connectivity, reflecting a rhythm of abstract composition which is immanent and immersive. Strategically, this can be drawn by turning perception into a state of radical immersion and by traversing the enlightened pictorial surface.

Further on radical geometry, Braidotti asserts that this method is not a movement of metaphysical transcendence, nor the formalization of ideal abstraction (ibid., 85). On the contrary, radical geometry enables us to recognize the immanent nature of the living as a system of forces, affects, relations, and connectivity. *2em006II* operates on the same level in Braidotti's analysis and to use Braidotti's terms, the square of Fernandez's mobile painting becomes a 'specific slice of matter that is human embodiment' (Braidotti, 2016, p.23). This allows Braidotti to remark on the ethical dimension of such a method because, as she states, in its complexity, radical geometry, imposes 'a sense of belonging to and

⁹⁵ As a contextualization, we must refer to Irigaray's notion of 'sensible transcendental', as posited in *Ethics of Sexual Difference*, 1984, as the first attempt of thinking about the affirmative power of embodiment and the sexualized practice. Braidotti draws from Irigaray's ethical position of the feminine and applies a qualitative differentiation that is concerned with the vitalist function of an ethics of the incorporeal (Braidotti, 2006, p.274).

being accountable for a community, a people, a territory' (Braidotti, 2006, p.17). Ethical implications apply to an analysis of Fernandez's mobile painting where geometry does not correspond to formalism, but it reflects a mode of actualizing the ideal purpose of abstraction by making universality both an immanent and an immersive experience, a way of rethinking the feeling subject as an ethical subject aware of a deep ecology from which to draw possible relations and connectivity. The radical turn of Fernandez's practice consists in positioning the role of the viewer as immersed in the substratum of nature, a mode, I argue, of thinking about the self in the natureculture continuum.

Fourthly, an important aspect of Fernandez's radical approach to abstraction is the viewer's presence within the work. The mobile plane of *2em006II* is a suspended, traversable surface which supports an experience of immersion, a sense of immersivity concerned with the incorporeal - to use Braidotti's terminology - a way of living in intensity and becoming imperceptible which bestows ethics.⁹⁶ Braidotti states: '[e]thics is about new incorporeal becoming, not new 'revelations', but the stretching of the threshold of sustainability. Ethics is a matter of experimentation, not of control by social techniques of alienation' (Braidotti, 2006, p.214). To paraphrase, for Braidotti, the incorporeal is an affective mode of being because it turns the image of the self into a style of being that is not something new but is a form of experimentation of the self in relation to a sustainable becoming. This explains the ethical connotation of such a style of living because it touches on the principles of existence and co-existence involved in immersivity. But not only a style of being, Braidotti adds that the incorporeal is a potency, agency, ethical responsibility towards the construction of a sustainable becoming (ibid.). In this context, Braidotti's reading of the incorporeal enables further understandings of the subject-self positioning inside the weightless figure of *2em006II* in terms of ethics and agency. In fact, the choice of figuring a traversable surface disrupts any abstract geometrical formalisms to reposition a questioning of abstraction through embodiment. Immersed in such an immanent field, the viewer is solicited to experiment with a field of intensities and the incorporeal in a transversal manner that informs simultaneously perception and reflection as a form of embodiment. This experience designates an ethical position because in the state of the incorporeal, the viewer decides to act or not to act against the work as a way of actualizing an experience of the vitalist life according to the principle of affirmation.

⁹⁶ Derived from Deleuze's style of the incorporeal, Braidotti addresses the notion of 'potential becoming' as a style of living in intensity as motion and the positive affirmation of potency. According to Braidotti, this ethics is a style of living in intensities and creating relations as a mode of invention and creation (Braidotti, 2006, p.228).

Based on these considerations, it must be observed how in *2em006II*, the figure of the square is not a form, but it acts as a supplement, a structure, and a sustainable figure, a suspended equilibrium that is way of actualizing and transforming nature into a lived, affirmative experience. This mobile pictorial structure challenges the traditional orders of abstract composition by refusing formalism to figure, as earlier discussed, the play of multiple planes (actualization, transversality, becoming, immanence). But the interplay of difference figured by Fernandez - in Pinardi's words – is not only a stylistic turn for the language of geometric abstraction but to draw from Braidotti's philosophy, it is possible to state that through this strategy, the artist Fernandez address a sustainable practice, 'a way of structuring becoming, a way of being on the edge, and a way of surfacing at the border' (ibid., 214). Significantly, structuring is not an afferent term of composition but, Braidotti explains, is a practice concerned with the renegotiation of mutations, a way of constructing and actualizing, mutations, disruptions (ibid., 137). In this view, Braidotti, stands for the possibility of re-grounding practices according to their vitalist and evolutionary forces which she reads as positive affirmations. This argument contributes to an understanding of Fernandez's radical approach to geometric abstraction because by rejecting the geometry of a fixed form, her work deploys the conditions for structuring, transforming, and sustaining nature and culture as interconnected realms.

Ultimately, the mobile painting *2em006II* supports a surface of light, a suspended weightless plane where nature and abstraction interact. Stylistically, it must be noted how this figuration posits an ontological qualitative differentiation whereby the geometry of the square is not the abstract representation of the rationalist mind, but is a field of forces, a surface of relations and connectivity. But another important contribution of Fernandez's practice regards her use of light as the actual manifestations of these intersected and interwoven planes. In particular, for the configuration of suspended lighting filaments, Fernandez deals with the phenomenon of the refraction of light, traditionally defining the change of direction and propagation of light passing obliquely through the interface between two or multiple mediums. This phenomenon allows the artist to explore the dynamics, the movement, and the propagation of light, focusing on the force of enactment of this material in terms of relationalities and connectivity. Ultimately in her work, the refraction of multiple light turns into the quality of vibrancy of light.

In the art critical discourse, vibrancy is a quality of geometric abstraction that can be found in Jesus Soto's practice, such as in the installation *Vibration Blanca*, 1923, where it designates a mode of reflection that is given by sonorous aspects such as

dynamism, kinetic movement, agency, in abstract composition. Fernandez proposes a way of thinking about the vibrancy of light as the effect and the power quality of an ecological investigation which emerges from a process of radicalization of abstraction in terms of immersivity and whose effects are seen on the surface. In line with Braidotti's philosophy of radical immanence, in Fernandez's work, vibrancy reflects a political ontology, a way of thinking about the 'becoming imperceptible' and 'living in intensity' (Braidotti, 2006, p.154). Becoming imperceptible, Braidotti adds, is a way of living the incorporeal, a way of thinking about the self away from perceptual stimuli to recognize the non-human aspect of the self as a living force (ibid.). In other words, vibrancy is the actualization of an immersion, an immersion founded into an immanent dimension which returns onto the surface as the actual affirmation of such a style. Based on these stylistic and theoretical considerations, I suggest that the pictorial surface of *2em006II* vibrates because of the intensity of light behaving as an affective movement, a wave, and a reverberation. The vibrancy of light in Fernandez's painting, stands for the style of living in intensity as an affirmation perceived almost as a sonority to reflect the pure experience of an immersion. According to Braidotti, vibrancy itself is an affirmative form of actualization, the eruption of events that construct possible futures (Braidotti, 2013, n.p.). Returning to Braidotti's ethics, the author remarks how ultimately, to think about radical ethics is not as a logical construction, but a style, the style of living in intensity and the positive ethical affirmation of Life (Braidotti, 2006, p.208). In line with these feminist positions,⁹⁷ I argue that the vibrancy of *2em006II* reverberates with an ethical and affirmative proposition for the ways of thinking about subject-object, nature-abstraction in terms of belonging, and connectivity. The mobile surface of *2em006II* must be understood in this sense, as the plane where events happen, and knowledge is produced.

To conclude, the mobile painting *2em006II* sits within the legacy of geometric abstraction and repositions this relation through the affirmative function of a natureculture continuum. Through this work, Fernandez deploys an immanent, sustainable method of investigation which is founded on the propositions of deep ecology and radical geometry as interconnected agencies. In the next section, I shall extend this investigation in relation to a non-anthropocentric vision of nature/culture to discuss the principle of the agency of light within complex systems of relations.

⁹⁷ By referencing Braidotti's political ecology (2007), we must acknowledge the field of study of new materialist thinking which offers a useful framework of investigation to rethink the notion of materiality through the ontological frameworks of the entanglement and agency (Bennett, 2007; Coole, Frost, 2010; Dolphijn, Van Der Tuin, 2011).

6.2. Hauntological Relations and Intra-actions: an analysis of *163,000 Light Years* by Tomas Saraceno

This section examines the projection-installation *163.000 Light Years*, 2016 (fig.46), by Tomas Saraceno presented for a monographic exhibition at the Museum of Contemporary Art in Monterrey, Mexico in 2016.⁹⁸ Saraceno's film focuses on the crystallized image of a cosmological event, specifically the collision of the Large and Small Magellanic Clouds, two spiral galaxies distant 163,000 light-years from the Earth, historically regarded as a fundamental reference point in traditional cartography.⁹⁹

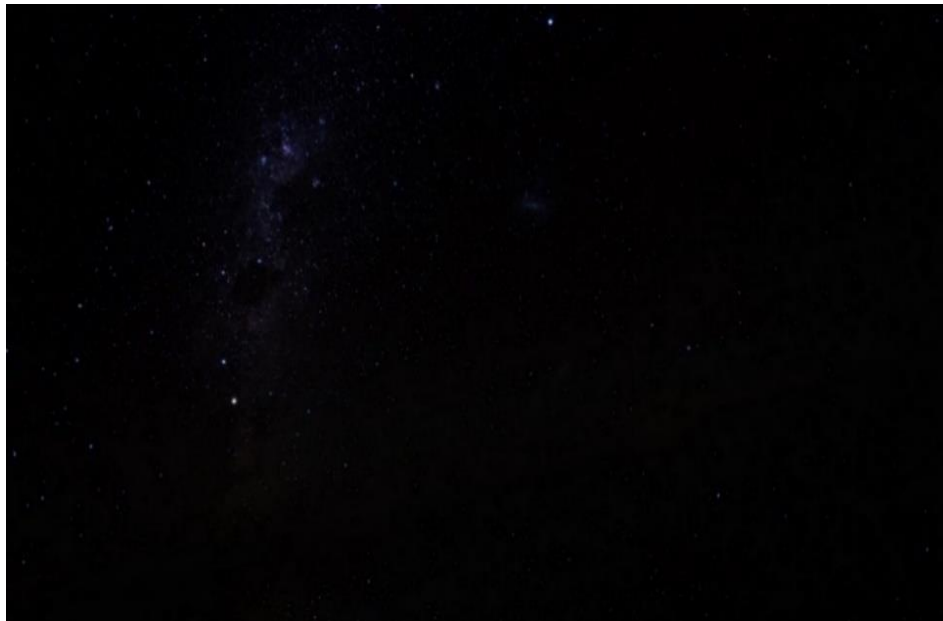


Figure 46. Tomas Saraceno, *163,000 Light Years*, 2016
inkjet print, video, projector, still from video
installation view, Museum de Monterrey.

