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ABSTRACT

My thesis focuses on the perceptive afflictions caused by alteration of the normal biological functioning of sight and memory. These afflictions are related to the redefinition and disgregation of the classical and postclassical cinematographic characters, and affect cinematographic language, establishing a dialectical relation with the filmic image that contaminates our spectatorial perception.

In the first chapter I propose a different reading of a few moments in film history, turning points in which a modification of the ordinary sensorial patterns has been introduced. From the German Expressionism to the late authorial experiments of the 60s, there is a sort of hidden history of film that passes through the continuous redefinition of the audience sensory activity. The different perspective upon broadly studied topics leads to the analysis of contemporary cinema: my thesis tries to investigate the reasons that led cinema to continually increase the representation of perceptive afflictions during the last years, and theses “affected” narratives of afflictions and dysfunctions have interesting effects upon so called “normal” perception of the reality surrounding us.

The chapters 2 and 3 respectively analyze memory disorders and different dysfunctions of sight: these elements determine alterations in the ‘normal’ and ‘sensory’ perception of reality. They work as narrative factors changing the visual filmic instruments and redefining the role of the subject (and his/her uncertain definition of identity) in contemporary narratives that show how new technologies are profoundly transforming (and enhancing) the perceptive mechanisms involved in our spectatorial activity.

In this work I analyze those films that are mostly committed to a clear and readable narration. My study primarily concentrates on American cinema of the last 30 years – with particular attention to popular Hollywood productions – because Hollywood has become the privileged ‘laboratory’ for the negotiation of gaze and images in the contemporary mediascape (while during the classical era experimental and avant-garde cinema were the “place” in which audience experienced the most important redefinitions of the boundaries between different types of mediated perception).

**PERCEIVING VOIDS:
MEMORY AND SIGHT AFFLICTIONS IN CONTEMPORARY CINEMA**

By

Francesco Paolo MARINEO

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Relevant scientific seminars and conferences were regularly attended at which work was often presented; external institutions were visited for consultation purposes and several papers prepared for publication.

Presentation and Conferences Attended:

2011

- *Fringe, fringe science and the evolution of human mind, the disappearance of the Self and the multiplication of realities*

Paper presented at the International conference "Consciousness Reframed: Presence in the Mindfield", Centro Cultural de Belém, Lisbon, Portugal

- *Sight, Blindness, Hallucination. New Boundaries of Sight in Contemporary Cinema*

Paper presented at the International conference "Epistemology and physiology of cinema", University of Pisa

—
- Teacher at the seminar "Économie du cinéma", Réseau/Netzwerk Cinema-CH, University of Lugano (CH)

- Teacher at the seminars *Redacted e il cinema transmediale* and *Fisiologia del cinema contemporaneo* . University IULM, Milan

2010

- *L'illusione della testimonianza. La fotografia, il cinema, il falso*

Paper presented at the International conference "Forms and models. Photography as method of knowledge", University of Messina - Noto (october)

- Professor at NABA- Nuova Accademia di Belle Arti Milan: Seminar *Cinema and the representation of realities* (Media Design)

- Teacher at the seminar *Truth and fiction: hybrid narrative objects in contemporary cinema*- University IULM, Milan

2009

- *Non-Identified Narrative Objects*

Paper presented at the International Symposium "New Media Art Education & Research 2009", FORMA, Milano

Professor at NABA- Nuova Accademia di Belle Arti Milan: Seminar *Memory afflictions, Blindness and the Logics of Control* (Media Design)

2008

- *False remembering, impossible vision: déjà vu and contemporary cinema*

Paper presented at the International Conference "Consciousness Reframed 9 – New Realities : Being Syncretic", University of Applied Arts, Wien, Austria

- *Cinema and New Media. Educational Perspectives*

Paper presented at the International Symposium "New Media Art Education & Research", FORMA, Milano

Teacher at the seminar *Cinema, War, and Torture: Redacted by Brian De Palma* - - University IULM, Milan