By capturing the effects of this cosmic event in the time-lapse of a filmic image, Saraceno questions the effects of this phenomenon on the Earth and conceives light as the intra-acting force that travels through the macro-micro cosmos, reverberating from the past in a continuum to the present. In this analysis, I shall examine the cosmological dimension of Saraceno's work to address an understanding of light as an agential and a sustainable practice and in particular, I shall analyze the artist's use of the model of the

⁹⁸ This analysis is drawn from observations of the exhibition, *Gravity, Imaging the Universe after Einstein* where Saraceno's film *163.000 Light Years* was presented at the MAXXI Museum Rome in 2018.

⁹⁹ In conversation with curator Gonzalo Ortega (2016), Saraceno narrates the history of the Large Magellanic Clouds and describes the importance of this galaxy since Persian culture, and only from the 1990s named in memory of the Portuguese explorer Fernando de Magellan (Portugal, 1480-1521), who firstly observed and recorded the measures of these galaxies. These two galaxies distinguish themselves as Great Cloud of Magellan and Small Magellanic Cloud and the distance between them is 75 000 light-years.

assemblage on a cosmic scale to figure a system of quantum connectivity. I shall relate this proposition to the writing of the geographer Sasha Hildergard Engelman (2013) and the feminist theorist Karen Barad (2007) to discuss the non-anthropocentric vision of Saraceno's cosmological aesthetics and his questioning of human and non-human agencies.

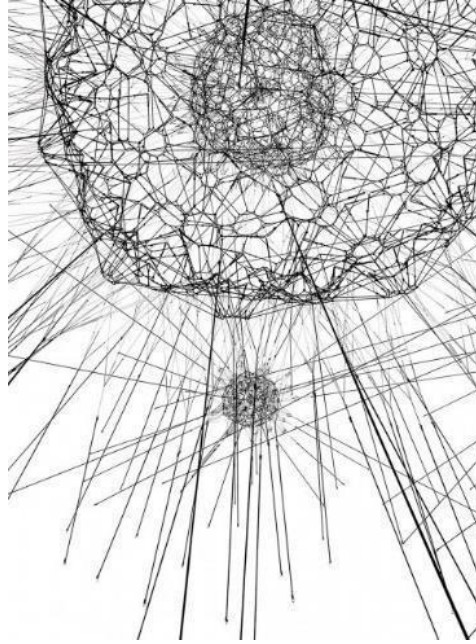


Figure 47. Tomas Saraceno, *Galaxies Forming along Filaments, Like Droplets along the Strands of a Spider's Web*, 2009 detail, Venice Biennale, 2009.

From the late 1990s, the practice of Tomas Saraceno focuses on a social cartographic investigation of ecosystems and the cosmos to find a scale of measurement for the representation of physical phenomena in relation to human and non-human experiences. At the intersection of arts, science, and architecture, Saraceno's practice reflects on the constructive function of sculpture and installation by formulating a scientific method of investigation derived from the study of natural science, ecology, and astronomy which he theorizes through the model of the assemblage. This ontological framework is drawn from the thinking of the postmodern philosophers Gilles Deleuze and Felix Guattari, as discussed in *A Thousand Plateaus*, 1980, who define the assemblage as a technological model of the living, a constellation of many heterogeneous system of signs (Deleuze and Guattari, 1980/2014, p.84). Through his inquiry of technologies of composition, Saraceno deploys the model of the assemblage in his practice to explore the cultural and social complexity of human and non-human environments as interconnected systems. Notably, among early works, the large-scale installation *Galaxies Forming along Filaments, Like Droplets along the Strands of a Spider's Web*, 2009 (fig.47), is an eloquent example of Saraceno's application of this model. In fact, the

installation connects two major macro-spheres of polyethylene tensors to define a complex habitable structure, a structure aimed to compare the systems of spider webs with the structure of the universe on a micro-macro scale. Whilst addressing a techno-scientific approach to the use of sculpture and architecture, with the work *Galaxies Forming along Filaments, Like Droplets along the Strands of a Spider's Web*, Saraceno exemplifies the scale of his work, showing how the infinitely large and the infinitely small worlds are interconnected.

Interviewed by the art historian Marion Ackerman (2011), as reported by the geographer Sasha Hildergard Engelman (2017), Saraceno refers to the influences that have determined his practice at the intersections of architecture and the arts. From a background in architecture and design in the 1990s, Saraceno explains his interest in reformulating the canons of formalist composition, citing the work of Argentinian Modernist architect Claudio Caveri, who in the 1950s extended the canons of constructivist through dynamic composition in projects such as *Casablanquism*, 1956, an articulated and complex urban village community plan, to design a model for interconnected, habitable structures. The constructive dimension of Saraceno's practice is also influenced by the utopian vision of architect Gordon Matta-Clark, with whom the artist shares a form of activism for the configuration of urban cityscapes by exploring the limits between interior and exterior spaces by bridging architecture and art. This is mostly evident, for example, in Matta-Clark's project *Conical Intersection*, 1975, an intervention on existing architectures that disrupts the limits between the interior and the exterior of two existing buildings in the district of Les Halles, Paris, to reflect on the impact of architectural practices within urban and social contexts (Matta-Clark, 1977, n.p.).

In support of this innovative models of interconnected composition, Saraceno's practice integrates a study of differential geometry.¹⁰⁰ In fact, his use of geometrical figures such as webs, membrane, bubbles, foams, and crystals further relate to the

¹⁰⁰ As a scientific model of reference, we can draw from the differential geometry of the mathematician Bernard Riemann who, in the paper "On the Hypothesis on which lies the Basis of Geometry," 1856, when discussing the 'topology of the surface' as a one-dimensional complex manifold of multiversal directions and orientations. Riemann's postulate challenges the ways of representing Euclidean geometry as a system of multiplicity not merely in reason of a quantitative differentiation such as for the binary opposition one–multiplicity, but in reason of a qualitative differentiation which regards the metrics of the multiple. Riemann's topology is at the base of Deleuze's metrics of the multiple, as posited in *Bergsonism*, 1988, when discussing the implications of this topology configuring a metrics of multiplicity through an analysis of the virtual, qualitative, continuous, organic, durational qualities of materials in the continuum (Deleuze, 1988/1991, pp.66-68).

experimental approach of German Expressionist architect and artist Otto Frei who studied these forms during his professorship at the University of Stuttgart in the 1960s, and with whom Saraceno collaborated in 2010s. All these influences underpin Saraceno's experimentation with artistic composition, in line with the work of artists Solar, Gyula Kosice and Olafur Eliasson, whose practices also focus on investigating sustainable models for thinking about light, technologies, and the human condition in relation to the environment and the cosmos. Essentially to contextualize Saraceno's practice, as Engelman observes, his work sits with the legacies of Modernist Architecture, Plasticism, and German Expressionism (Saraceno in Engelman, 2017, pp.56–57), with which the artist shares his interest in reformulating the rationalist and constructive language of composition to provide dynamic and sustainable models of the living.

To explain the dynamic and sustainable qualities of Saraceno's practice, we must refer to his use of the model of the assemblage as a techno-scientific framework which informs the constructive dimension of his work through the integration of techno-scientific models.¹⁰¹ In this regard, commenting on Saraceno's work, the sociologist and anthropologist Bruno Latour, in the article "Some Experiments in Arts and Politics," 2013, suggests that Saraceno's use of the assemblage contributes to an understanding of human action in relation to ecosystems, habitats and contexts in a way that offers an important visual metaphor of social theories (Latour, 2013, n.p.). Unlike traditional forms of composition, Latour observes, Saraceno's assemblages offer a visual experience which does not conform to any fixed ontological domain or scale (ibid.). In Saraceno's practice, Latour states, 'there is no attempt at nesting all relations within one hierarchical order' (ibid.). His assemblages, Latour adds, focus on providing connections without structure (ibid.). Turning his attention from technologies to the impact of Saraceno's practice, Latour foregrounds Saraceno's contribution in reconfiguring ecological and cosmic systems as systems of multiple interdependent connectivities on a social scale. In particular, Latour dwells on how Saraceno's assemblages challenge formalist composition and provides models for configuring infrastructural, interchangeable, and mutable systems whose construction does not lie in rationalist forms, but in the examination of a chain of actions and reactions in order to create systems of connectivity.

¹⁰¹ The use of the term 'techno-science' derives in this context, from Bruno Latour's investigation on the strategic and actant role that both sciences and technologies play within the reconfiguration of experience as systems of networks and complexities (Latour, 1987, p.174). Through the model of the assemblage, Saraceno integrates a techno-scientific approach in his practice and this enables him to focus on a questioning the role of human and non-human action in relation to nature, the cosmos and the environment.

This explains why Saraceno privileges the use of elements such as tensors, strings, bubbles and webs, all figuring networks of elastic connectors as Latour remarks, which become metaphors for investigating ecosystems as complex compositions in a process of becoming and mutation (ibid.). Given these formal elements of configuration, Saraceno's work, Latour further suggests, contributes to a visual experience which necessarily imposes forms of political enactment in relation to the complexity of human and non-human interaction. Whilst the impact of such propositions is testified by the collaborative, ambitious project *The Anthropocene Monument*, 2016,¹⁰² I shall draw from Latour's commentary of Saraceno's practice to examine how the artist's contribution informs an ethics of practices of light.

A consistent part of Saraceno's body of work deals with an atmospheric investigation. Projects such as *Becoming Aerosolar*, 2014, a large-scale solar sculpture consisting of recyclable plastic bags and moving through solar energy to ideally aggregate with the atmospheric clouds, is like a 'flying museum', a floating monument (Saraceno, 2015, p.12). According to the geographer Engelman who contributed to this project, *Becoming Aerosolar* is an important work because whilst investigating an evolving area of research such as the atmosphere and the cosmos, it makes evident the non-human vision of Saraceno's practice in support of ecological and sustainable models (Engelman, 2017). In this regard, Engelman addresses the notion of 'cosmological aesthetics' to describe Saraceno's contribution to 'a non-anthropocentric philosophy of geographies as systems of ecologies' (Engelman, 2014, p.25). With cosmological aesthetics, Engelman refers to a feminist ecological perspective that reflects on Saraceno's use of the model of the assemblage as a sustainable system of sensuous connectivities. Saraceno's use of the model of the assemblage, Engelman suggests, corresponds to a system focused on investigating human and non-human actions as actively and interdependently contributing to an evolutionary process. Indebted to social sciences and a feminist ecological position, Engelman's field of cosmological aesthetics is useful to question, in this context, Saraceno's approach to light as the sensuous material of an assemblage that informs his constructive and a sustainable practice. I am proposing a feminist ecological reading of Saraceno's use of the assemblage to configure a practice of light concerning cosmology and the natureculture continuum.

¹⁰² In 2016, Bruno Latour curated the symposium-exhibition performance the *Anthropocene Monument* where Saraceno presented the project *Museum Aerosolar* at Les Abattoirs, Toulouse. The project initiated a discussion on the topic of the Anthropocene across the fields of arts, techno-sciences, and social sciences.



Figure 48. Tomas Saraceno *163.000 Light Years*, 2016
Photograph, Museum de Monterrey.

The exhibition for *Gravity. Imagine the Universe after Einstein*, 2017, held at the MAXXI Museum, Rome,¹⁰³ presented the film-projection *163.000 Light Years*, 2016. The film was displayed at the end of a parcours that presented a cabinet of natural curiosities consisting of sculptural models of spider webs, accompanied by a series of photographs of natural and cosmic landscapes documenting the expedition that Saraceno conducted for this project at the lake of the Salar de Uyuni, the world largest salt desert, in Boliva, in different stages between 2004 and 2016 (fig.48). This photographic dossier, as Saraceno narrates, shows the peculiarity of this specific geographical context, a remote region characterized by the presence of a lake located approximately 3.658 above the sea level and reaching 20 metres depth whose water surface covers the salt's brine generates peculiar reflective effects, thus providing an optimal condition for the observation of cosmic phenomena (Saraceno, 2016, n.p.). From this localization and with the support of scientific and astrophotographic equipment, Saraceno's expedition consisted particularly in observations of the spiral galaxies of the Magellanic Clouds, part of the Milky Way, as part of a cosmic and environmental research. But it must be noted how, although scientifically this cosmic region is expected to no longer exist due to their collision approximately 2.4 billion years in the past, Saraceno's practice focused on measuring and recording the resonance of such a cosmic phenomenon because it is still

¹⁰³ Among other works presented, it may be significant to mention Saraceno's project *Spider Web Sessions*, 2006–2018, which focuses on an investigation of arachnid ecosystems as models to explain the functioning of a non-human ecosystem in analogy with the fabric of the cosmos, and presented through a series of 3D virtual sculptures.

perceivable by humans on earth as historically testified in traditional cartography. Thus, based on the findings of this expedition, the film *163.000 Light Years* results as the visualization of the potential effects of such cosmic phenomena in the earth as a lived experience. In other words, *163,000 light-years* aims to visualize the effects of the astronomical distance that exists between these galaxies and the Earth in terms of possible connectivity.

In the dark space of the museum's gallery, the film *163.000 Light Years* is presented as the live performance of a macro-micro cosmic experience. It is displayed in an immersive environment where the filmic image is presented onto a screen that conceptually turns onto a surface, visualizing the interaction between two light sources: a beam of a projected light moving from an apparatus placed at the center of the gallery towards the surface-screen, and the film reproducing cosmic effects recorded on site and projected within the gallery environment in a time-lapse. Between these points of localization, the installation suggests a continuity between the beam of projected light acting as a force directed onto the surface-screen where the film is projected which inversely returns a journey and an experience. On a closer examination, the beam of light is projected onto a membrane-screen consisting of acrylic and carbon filaments to configure a model of the macro-micro cosmos and differently from the traditional use of video-screen reflecting an image, this membrane, as I shall later examine in detail, constitutes a techno-scientific, yet concrete assemblage in support of the filmic image. Within this frame, the image of *163.000 Light Years* is presented as the static shot of a nocturnal vision, the visualization of a starry sky where cosmic events occur and overlap in time-space in the cosmos. The image has no focus, but it visualizes instead a number of spiraling movements, magnetic forces, vacuum fluctuations, gravitational waves, fluorescence and dust materials as captured during the expedition, and they are here reproduced in a time-lapse. In this sense, the filmic image of *163.000 Light Years* is not a homogeneous visual field but it configures a mapping of blurred luminous points projected as well as intertwined onto the membrane's surface. In addition, it must be noted how in returning a lived-experience, the effects of the projection are amplified within the atmospheric and immersive environment of the gallery's dark space, reverberating with a textural sound as recorded on site. Focusing on an analysis of the interaction between these two light sources, I argue that *163.000 Light Years* configures an assemblage for exploring cosmic light and its effects in the cosmos and in so doing, the artist's contribution consists in establishing a natureculture continuum through the

constant of light travelling in space-time. From an analysis of these formal features, I shall examine how for Saraceno, light is not an abstract image, neither a velocity, but is the flow of an assemblage, the sensuous connectivity of a continuum where it acts as a normative force.

Introducing the film for the exhibition at the Museum of Contemporary Art in Monterrey in 2016, in conversation with critic and curator Gonzalo Ortega, Saraceno presents the film as 'an image of the past, a film that lasts 163.000 years, the length of time that it takes for the light to travel through space to reach the earth' (Saraceno, 2016, n.p.). Saraceno justifies his choice of using the medium of film because this allows to focus on the image and the action of light travelling in space and time to connect distant points of localization by projecting a synthetic, yet live experience (ibid.). Whilst reflecting on the paradox of exploring such an incommensurable phenomenon infinitesimally difficult to perceive with the naked eye, Saraceno justifies his choice of using a filmic format in reason of the perceptual qualities of this medium. In fact, based on observations of how the scale of human perception registers between twenty-five and thirty-five frames per second (ibid.), Saraceno conceives film as the optimal medium to visualize the effects of a cosmic light in an image. Film thus, allows him to crystalize, record, and reproduce a macro-phenomenon, a phenomenon that would otherwise be perceived only for a second.

It could be differently argued, to use Deleuze's terminology of the filmic language, that the film *163.000 Light Years* is an 'action image', an image which captures the behaviour of (light as) an affect in a milieu by virtue of its power and actualization (Deleuze, 1997, p.141). As an organic representation, Deleuze states: 'the action image is a duel of forces... it expands towards the milieu and contracts from the action' (Deleuze, 1997, p.142). In addition, Deleuze remarks, an action-image designates a system of 'power qualities' which, be they correlative or antagonistic, are seen as expressivities of a milieu prior to actualization (ibid.). Drawing from Deleuze's reading of this image, it could be argued that the filmic image of *163.000 Light Years* is 'action image' because accordingly, this image is a synthesis of the power qualities of light behaving in the micro-macro cosmos. Specifically, Saraceno's film focuses on the action of light as a form of actualization derived from the relation between the image of light travelling in space-time in the vast universe and in this analysis, I intend to demonstrate how this power quality informs a system of entangled relations (e.g. light acting at an astronomical distance through the film, the apparatus, and affecting the viewer's experience) and renegotiates

human and non-human actions in terms of connectivity. In addition, I significantly suggest that *163.000 Light Years* is not only an image in action, but through the action and the power of light, the film sets the conditions for a cosmic living experience as evident by the chosen format of a live projection installation. In other terms, I shall next examine in detail how Saraceno deals with the action of light in an assemblage to configure an experiential dimension and establish connections between humans and non-humans as a system of sensuous connectivity. In so doing, I intend to focus on the techno-scientific function of his systems of composition because, as the artist remarks, such a structure allows 'the possibility to expand and amplify perceptual fields to perceive different realities' (Saraceno, 2016, n.p.). Drawing from this statement, I ultimately intend to provide reflections on the political and ethical dimensions of Saraceno's practice because by expanding the potential realms of an action image (light as a flow that encompasses the macro-micro-cosmos), the artist deploys a non-anthropocentric vision for his use of practices of light.