2007

- *INLAND EMPIRE and the Perception of the Forces: Against the Figuration*

Paper presented at the International Conference "Researching the Future: Aspects of Art and Technoethics", Museo Pecci, Prato

2006

- *Lost in Solaris*

Paper presented at the Symposium "L'innovazione della rappresentazione. Solaris, dal teatro-pensiero al display artistico" Teatro Litta, Milan,

- *Invisibile Visual Effects*

Paper presented at the International conference "Researching the Future: Art and Design in Transmodal Transition", NABA Nuova Accademia Belle Arti, Milano

Publications (or presentation of other forms of creative and performing work):

Essays in collective works:

2012

- *Pietro e gli altri*

in "Nella solitudine dello sguardo. Il cinema di Daniele Gaglianone", edited by Franco Prono, Bonanno Editore

2011

- *Saving Private Ryan e Titanic*

in "Directory of World Cinema: American Hollywood", edited by Lincoln Geraghty, Intellect Books (Bristol, UK)

2010

- *Sguardo ibridato, coscienza artificiale*

in "Filosofie di *Avatar*. Immaginari, soggettività, politiche", edited by Antonio Caronia and Antonio Tursi, Mimesis

- *Le città post apocalittiche*

in "MMX. Architettura zona critica", edited by Marco Biraghi, Gabriella Lo Ricco and Silvia Micheli, Zandonai

2009

- *False Remembering, Impossibile Vision: Déjà Vu and Contemporary Cinema*

in "New Realities: Being Syncretic", edited by Ascott/Bast/Fiel/Jahrmann/Schnell, Springer Verlag, Wien / New York

- *Il cinema nell'era dell'intermedialità*

in "Drammaturgie multimediali. Media e forme narrative nell'epoca della replicabilità digitale", edited by Gianni Canova, Unicopli

- *La fragile soglia: la responsabilità dello sguardo tra realtà e finzione in Redacted e Standard Operating Procedure*

in "Blue Lit Stage. Realtà e rappresentazione mediatica della tortura", edited by Manolo Farci and Simona Pezzano, Mimesis

2006

- *Dizionario dei registi del cinema mondiale*

edited by GianPiero Brunetta, Einaudi

Essays in reviews and catalogues:

2010

- *La sacralità del martirio. Martyrs di Pascal Laugier*

"Fata Morgana" n. 10, gennaio-aprile

- *Fenomeno Lega*

"Quaderni del CSCP" n.6

2009

- *I corpi comici*

"Quaderni del CSCP" n.5

Selected articles:

2012

- *Hugo Cabret. Il padrone del tempo* - *Duel(lanti)* n. 76, aprile-maggio

- *Cuciture e lacerazioni. J. Edgar e Le idi di marzo* - *Duel(lanti)* n. 75, febbraio

2011

- *Jacques Rancière e lo splendore dell'insignificante* - *Duel(lanti)* n. 74, dicembre

- *L'eccesso di deformità* - *Duel(lanti)* n. 74, dicembre

- *Il film che non è mai finito. L'11 settembre al cinema* - Duel(lanti) n. 72, settembre
- *Morte di un fantasma. La rappresentazione mediatica della morte di Osama Bin Laden* - Duel(lanti) n. 71, luglio
- *Dentro e oltre. The Tree of Life di Terrence Malick* - Duel(lanti) n. 71, luglio
- *Noi siamo qui. Habemus Papam di Nanni Moretti* - Duel(lanti) n. 70, maggio/giugno
- *Il duello dell'inimmaginabile. Strategie di premeditazione e l'apocalisse giapponese* - Duel(lanti) n. 69, aprile
- *La vita colta alla sprovvista. Il cinema di Mike Leigh* - Duel(lanti) n. 68, marzo
- *Il re è nudo. Berlusconi e le fotografie* - Duel(lanti) n. 68, marzo (con Federica Timeto)