For an understanding of the non-anthropocentric standpoint of Saraceno's practice, it is here useful to examine his methodological approach. The term 'macro-micro' is particularly useful because it is symptomatic of possible connectivity within cosmic regions, designating a scale of measurement for the mapping of visual events as cosmic phenomena. According to Donna Haraway, as she discusses in *A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism* in the 1980s, 1985, macro-micro scales of measurement are frameworks of social sciences, aimed to designate different regions of experience by encompassing both human and non-human actions (Haraway, 1985/2004, p.39). The author draws this scale of measurement from observing how communication technologies, among other techno-sciences, particularly mediate movement, speed, and information as dispersive forces in decentralized systems. In other words, Haraway asserts that macro-micro scales of measurements are useful strategies for an understanding of the notion of difference in terms of relations (Haraway, 2016, p.39). Whether they be they linguistic or measuring systems, Haraway adds in "*Situated Knowledge: The Science Question in Feminism and the Privilege of Partial Perspective*," 1988, macro-micro scales offer an ecological and ethical perspective of the heterogeneous systems of the living. From her questioning of communication technologies to her inquiry onto ecology and ethical practices, Haraway asserts that the model of macro-micro scales implies different methods of analysis, a method consisting of strategies such as measuring, reconfiguring and perceiving entities according to their

behaviour in distant, yet connected regions (Haraway, 1988, p.85). Haraway's account points out the methods of investigating macro-micro regions as a practice of material-semiotic analysis complemented by an inquiry onto the constructive and perceptual implications of such systems. I draw from Haraway's model of macro-micro scales of measurement to examine the theoretical framework underpinning Saraceno's practicing with film projection because it provides useful parameters for questioning human and non-human actions and renegotiating cosmic distances.¹⁰⁴

Following an inquiry of the scales of measurement, it is here helpful to draw a number of considerations concerning Saraceno's methodology and his use of the model of the assemblage as a system of connectivity. When discussing his area of investigation, Saraceno states that his practice focuses on 're-patterning atmospheric dwelling and politics' (Saraceno, 2015, p.59) and in particular, with the term 're-patterning' he refers to the measuring of differences that emerge from atmospheric mapping through macro-micro scale of measurement. In other words, in *163.000 Light Years*, repatterning defines a compositional and dynamic method for thinking about the morphology of the cosmos by questioning for instance, human and non-human relations and connectivity. However, differently from Haraway's material-semiotic approach applied to metrics, Saraceno suggests that the strategy of repatterning is not limited to a signifying method, but he is interested in the reconfiguring of systems of connectivity through techno-sciences to support the construction of techno-scientific as well as social knowledge. This position resonates with Einstein's relativistic statement that 'there is no meaning in a statement of the time of an event' (ibid., 26), which states that knowledge itself, is not an enunciation, but a constructed model as a structure for an understanding of the plurality of ecosystems existing in the world.

In support of this observation, we can draw from the posthuman thinking of the feminist theorist Karen Barad, derived from her quantum analysis of the structure of cosmic space-time as she discusses in *Meeting the Universe Halfway*, 2007. In addressing her method of investigation informed by techno-sciences, the author distinguished between material-semiotic practices and practices of reconfigurations, suggesting that over the domain of the sign, these latter are systems aimed at visualizing

¹⁰⁴ It may be useful to contextualize this proposition by referring to the relativistic notion of 'frame of reference' discussed by Albert Einstein in "Special Theory of Relativity," 1905, to designate a system of configuration of the cosmos which contrasts with the representation of Cartesian coordinates to be concerned with relative motion and localization whereby the distance between an event and each reference-body is subject to a determined positioning in time.

the enfolding of structural relations (Barad, 2007, p.237). Barad states: 'structures are apparatuses that contribute to the production of phenomena, but they must also be understood as thoroughly implicated in the dynamics of power... structures are specific material configurations of the (re)configurings the world' (Barad, 2007, p.237). Barad's notion of 'configuration' contributes here to an understanding of Saraceno's theorization of the model of the assemblage as a mutant morphology, a system based on the constructive, infrastructural function of practices. It should be noted in particular, how the term 'configuration' differs from the traditional understanding of the category of composition because it designates a constructive, techno scientific non-anthropocentric approach. In this context, Barad's reading of the notion of configuration provides a valuable aesthetic and ethical parameter for examining Saraceno's practice since it reflects the artist's interest in extending the understanding of the constructive and connective function of practices by investigating the dynamics of power of the scientific, technological, and sensuous dimensions of his work. Hence, *163.000 Light Years* should not be understood as if representing or signifying a cosmic event but rather, the 'configuration' of an event explored through the constant of light in quantic terms and through the frames, and structures of an assemblage, to ultimately project a live experience.

The term 'configuration' defines both the atmospheric and immersive features of the filmic projection *163.000 Light Years*. Around the beam of projected light reaching the filmic surface-screen, Saraceno constructs the immersive field of an experience of light that can be understood and perceived through a non-anthropocentric positioning. This strategy contrasts with systems of representation, vision, and speculative thinking; in fact, Saraceno states that the experience of perceiving cosmic phenomena at the lake of Salar de Uyuni 'is not a reflexive image' but a way of being within its interiors (Saraceno, 2016, n.p.). In the gallery's space, these considerations translate into an ethical positioning of the subject, a way of thinking about the viewer as if he/she is inscribed in a system of connectivity concerning immersion. The posthuman approach of Barad offers further theoretical references to unpack this understanding when, in her analysis of cosmic space, she argues that 'we are not the only active beings – though this is never justification for deflecting our responsibility onto others' (Barad, 2007, p.391). This means to recognize, Barad remarks, that humans, like all other entities and bodies, are part of the dynamic structuration of the world, they live inside, within its interiors, and act within their boundaries and limits (ibid.). In other terms, Barad's argument suggests

a non-anthropocentric vision of the cosmos and her approach is key to Saraceno's use of model of the assemblage because it provides an insight into the relational and interconnected aspects involved in cosmic events. In this view, *163.000 Light Years* confirms to be not the filmic image of a narrative but an action-image which expresses by questioning the specific relation between the action of light and human actions, further imposing a questioning of ecological and ethical responsibility.

In political terms, the act of 're-patterning the atmospheric dwelling', as Saraceno posited it, should be understood as a positioning that enables a form of situated knowledge,¹⁰⁵ a way of sustaining possibilities of creating relations, as Haraway puts it (Haraway, 1988, p.583). But in Saraceno's work, this is particularly a form of embodied knowledge which, through mediated techno-scientific approaches, sustains a form of political agency. I draw this understanding from the thinking of Barad, as she discusses in *Meeting the Universe Halfway*, 2007, where she states that there is a relationality between the act of reconfiguring the world and material phenomena. In contrast with the episteme subject-object, Barad states: '[t]his causal relationship between the apparatuses of bodily production and the phenomena produced is one of agential intra-action' (Barad, 2007, p.139). From a posthuman feminist ethical positioning, Barad questions how the use of apparatuses challenges the nature of both subjects and objects. With this statement, Barad posits a parameter that explains subject-object relationships not as separate, fixed entities but as forms of bodily production bonded to the use of the apparatus in terms of 'intra-action'. According to Barad, 'intra-action' is an ethical concept that justifies the causal relationship between subject, object, and technology in reason of their mutual relationship, the capacity of acting and mutually intra-acting with each other within the production of relations and sustainable practices (ibid.). From these understandings, Barad defines the notion of agential practices as practices of bodily and technological mediation and material production. I propose that agential practices are also at the center of Saraceno's use of the model of the assemblage because his work questions the politics of technology to develop a system of connectivity that, in *163, 000 Light Years*, emerges from the intra-acting forces that underpin the relationship between light, the apparatus and the subject. This aspect is important for an understanding of the

¹⁰⁵ As posited by Haraway in "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," 1988, 'situated knowledge' as a strategy that allows one to assume an objective vision of the world despite the false perception of metaphysical constructs, and focus on vision as a localised and embodied form of knowledge, sustaining a critical, partial position for the possibilities of creating webs of connections (Haraway, 1988, pp.583).

non-anthropocentric vision of Saraceno that reflects not only on the subject-self-positioning but especially on the intra-action between human and non-human as a practice concerning of agency and connectivity. This positioning contrasts with the tradition of perspectivism and speculative reasoning and posits a form of knowledge derived from the artist's use of the assemblage as a system of intra-acting forces that emerge from this connectivity. I shall next examine in detail the models and the methods used by Saraceno for his configuring an agential practice of light.

Saraceno offers an insight into his reading of cosmic models. He states,

I conceive space as a tympanum, a membrane that allows you to listen because it vibrates. The universe could be a membrane, somehow close to what we have at the show: multiple layers of membranes vibrating, like one-dimensional, flat universes. If one layer touches another they make space and time collapse and form a black hole. String theoreticians have speculated that the Big Bang — the origin of our known cosmos — emerged from two gigantic membranes that crashed into one another, sparking the expansion of space and matter. (Saraceno, 2016, n.p.)

The tympanum is, for Saraceno, the figure that allows him to spatially visualize the cosmos as an assemblage that gathers together a system of heterogeneous forces not in reason of their physical, material presence but as a system of sensuous connectivity which, without a center, builds upon the effects of agencies in a chain of reactions and mutations. To provide an insight into how this model operates in Saraceno's work, it can be useful to draw a parallel with the metaphor of the tympanum discussed by Jacques Derrida in *Margins of Philosophy*, 1972, (Derrida, 1972/1982, p.xii) to describe the organon of philosophical thinking. In his essay, Derrida describes the tympanum as the supplement that allows one to frame the ontological domain of experience where events, subjects, and thinking emerge in a chain of difference and signification. According to Derrida, the tympanum is the supplement that allows the philosopher to open to 'another text, a weave of differences of forces without any present centre' (ibid., xxiii). The tympanum is thus a supplement which draws onto the overflows of these dis/continuities by using a system of reorganization of space that is without a center or chronological time, but where space is reorganized in reason of the 'nearness' and the proximity to an event perceived as a vibration (ibid.). In other terms, the image of the tympanum is a

spatial metaphor for visualizing how the structure of thinking, a thinking that without contents operates as a supplement in a chain of relations, associations, and vibrations.

Derrida's metaphor, I suggest, applies to a reading of Saraceno's reference to the image of the tympanum as the frame that allows him to experience the micro-macro cosmos as an assemblage. Similar to the organon of philosophical thinking, Saraceno suggests that the tympanum is the supplement that intercepts the structure of the cosmos not in reason of specific temporal and spatial locations, but because of a mutant morphology seen in junctures, modifications, relationalities, and impacts, all perceived as vibrations. In *163.000 Light Years*, this figure is epitomized by the artist's use of technology – e.g. both in relation to the photographic and astrophotographic equipment employed by the artist on his expedition as well as the connotation given to the use of projection apparatus in the filmic installation – in fact, these apparatuses are not employed to register an event in a specific space-time location, but they rather intend to evoke cosmic distances in terms of agency and connectivity. In fact, as an example, within the specific context of Saraceno's filmic installation, the viewer's experience is evoked only when in the proximity of the projection apparatus which modifies and amplifies sensory stimuli, suggesting the construction of a cosmic experience through the reverberation of light and sound in continuum.

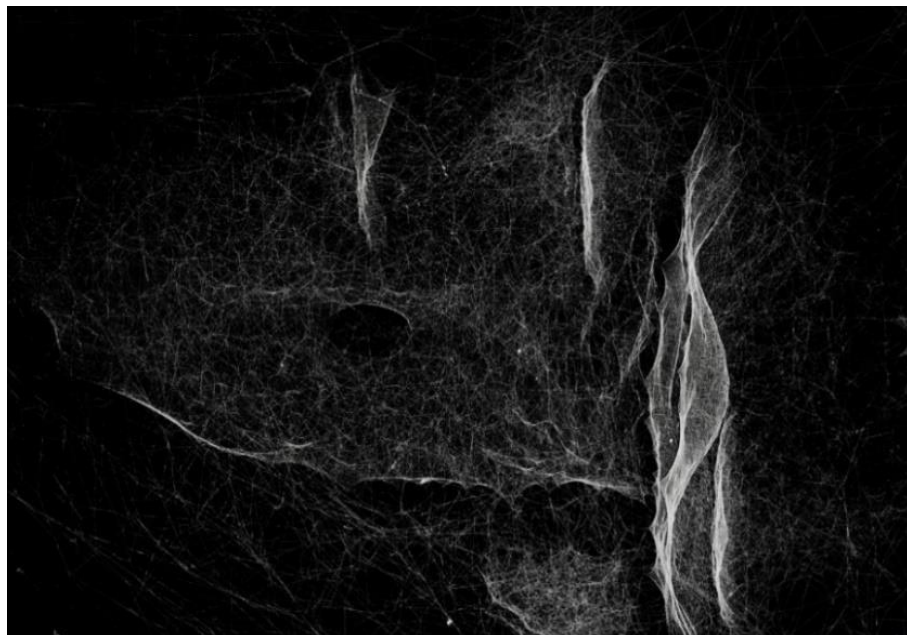


Figure 49. Tomas Saraceno, *163,000 Light Years*, 2016
detail of installation view, Museum de Monterrey.

This cosmic morphology is defined by the figure of a membrane which constitutes the projective screen of Saraceno's film (fig.49). As a form of visual spatialization, this frame configures a model derived from the Theory of the Membrane formulated by

physiologists Evert Gorter and François Grendel in 1920 and based on the study of microbiological and physiological cells (Heimburg, 2007). A membrane, according to Gorter and Grendel's discoveries, is a model that explains the evolution of universal forces and encapsulates their morphology as a chain of reactions and mutations. Related to the String Theory (Witten, 1995), the model of the membrane specifically explains the morphology of the universal forces (i.e. gravity, electromagnetism, strong and weak forces) by referring to the permeability of structures. In terms of metrics, a membrane designates a differential, relativistic geometry as that of knots, where the movement of one string or force can determine the entire system in a chain of connected reactions. Drawing from these observations, it must be noted how the morphology of the membrane supports the configuration of a cosmic frame which is not founded in formalism, neither in spatio- temporal locations, but in terms of junctures, mutations, relationalities, and agency.

Drawing from the model of this macrocosmic morphology, Saraceno simulates a microcosmic experience by employing a membrane as the frame for his filmic projection. This challenges the traditional use of the filmic medium being projected on a video-screen to suggest that a membrane is both a supplement and a morphology in evolution. In fact, as a filmic frame, the membrane is a reticular structure composed of carbon fibres, a material derived from crystals employed in astronomy because of its resistance to high temperature, and thus characterized by a mutable but sustainable morphology. Because of these structural and sensuous qualities, the membrane offers to Saraceno a sustainable model for cosmic configuration because it suggests ways to think about the cosmos in historicity and evolution. In this sense, through this model, Saraceno remarks that *163.000 Light Years* is not a representational or a reflexive image of the cosmos, but his images have the power to project into a lived and immersive experience by structuring systems of connectivity between sensuous materials, subjects, apparatuses, and morphologies in their encountering.

On the morphology of the membrane, Bruno Latour, in his commentary of Saraceno's work "On Space Time Foam," 2014, argues that the artist's recurrent use of the model of the membrane relates to a phenomenology of plasticity. Focusing on the functions of this 'composition', Latour defines the membrane as a plastic connector which resists mutable morphologies whilst building on the capacity of creating transformation and interaction through different degrees of resistance in the evolutionary time (Latour, 2013, n.p.). Latour's analysis of the model of the membrane foregrounds the qualities of resistance, plasticity, and connectivity of this model and these are useful in this analysis,

because they foreground Saraceno's contribution in rethinking formalist composition through the transformative, evolutionary, connective, impactful qualities of the model of the membrane.

From a sensuous viewpoint, Engelman proposes a reading of the membrane in Saraceno's work as the figuration of a pneumatic exchange of an economy of forces. According to Engelman, the artist's use of the membrane's model, makes evident the two-fold aspects of a micro-macro cosmic structure that opens to an interior and an exterior as a way of creating connectivity (Engelman, 2016, p.85). Engelman's reading makes explicit Saraceno's interest in configuring the frames of an experience of the cosmos that could be perceived as lived and drawing from this reference, we are allowed to assert that the membrane of *163.000 Light Years* acts as an infrastructural support, focusing on the power of relations, mutations, and connectivity mobilized by this work in the micro-macro cosmos. On a wider scale, it could be said that by using the model of the membrane not as a medium but as a sustainable support, Saraceno posits the conditions to experience a real, non-anthropocentric vision of the cosmos, suggesting a posthuman approach. The model of the membrane should be thus, be understood as an archetypal and a sustainable figure of cosmic investigation and, in this sense, *163.000 Light Years* must be perceived as an attempt to investigate the history of the cosmos in its evolution.

Projected onto the multi-layered membrane, the filmic image of *163.000 Light Years* becomes the surface that holds together the trace of cosmic events in their evolutionary time and is actualized by the projected beam of light. I argue that the surface of Saraceno's film is the result of an agential practice, or the production of a hauntological and sensuous investigation of the cosmos. In philosophical terms, 'hauntology' designates a method of analysis derived from the deconstruction of the binary categories of 'materiality' and 'spirit', to define ways of registering forces in terms of difference, spectrality, and discontinuity as posited by Jacques Derrida in *Spectres of Marx*, 1993 (Derrida, 1993, p.161). Whilst in a wider context, it has been assumed as a framework of investigation of forces as energies in postmodern visual culture (Buse, Scott, 1999), in the context of cosmology and social sciences, it has been discussed by Karen Barad, in the essay "Quantum Entanglement and Hauntological Relations of Inheritance," 2010, wherein it defines a system of configuration of cosmic experience with no specific object, but to the scattering of events and relations in time (Barad, 2010, p.185). In terms of metric analysis as I shall later discuss, Barad adds, hauntology is used to register spectral forces between distant events in space-time and subjects, focusing especially on the

capturing of an event in its moment of interrelations (ibid.). This means to measure not the exact point where events occur in space-time, but where events impact and have their effects (ibid.). Resonating with Derrida's philosophical account, Barad suggests that hauntology is a useful method for investigating and measuring the effects and the impact of cosmic event in terms of human and non-human relationships.

In this analysis, I shall next, use 'hauntology' to examine the cosmic, atmospheric, and sensuous dimension of *163.000 Light Years*, to foreground the agential function of such a practice. In fact, I suggest that hauntology allows to conceive this filmic projection as the configuration of a chain of multiple actions and reactions that occurred between galaxies in the past and whose effects reverberate within macro-micro cosmic regions of experience until the present time. In this view, it is evident how the surface of Saraceno's filmic image is not a representation, copy, or replica, but is the actual place where cosmic events, despite their distance and indeterminacy, are perceived as lived. Their points of localization are not fixed or registered in space-time, but they are subject to collisions, mutations, effects, and impacts, in ways that suggest a connectivity. Through hauntology, I argue, we are allowed to think that the material that supports this connectivity is light, the light which in reason of its wave function, travels across the micro-macro cosmos in a quantum state by connecting and impacting astronomical distances between the space-time continuum and the experience of projected light in Saraceno's installation.

In support of this argument, I state that 'hauntology' contributes to a metric analysis of light travelling at astronomical distances because, in Barad's words, this is a useful method for mapping, recording, manipulating, and redistributing intensities in a system of interrelation and discontinuity (Barad, 2010, p.244). This method informs a reading of the filmic image as if unfolding as a chain of actions and reactions suggested by the spiraling movements of the galaxies, the movement of the bending of light in the curve of space-time, and the actual manifestation of light in the atmosphere as the artist recorded on site, further reproduced in the gallery's environment. In this regard, Saraceno himself refers to *163.000 Light Years* as the filmic image of the macro-micro cosmos that visualizes a compact light in a compressed time (Saraceno, 2016, n.p.). Especially, compressed time suggests here a synthetic function for the visualization of a distant time split between past and present events, yet indeterminate in terms of localization. On the other hand, compact light indicates, the diagrammatic representation of a system of intensities, luminosities, waves, and fluorescence, registering the incommensurability of cosmic light. Both these adjectives suggest here a system of

measuring, re-patterning, and configuring events through a differential geometry that visualizes, record, and manipulate collected data in cosmic space through a micro-macro scale of measurement informed by an artificial model of configuration. From an ethical point of view, it is important to recognize that these practices are not invasive, but they are rather topological. In a wider view, it could be said that Saraceno uses 'hauntology' to reconfigure the action of cosmic light travelling in a quantum state from astronomical distances to reach the human experience as shown in the filmic image.