2010

- *Gerarchie orizzontali: Fincher e The Social Network* - Duel(lanti) n. 64, novembre
- *Ritorni e ripartenze: Christopher Nolan* - Duel(lanti) n. 64, settembre
- *Geometrie incrinata: Richard Kelly* - Duel(lanti) n. 63, luglio-agosto
- *La leggerezza del paradosso in Wes Anderson* - Duel(lanti) n. 62, maggio
- *Cameroneide* - Duel(lanti) n. 59, febbraio

2009

- *Teorema di una sfida: Michael Mann* - Duel(lanti) n. 57, novembre-dicembre
- *Memorie di un mangiatore di film: Quentin Tarantino* - Duel(lanti) n. 56, ottobre
- *La maschera imprendibile. Il cinema di Sam Raimi* - Duel(lanti) n. 55, settembre
- *Il film è femmina. Misoginia e L. von Trier* - Duel(lanti) n. 53, giugno
- *La coscienza del No. 50 anni di Nouvelle Vague* - Duel(lanti) n. 52, maggio
- *Ideali di paillette. La mercificazione di Che Guevara* - Duel(lanti) n. 51, aprile
- *Identità e desiderio. Gus Van Sant* - Duel(lanti) n. 49, febbraio
- *Pellicole al sole. L'abbronzatura come metafora* - Duel(lanti) n. 48, gennaio

2008

- *Elogio della ribellione. J. Demme e C. Eastwood* - Duel(lanti) n. 47, novembre-dicembre
- *Laurent Cantet. La scoperta del dubbio* - Duel(lanti) n. 46, ottobre
- *Se questo è un presidente. La Casa bianca al cinema* - Duel(lanti) n. 45, settembre
- *I confini del senso. Il cinema di M. Night Shyamalan* - Duel(lanti) n. 44, luglio-agosto
- *La politica dà spettacolo. Cinema e agire politico* - Duel(lanti) n. 43, giugno
- *Il cinema dello scarto. Cinema e spazzatura* - Duel(lanti) n. 42, maggio
- *Il gigante. Paul Thomas Anderson* - Duel(lanti) n. 40, marzo
- *Fuori dal mondo. Il cinema di Sean Penn* - Duel(lanti) n. 39, febbraio
- *Eroi perduti. Il cinema americano e i suoi fuorilegge* - Duel(lanti) n. 38, gennaio

2007

- *Fumo nero, occhio infetto. La rappresentazione e le metafore della guerra in Iraq* - Duel(lanti) n. 37, novembre-dicembre
- *L'immagine allo specchio. Cinema e fotografia* - Duel(lanti) n. 36, ottobre
- *I sei peccati capitali di David Fincher* - Duel(lanti) n. 35, giugno-luglio
- *La matrice svelata. Philip K. Dick e il cinema* - Duel(lanti) n. 34, aprile
- *Inseparabili. I dittici cinematografici* - Duel(lanti) n. 33, marzo

2006

- *Frank Costello faccia d'angelo. The Departed di M. Scorsese* - Duel(lanti) n. 30, novembre
- *La città del peccato. Gomorra di R. Saviano* - Duel(lanti) n. 29, ottobre
- *La magnifica ossessione. Le dark ladies* - Duel(lanti) n. 29, ottobre
- *The Dark Side of the States: Robert Altman* - Duel(lanti) n. 26, giugno-luglio

- *Radici d'autore. Registi cinematografici e serie televisive* – Duel(lanti) n. 26, maggio
- *Mi si nota di più se recito o se dirigo soltanto? Nanni Moretti e Il caimano* – Duel(lanti) n. 25 aprile
- *Face/on – Face/off* – Duel(lanti) n. 23, febbraio
- *Figli della violenza. D. Cronenberg* – Duel(lanti) n. 22, dic.2005-gen. 2006

External Contacts:

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Introduction

This work focuses on the perceptive afflictions caused by the alteration of the normal biological functioning of the body. These afflictions are related to the definition, transformation and disaggregation of film characters and affect cinematographic language, establishing a dialectical relation with the filmic image which contaminates our spectatorial perception.