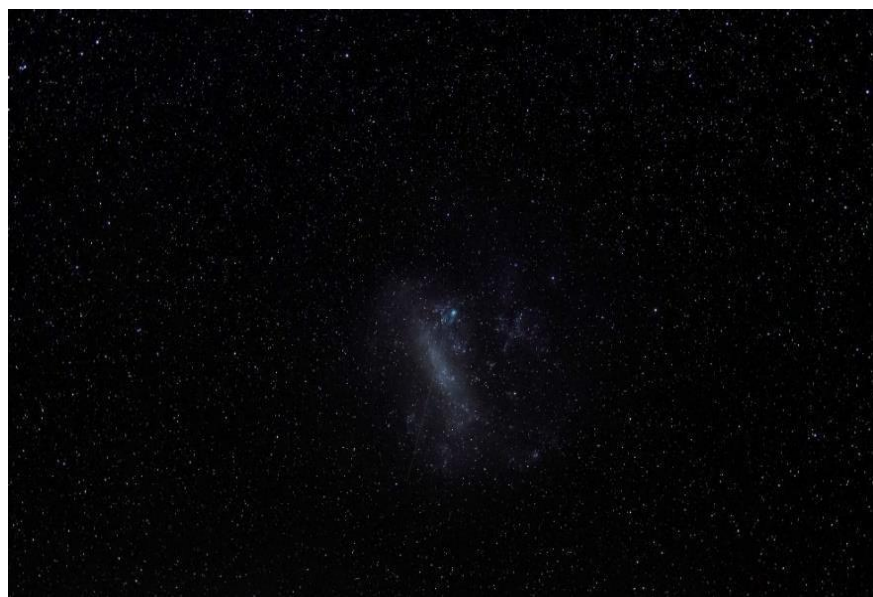


Figure 50. Tomas Saraceno, *163.000 Light Years*, 2016
Photograph,
Museum de Monterrey.

Figuratively, *163.000 Light Years*, I suggest, is the actualization of a crystal image, an image fragmented into multiple temporalities, dis/continuities and dimensions, all sedimented in a surface.¹⁰⁶ In fact, the filmic image results from a collection of cosmological views as perceived by the artist at the lake of Uyuni between 2004 and 2016, where all dimensionalities are compressed in a long-exposure timelapse and perceived by the viewer as if in a state of living within the interiors of a horizon (fig.50). Time, Saraceno suggests, does not act at a distance but it is split into different events all perceived simultaneously as lived and one dimensional (Saraceno, 2016, n.p.). This is an important feature of the work because, I argue, within this experiential dimension, light is figured as the intra-acting force that connects multiple events located at different points

¹⁰⁶ References to the 'crystal image' can be drawn from the philosophical account of Gilles Deleuze who in *Cinema 1*, describes this image of thought as the expression of becoming to states of the perpetual foundation of time (Deleuze, 1983/1997, p.79). This reference helps to analyze the filmic image of Saraceno's *163.000 Light Years* through the identity of energy/time=light/matter which actualizes as the flow of a system of connectivity.

of localization and actualized by the beam of projected light acting onto the filmic surface and establishing a continuum.

To explain how the beam of projected light actualizes a continuum, it is useful to refer to Engelman's use of the verb 'surfacing', a verb used for describing the act and the effects of travelling in space-time. Engelman explains the act of surfacing as a technique of registering the invisible yet sensuous matter of air for example, because this element is not representable by a fixed geometry but by an action. Engelman states that surfacing is the state where, 'everything is overlayed and passing through each other' (Engelman, 2014, p.213), a movement and a sense of connectivity, overlapping with the time in which light travels from these very distant objects (ibid., 211). Engelman's reading of the action of surfacing is here useful because it provides an understanding of Saraceno's configuring of an image of light travelling in space-time not as a neutral medium, but as an intra-acting force, an agency that holds together dis/continuities, mutations, relations, actions and reactions, tensions, and forces as a system of connectivity. Further in this context, the act of surfacing is useful to explain the transfer that occurs between the membrane support and the surface of the filmic image, a transfer that supports the argument according to which *163.000 Light Years* is an action image, the actualization of the effects of cosmic light on a macro-micro scale. Drawing from this agential practice, I shall next discuss the implications of thinking about light as an intra- acting agency in the continuum through a reading of Quantum Theory.

In *Meeting the Universe Halfway*, 2007, Karen Barad proposes a quantum reading of the image of a surface and discusses its geometry in terms of metrics, arguing that a surface is the result of the effects of the wave motion of light (Barad, 2007, p.153). Barad states: 'the surface makes the wave behaviour of light explicit' in terms of differences, interferences, actions which all designate a dynamic, complex articulation (ibid., 81). Her statement suggests that a surface is a particular topological place which holds together waves and particles in systems of dis/continuities, differences, effects, all intra-acting through time-space. Beyond the macro-micro divide, the image of the surface in other words, is the frame that captures the differences, dis/continuities, movements of light travelling as a wave in space-time, and whilst interweaving these forces in their evolution, it shows their effects. Barad's reading of the image of the surface is useful to an analysis of *163.000 Light Years* because similarly, Saraceno conceives his filmic image not as a visual field, but as a topology where cosmic light and artificial light meets on the same immanent, yet actual planes. In fact, the filmic image is the place where events, junctures,

movements, surface with their effects, and supporting a topology of knots, the image is the place where light itself acts as an impression and an effect with the continuum of time. On a wider view, this filmic surface foregrounds the intra-action that exists between the events that occur in the cosmos and this intra-action, I argue, makes explicit the phenomenon of the entanglement of light.

In her reading of Niels Bohr's quantum postulate on the phenomenon of the entanglement of light, Karen Barad foregrounds how this phenomenon testifies the essential indivisibility of atomic phenomena in ways that regards agency (Bohr, 1928). Barad states,

I will argue that matter itself entails entanglements – that this is its very nature. By 'entanglement' I don't mean just any old kind of connection, interweaving, or enmeshment in a complicated situation. Crucially, my use of this term goes to the agential realist ontology that I propose with all its requisite refiguring of causality, materiality, agency, dynamics, and topological reconfiguring. (Barad, 2007, p.160)

Drawing from the quantum postulate on the inseparability of the wave-particle functions of light, Barad asserts that the phenomenon of the entanglement of light contradicts the foundations of representation to foreground the principle of connectivity through agency. In fact, according to Barad, to state that between waves and particles, subjects and objects, there is no inherent division, means to reject the metaphysical meaning of causality to contemplate indeterminacy. Similarly, it means to reject the classical dualisms, to put forward an un understanding of matter as a process of un/differentiated relations in a process of undoing and intra-action as seen in the phenomenon of the wave of light travelling through dis/continuities and perceived as a difference or an effect of intra-acting forces. In addition, Barad adds, this means to reconfigure time, motion, and topology, in terms of inseparability, intra-action, agency. Thus, all these observations, Barad states, support an ethico-onto-epistemological paradigm that challenges the ways of thinking representation, signification, epistemology, into a doing, a practice concerned with the ways of re-patterning and reconfiguring differences in sustainable terms.

The agential realist ontology of Barad's theory is at the center of Saraceno's practice because similarly, the artist rejects representation and proposes a system for re-patterning and re-configuring light as a lived experience to be immersed with. In so

doing, his filmic investigation explores the phenomenon of entanglement of light because, his work deals with the effects of waves of light travelling through dis/continuities, differences, indeterminacies, in space-time in the cosmos and actualizing as an entanglement through the beam of artificial light projected onto the filmic surface. In this sense, I state that the surface of *163.000 Light Years* is the place that makes evident the phenomenon of the entanglement of light acting within the macro and the micro cosmos, a phenomenon perceived as an effect at a distance, yet indivisible from human experience.

How is this phenomenon experienced by the viewer? According to Barad, surfaces are images of interaction between space-time and bodies, holding together the construction of the trace of an event and possible interconnections (Barad, 2010, p.432) and similarly Saraceno extends with the possibility of interaction and connectivity by figuring a triangulation between the filmic image, the apparatus projecting a beam of light, and the viewer's inhabiting the space of the installation. In particular, experience is actualized when the viewer is in the proximity of the projector apparatus which amplifies perception by suggesting an affective, performative and agential process of recollection on a cosmic scale. This strategy subverts the register of representation and makes the surface of *163.000 Light Years* into the configuration of a cosmic dwelling, a way of being in the interior of a cosmic model, similar to the experience of 'walking in the Cosmos', as Saraceno commented (Saraceno, 2016, n.p.). Further, this turning of perspective into an action makes the viewer experience the effects of light travelling as a wave in the cosmos and acting in a one-dimensional duration in the continuum. All these reconfigurations support here an understanding of light as an affective movement that moves towards the continuum, soliciting a live experience in the viewer. It becomes thus, evident how *163.000 Light Years* provides with a qualitative differentiation for thinking about light as the sensuous connectivity of a natureculture continuum.