Memory disorders and dysfunctions of sight are—among others—elements that determine alterations in the ‘normal’ and ‘sensory’ perception of reality. They work as narrative factors which change the visual filmic instruments and transform the role of the subject (and his/her uncertain definition of identity) in contemporary narratives.

There is a double movement that this research tries to perform: I investigate the reasons why cinema has continually increased its representation of perceptive afflictions in recent years, and, at the same time, I reflect upon the effects that this focus on afflictions and dysfunctions has had upon the so-called “normal” perception of the reality surrounding us.

I argue that, following the intuitions of Walter Benjamin, one of the links between the subject and the medium is that every new technology carries within it a new perceptive affliction. It is a relationship that directly leads me towards the analysis of the transformations brought about by new technologies upon our daily perceptive mechanisms. And cinema, especially those films that are committed to clear and readable narration, is feeling the necessity of rethinking itself in a visual-scape in which images are produced, reproduced and seen in a completely different way. In the realm of new media, cinema is disappearing as a collective experience: our relation with images is becoming more and more fragmented.

Contemporary film and cinema studies cannot ignore, in my opinion, the increasing importance assumed by these perceptive afflictions as central narrative elements in mainstream cinema. It is not

only the traditional subject which appears besieged by these new forms of narration which are so deeply determined by the transformations of our sensory perception; in a study devoted to cinema, it is inevitable to also reflect upon the new status of images, focusing both on the nature, the (completely transformed, radically modified, or perhaps absolutely vanished) “ontology of the image” in the age of digital creation, and on the social and cultural effects caused by this same transformation of the image itself.

Even though there are numerous studies, volumes and essays about the movies and the filmmakers I investigate, I believe that there is somewhat of a theoretical and analytical void in contemporary film studies regarding this topic—a topic that, as I firmly believe, could reveal a lot about the visual-scape in which we live, about the context in which images are produced, reproduced, seen and perceived. It is a topic that should not be considered only as a curious infraction of common narrative rules, but primarily as a creative instrument that allows both the creators and the viewers of these images to reinvent their relation with sight, vision, consciousness, and our sensory communication with the reality surrounding us.

A very interesting essay appeared in November 2007; Anna Powell’s *Deleuze, Altered States and Film*, a book which has the same primary philosophical influence as my research (for example, the works of Gilles Deleuze and its relation with film and cinema studies), but that differs from my theses in three key-points. Firstly, Powell chooses to deal with altered states which are determined by external elements (drugs and hallucinogens) and dream activity as an autonomous form of alteration, whereas I analyse only perceptive dysfunctions caused by an uncommon and atypical functioning of memory and sight (deriving only from internal, biological factors that can be provoked by trauma). I choose these particular forms of affliction because I intend to study them not only as symptoms of a pathological state, but especially as cognitive and perceptive enhancements.

Secondly, the position of Deleuze and Guattari is predominant in Powell’s work; in my thesis, Deleuze is the cornerstone, though I attempt to put his pivotal works in dialogue with other thinkers and philosophers whose writings are equally relevant for my analyses. Lastly, and this is a very important

difference, Powell does not establish historical and geographical limits to the range of filmmakers and movies she analyses, and, moreover, she deals with many great auteurs of experimental cinema (from Anger to Brakhage); instead, my study primarily concentrates on American cinema of the last 30 years—with particular attention to popular Hollywood productions—because I strongly believe that Hollywood, understood as the “place” of the most diffused and shared visual narratives, is the privileged laboratory for the negotiation of the gaze and images in the contemporary mediascape.

There are moments in film history during which an image becomes abstracted from its physical properties and generates a metaphorical meaning or when cinema (somehow following a path that joins the reflections of Hugo Munsterberg and Bernard Stiegler) seems replicate some of the activities of human mind, transforming cinema itself, in the words of Munsterberg, as a “technical simulation of the unconscious”. Nowadays, it seems we have entered a realm in which metaphorical meaning has almost completely disappeared, leaving all the possible space to a connection between mind and cinema that is becoming “self-reflexive and meta-cinematographic: mind, cinema and consciousness relate to each other through the fact that a certain image makes the spectator aware of the act of perceiving images, growing conscious of the processes of consciousness itself” (Elsaesser – Hagener, 2010, p. 153).