Which effects can be perceived and produced from this encountering between cosmic light, humans, and non-humans? On a wider viewer, *163.000 Light Years* is the surface where two subjects and two realities become in contact and by drawing on these findings, I suggest that this is not a neutral operation, but a practice concerned with the principles of intra-action and agency. In the film, light acts as a flow, an astronomical force, establishing a continuum that is not fixed, but is a continuum of dis/continuities, or, in Barad's words, a mode of subjective becoming, a way of becoming imperceptible in relation to the 'open-ended becoming of the world' (Barad, 2012, p.4). It must be noted

however, how the film establishes a particular form of continuum which is not a representational or mechanical, but is a quantum investigation derived from practices of undoing, re-patterning, and reconfiguring of cosmic events. In fact, to justify this proposition, one can observe how in the work, the beam of projected light is not a homogenous beam, but when reaching the filmic surface, light diffracts into a disc/continuity of events, collisions, junctures and experientially, this suggests a different mode of re-organizing perception, not in terms of visual responses, but through affect, movement, and agency.

Diffraction, as also discussed in Section 5.2, is a phenomenon that contrasts with the representation of reflexivity to deal instead, with the effects of the wave behaviour of light and the practice of re-patterning differences. According to Barad's reading of this phenomenon, diffraction is a phenomenon that defines the action of light dispersed in a state of multiplicity, making explicit how matter is ultimately constituted of entangled relations (Barad, 2007, p. 153). All these observations are here useful to discuss how the experience of staring at the surface of *163.000 Light Years* is not a visual experience, but a diffracted, dis/continuous recollection. By soliciting this experience, the artist makes explicit entanglements of relations and the immanent condition of light acting in the world. From analysis of the surface, the entanglement, and the diffraction of light, I argue that *163.000 Light Years* configures a continuum of light that repositions this subject in the cosmos to reflect on the self as an intra-acting agency between human and non-human subjects and contexts. Through his practice of light, Saraceno presents a model of the natureculture continuum as a system of hauntological and ethical relations.

Saraceno explains the film *163.000 Light Years* as a synthetic experience created by light and sound components and describes it as the reverberation of a continuum. We must note that 'reverberation' defines a phenomenon that applies to both light and sound because it deals with the phenomenon of reflection of waves. In this work in fact, this can be seen both in the affective movements of light travelling in the space-time continuum and by analogy, in the perception of the waves of a sound recorded on site and emanating from the past. Drawing from these observations also in line with a discussion of the image of the tympanum, it could be said that the register of waves of light and sound in Saraceno's work, configure a filmic experience as a reverberation of a natureculture continuum.

In a wider view, this is an important consideration because it supports new understandings of light over the domain of representation. I draw this proposition from

the thinking of the philosopher and cultural theorist Peter Sloterdijk who, in the essay “Light and Illumination,” 1994, proposes a philosophical account of modern photology by addressing a postmodern view of both the subjects of light and human subjectivity. According to Sloterdijk, the postmodern twilight has made evident an image of light which no longer ‘shines and makes possible to see, rather the light that lives, the light that cheers and heals’ (Sloterdijk, 1994, p.23). Sloterdijk’s argument finds a correspondence in Saraceno’s image because, I read, after ‘the death of the subject’ of postmodernity, light becomes the light of immanence and conscious existence, ‘the non-abyss zone of the light-dark difference’ (ibid.). In Sloterdijk’s words, it could be said that *163.000 Light Years* addresses a new sensibility wherein ‘an audio-visual “eye” is open to the state of being’ (ibid.), a sensibility figuring an affective, sonorous, and agential image by connecting past and present experiences.

The continuum of *163.000 Light Years* confronts and connects multiple subjects, both humans and non-humans. But ultimately, this divide is reconciled by the artist’s invitation to think about the self as ‘more than human’ (Saraceno, 2016, n.p.) which means to build upon the principle of connectivity to think about the immanent condition of the cosmos where light, entities, the self, all sit on the same plane of existence. I relate Saraceno’s words to Barad’s argument similarly proposing a way of thinking about the immanent condition of the self through the ontological paradigm of the entanglement of light which states the indivisibility between energy and matter in the cosmos. The implications of such understandings, in Barad’s words, are seen in a perception of historicity that refuses linearity to take into account the importance of agency in a continuous process of reconstruction of narratives (Barad, 2010, p.432). Similarly with *163.000 Light Years*, Saraceno offers us a way of thinking about an image of the past in reason of its evolution and effects on the present time, creating the conditions for thinking about models for ecological and cosmological ethics. *163.000 Light Years* turns the image of light travelling in the space-time continuum into a force that creates exchangeability and connectivity, and these features suggest a reading of the sustainable, agential, ethical, and political implications of the artist’s practice. These considerations offer useful tools to reflect on the immanent nature of light whilst thinking about the effects of light in the cosmos, and for thinking about strategies of posthuman agency in the evolutionary time of natureculture.

6.3. An Ethics of NatureCulture

This chapter has examined the image of light in a continuum through an analysis of the works *2em006II* by Magdalena Fernandez and *163.000 Light Years* by Tomas Saraceno, which I have analyzed from a feminist posthuman position drawn from the thinking of Donna Haraway (2003, 2008), Rosi Braidotti (2006) and Karen Barad (2007). Whilst suggesting an immanent condition for light, I focus on a discussion of the dynamics of light in nature and cosmology through a non-anthropocentric positioning which lead to a questioning of human and non-human actions. Fernandez' and Saraceno's practices, I have argued, posit significant arguments for rethinking the relationship between nature and abstraction, nature and the cosmos, as entangled, interconnected relationship in ways that imply an understanding of human and non-human agency, and next, in defense of this proposition I intend to discuss a number of ethical considerations.

Both Fernandez and Saraceno's practices contribute to deploy a non-anthropocentric approach to light, an approach which reflects an ethical positioning because it questions the relationship between light, forces and entities, and human subjectivity in terms of connectivity whilst tackling on the relationship between subjectivity and technology in terms of agency. In particular, in an analysis of Fernandez's mobile painting *2em006II*, I have addressed a feminist ecological position that deconstructs the geometry of light from within by exploring the inherent qualities of light in support of a sustainable model for becoming and connectivity. By extending the dimensionalities of abstract painting, Fernandez defines an ecological constituent order of configuration, an unstable equilibrium that reflects not only an ethics of belonging in relation to light and nature, but more significantly it solicits a form of agency that is potent and sustainable. In the analysis of Saraceno's film *163.000 Light Years*, I have discussed how the artist's use of the model of the assemblage reflects into a posthuman ethics, a way of thinking about the relation between light, humans, and technology in terms of evolutionary and sustainable practice. Saraceno's work builds upon a set of agential strategies to assemble a continuum of interconnections between light, human, non-human actions, and the environment. Drawing from these artists' contributions, the non-anthropocentric positioning of their practices, I argue, is a shift of perspective from systems of representation in favour of configuring and sustainable practices. In particular, I have discussed how this ethical positioning reflects a method of investigation concerned with the rethinking of the categories of structural configuration, materiality, dynamics,

metrics, topology to build upon the principles of connectivity and agency. On a wider context, these methods inform a practice of light which crosses the boundaries between arts, science, and social science.

The principle of agency is crucial to this investigation and connotes here an understanding of an ethics of light by bridging contents and practices. In fact, as the immediate response to the feeling of ethical responsibility, agency designates the human preoccupation for reconfiguring light in the evolutionary time of the cosmos through sustainable practices and procedures. In particular, the notion of 'agency' allows us to turn dichotomies, divisions, and separations into a method of reconfiguring subject-object relationships. In this regard, drawing from the posthuman thinking of Karen Barad, I have discussed the ethico-onto-epistemic principle of 'intra-action' as a principle concerned with the heterogeneous and interconnected relations of entities in the cosmos (Barad, 2007, p.364). In particular, I have discussed agency as the ethical choice resulting from a questioning of the disc/continuous, indeterminate, multiple nature of events in the cosmos in relation to human experience. Thus, in this study, I have argued that the principle of 'intra-action', seen in the vibrant qualities of Fernandez's mobile painting and in the surfacing effects of Saraceno's filmic image, turns the system of representation of light into an ethical questioning concerned with action as a process of knowledge production and formation.

Agency further supports an experience of light as a form of embodied knowledge in action. In fact, in an analysis of the mobile painting *2em006II*, I have discussed how Fernandez's radical geometry solicits a feeling of deep ecology, an immersion into light and nature to be traversed by the viewer and perceived as a vibration. In so doing, *2em006II*, suggests an experience of the incorporeal, a way of living in intensity that implies the affirmation of an ethical responsibility towards the structuring of a sustainable becoming. From a cosmological viewpoint, the analysis of the filmic installation *163.000 Light Years*, has discussed the importance of the apparatus in processes of bodily production in ways that determine forms of embodied knowledge derived from the perception of thinking about the entangled nature of light in the cosmos. Drawing from considerations of these affective experiences translating into agential practices, it is important to remark how in line with Barad's argument on the ethico-onto-epistemological function of agential practices (Barad, 2007), both *2em006II* and *163.000 Light Years* posit an episteme that builds upon the intra-acting force of light, subject–

object's relations, and the apparatus through the language of mathematics and technosciences.

Ultimately, this analysis is useful to address an immanent model of light and this proposition can be drawn from my analysis of the image of the surface. In particular, I have discussed how *2em006II* situates a surface of light between nature and abstraction to visualize the effects of light behaving as an intra-acting force in a radical geometry seen as a system of connectivity. In an analysis of the film *163.000 Light Years*, I have discussed the geometry of the surface as the site where hauntological events unfold, reverberating with the effects of light between macro-micro regions in a continuum. In these terms, the image of the surface of light is an image of affect, waves, becoming, and connectivity. It vibrates with an immanent order of composition as an image of the natureculture and resonates with a new sensibility and the affirmation of an ethics of sustainable practices.

Chapter 7. Conclusions

This thesis addresses an ethics of light in response to the emergence of a new sensibility shown in artistic practices. It posits an ethical turn that reflects the positioning of a feminist investigation of light in ways that contributes to drawing a trajectory for thinking about light as an affect and a sensuous material. In so doing, this research proposes a set of values and norms that informs practices of light.

As a critical and constructive framework, ethics provides useful methods and strategies in response to the research question: ‘how it is possible to rethink the subject of light distinct from the traditional system of representation and signification founded in metaphysical constructs and the idea of subjectivity?’ The methodology of this research discusses the limits of systems of representation of light in metaphysical thinking and provides instead a framework for analysis that draws at the intersection of arts, philosophy, and techno-sciences, to posit the experiential and material state of light. This has determined the use of the epistemological bond of subject–object’s relations from a feminist viewpoint because this parameter enables to extend the field of investigation of practices of light by contemplating subjects omitted from the discourses as seen in the bond established between light, feminist practices, human and non-human subjects. I have supported this claim by drawing onto feminist, posthuman and new materialist literature.

However, the fundamental premises of a materialist approach to light, were drawn from the debate on photology and particularly theories of Thermodynamics, Electromagnetism, Relativity and Quantum physics, which all propose an understanding of light in terms of physical energy. These were examined through the critique of the metaphysical tenets of representation and signification posited by poststructuralist and postmodern schools of thought which provide theoretical grounding for an understanding of the ontological stance of experience as well as for rethinking the foundations of epistemology in terms of practice.

This research sets the premises of an ethics of light in response to the research question: ‘Which principles can be drawn from an understanding of light in relation to experience, subjectivity and technology?’ Through an historical analysis of the artists’ use of light in the contexts of light-art, Minimalism, Conceptual art and Light&Space movements, the review has demonstrated how these practices implemented techno-

scientific models of investigation provided new systems of configuration of light which here suggested an ethical questioning of the relationship between light, subjectivity, and technology. Through an historical analysis of the work of artists Moholy-Nagy, Otto Piene, Gianni Colombo, Group de Recherche d'Art Visuel, Dan Flavin, Joseph Kosuth and James Turrell, this thesis has engaged with the critical debate on the genre of light-art posed in the 1960s. However, drawing from these findings the research has marked a distinction between a first and a second phase of practices of light, arguing that from the 1990s, artists have begun to be concerned with post-media, new media, and digital practices that extended the experiential dimension of light.

In the timeframe 1996–2016, this research proposes an understanding for the emergence of a class of practices of light that responds to these conditions and the research has here posited an ethical turn. An ethics of light emerges in the work of artists Mary Kelly, Grazia Toderi, Rosa Barba, Ann Veronica Janssens, United Visual Artists, Magdalena Fernandez, and Tomas Saraceno because, by focusing on the triangulation between light, practice, and experience, their work contribute to an affective, dialectical, and immanent understanding of light.

In answering the question: 'How does this advanced use of light affect perception, experience and knowledge?', an ethics contributes to a politics of affect and agency. In fact, by addressing the principles of affect, action, agency, this research has discussed forms of embodied knowledge and forms of engagement, focusing on phenomena of interaction and connectivity. Through ethics, I have discussed how these connotations are values and normative practices embedded within the artistic experience.

Through these propositions, this thesis has demonstrated that the ethical turn of practices of light contributes to explore two entangled territories of investigation: one related to the entangled nature of light; a second concerning human, non-human, posthuman and non-anthropocentric positioning, and this posits a micro-macro model of investigation that is useful to an understanding of natureculture.

Regarding the ethical positioning of this research, I have deployed an understanding of light from the point of view of ethical subjects traditionally excluded from the artistic discourse of light, such as women artists. Not limited to this positioning, I have demonstrated how a feminist ethical positioning contributes to an understanding of light as a system of relations and connectivity. I have stressed how it is important to deploy a feminist ethical position on the subject of light, because it addresses a perspective

to the existing debate on the relationship between light, humans and technologies, emphasizing the experiential, emotional and relational aspects of practices of light as values that contribute to a critical understanding of light in visual art.

This research has made an original contribution to knowledge by positing an ethical investigation in relation to practices of light. It has addressed a feminist ethical investigation of the subject of light and this has been particularly useful to discuss the legacy of women's approaches to light. In so doing, it has posited a territory that reveals an affective, experiential, and material use of light in relation to artworks. In this regard, this research contributes to an understanding of the affective turn of practices of light in terms of emotion, embodiment, and agency. In a wider perspective, an ethics of light enables an understanding of the functions of communication, information, transmissibility, and engagement of light, which all define the light's power quality of relations. Through an understanding of the ethical turn of practices of light, this thesis has provided the basis for thinking about light as a principle and a potency for relations and forms of connectivity. An ethics of light argues that light has the capacity of reconducting to an ethics of belonging, existence and coexistence whilst supporting the construction of systems of relations and connectivity. This is an important aspect for an understanding of the experiential dimension of artistic practices, but it is also useful to social practices, because it offers a system for questioning the impact of light, practices, and technologies in cultural and social contexts.

Whilst acknowledging the limitations of this research regarding the choice of artworks examined, I further reflect on the potentiality of an artistic frontier of investigation that deals with the subject of light the intersection of science, technology and arts as suggested by discoveries in the fields of photology, photonics, quantum theories and optics. These considerations suggest further research that reflects on how ethics can support the strategic alliance between art and science.

Retracing a genealogy of feminist thinking on the subject of light, this research has assumed and maintained a feminist ethical positioning. This positioning explains why I only marginally contemplated the literature on the practice of light as the manifestation of innovative technologies and new media. In the line of this ethical positioning, the methods and the parameters of this analysis can inform the debate on a politics of light and light-based practices because they offer a scale of measurement for questioning the relationship between light and the use of advanced technology from a human and non-human perspective. Through the notion of an ethical turn of practices of light, this

research marks a critical point that suggests an orientation for further research in the field of light-based technologies and artistic practices. This field also indicates the context for potential applications in parallel to the field of curatorial studies, investigating the relationship between an ethics and a politics of light.

Ultimately, I have made a case for an understanding of ethics in artistic discourse. Whilst suggesting that ethics is a useful system of analysis since it provides critical and constructive strategies for an understanding of practices that particularly privilege an essential, experiential, and immaterial understanding of the values and the norms of the arts.

Appendix A

Grazia Toderi – *Extract from Conversation* 2nd June 2016 (Translation from Italian)

S.B. By rethinking the traditional categories of form and matter, in your work, would you define light as a material? If so, which qualities would you attribute to light?

G.T. I cannot forget that if we speak of "image", visible or invisible, mental, or physical, light is always 'prima materia'.

I know it's trivial, but the relationship between light-eye-brain is "image".

Its appearing and disappearing marks our days and our time; its travelling is a unit of time; its disappearance in black (and totally in a black hole) is a mystery; its relationship with space and time is fundamental.

These are things that we are gradually learning over the centuries ... I read physics books, I try in vain to understand, but above all not to forget that the universe is still to be discovered.

S.B. How do you think the relationship between materiality, light and technology? How do you articulate them in your work?

G.T. Materials and colours react differently to light, the brain, the eye. This is the history of art and all visual works.

In my works, light is both subject and matter.

And this mysterious matter is in my work from the beginning to the end, from its appearing and disappearing:

- my eye perceives a light that comes from far away, from the stars or from the cities.
- a lens captures it and a machine records it
- a cable transfers the memory of this light to my computer
- a screen shows it again.
- a program allows me to process it.
- a disk hides it and stores it.
- a reader reproduces it.
- a projector projects it.
- The eye sees it again projected on a wall ...

So that a point of light has gone through cables, machines, readers, surfaces, eyes, brains ... and at the end of all this journey a point of light has always remained a point of light? or what transformation has it undergone?

Appendix B

Magdalena Fernandez – Extract from Conversation 14th August 2017 (Translation from Spanish)

S.B. I would be interested in knowing more about your approach to light

M.F. Form, Organic Form, Metamorphosis. Light has always been fundamental.

There are things that are repeated such as light, water. I am interested in instability, in the unstable equilibrium, those that can break and change. In my last work, I try to explore a pictorial side that I have never had. How to talk about sound through a pictorial thing.

...

(In the work exhibited at MOCA Pacific Design) Every animal is like a grid of dots of light. For me it is an image of animals waking up at sunrise and the sum of their light becomes the light of the day. I see animals as grids and the sum of light. For me, the sum of light is made by animal grids. For me, it is like seeing the sum of consciousness, as if they were energetic things, like a knit of light. It is like the sum of consciousness and light which brings light into the earth.

...

Another idea is to look at how light moves through the water, forming light's grid that break, connected

to each. Things that have been lost. I think I talk about light because I want to talk about nature.

S.B. Could you talk about the method you are employing in your practice

M.F. It's not a premeditated thing, it's not something that I have already in mind. If there is one thing I add to the discourse on abstraction, it is the dialogue with primary elements in nature. This is a thing that has always been there, almost unknown, and over time it has become more present for me.

I don't use abstraction to eliminate our essence, but I use abstraction as a methodology. To force nature into abstraction means to take away from its contingent value. It is not something that I have premeditated in my mind, but it is a thing that comes by assembling and sewing.

Appendix C

Table 2. Summary the findings of the research through the framework of an 'ethics of light'. Adopted from Karen Barad's table on the difference between reflective and diffractive methodologies (Barad, 2007, pp. 89-90).

Metaphysics Representation and Signification	Ethics Practice and Experience
Light as a medium a vexed bond: light as a metaphor for vision, optics, truth transcendentalism (metaphor) Binary categories: representation, signification objects at a distance Separation between subject and object domain of vision principle of identity (sameness) The work of art as an object words and things reflexivity separation Regime of optics binary opposition: visible, invisible Regime of logos reflexivity, sameness, theory and practice System of signification signifier and signified	Light as an event a new materialist approach to light (energy-matter) a different trajectory (from light to matter) Entangled ontology: light, ontology, ethics, epistemology ethics, practice Subject-object's relationship (not fixed) female positioning and multiple subjects system of power's relations The work of art as an event the fabric of production: configuring practices experience as a field of artistic investigation connectivity Emotional and embodied experience affect, sensations Ethical principles affect, action, agency Material discursive practices semiotics, extra-textual references, ethos

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