The analysis of such movies as those discussed in this research leads towards a territory in which metaphor simply does not exist as we have known and studied it before. The meta-narrative nature of an amnesiac or blind character does not stand as mirror in which a society suffering memory or sight disorders can watch itself for purposes that are consolatory or self-investigative. Rather, cinema is helping develop the contemporary cognitive frame for a diagnosis that identifies, with great sharpness and accuracy, the critical points of our ongoing processes of relation with so-called reality.

Quite the same phenomenon is occurring in Western literature. The increasing number of novels related to a various sets of mental and psychiatric disorders is certainly influenced by recent scientific discoveries, but it is also connected with the logics of an entertainment industry which is increasingly aware of the perceptive and psychological conditions of our times.

If a novelist such as Richard Powers decides to build one of his novel, *The Echomaker* (2006), around facial agnosia and Capgras syndrome, this choice needs to be read not as a metaphor of a social disease, but rather as a manifestation of condition which, in a cultural way, seems to affect contemporary narratives and their negotiations with the audience. In the first chapter of this work, I try to imagine a sort of parallel history of cinema and movies, trying to individuate a path in which—from the pioneer days of the brothers Lumière—film works as a radical instrument for the reshaping of the human mind and for the continual updating of the psychology and physiology of the audience. This “affected film history” follows a chronological path punctuated by historical avant-gardes, by thinkers and theorists (such as Benjamin, Eisenstein, Artaud and Bergson) that revolutionised the approach towards cinema and images, by directors and schools whose efforts were directed toward the productive conflict between the structure of images and the brain activity of the viewer. In his widely cited and praised books about cinema, Deleuze identifies the turning point of his analysis as the passage to the period after the Second World War: a divide that seems to be both historical and geographical, since it coincides with the passage from a mainly American and classical “movement-image” to a more European and experimental “time-image.” In the last few decades, there has been, in my opinion, another geographical shifting that has brought the most intriguing and challenging cinematographic narratives primarily to the grey zone between independent and mainstream American cinema; these ways of imagining movies, their plots and their visual characteristics, that try to force the limits of the audience’s attention and participation, very often through the narrative construction of affected characters with deranged minds and perceptions, are ways of telling stories that could be identified as the possible “post” of both post-classical and the post-modern cinema. Since it is more difficult to clearly define what is independent cinema and what is the mainstream as we have become used to knowing it, I refer to a more subtle zone in which producers, screenwriters and directors can experiment with new forms and new themes, adopting eccentric and disruptive points of views that—as I try to demonstrate in the second part of the first chapter—use perceptive afflictions not as a merely disadvantaging condition that limits and impoverishes the characters but, rather, as an

enhancement for a subject that is positioned inside the screen and in front of the movie itself. Characters and audiences find themselves imbricated in a complex visual-scape in which the modification of one's perception of the world is related to the extreme transformation connected to the human body and technologies of representation. Key concepts such as hypertextuality, interactivity and modular narratives seem to be connected with the technological innovations that are radically transforming cinema: its rhetoric, the multifaceted experience we can make of cinematographic images, the structures of the narratives that are becoming ever more complex and challenging.

The signs of the transmutation of cinema pass through a wide and profound use of affected psychologies and sensory apparatuses. The same phenomenon seems to interest other contemporary narratives, such as novels and videogames, showing that the present-day experience of reality (or, better, of realities) also involves the ways in which media and fiction shape the complex architecture of the perceivable. There are reasons, of course, that explain why contemporary cinema is increasingly adopting themes and subjects that somehow seem to be explanted from neurological pathology manuals, brain surgery diaries and analyses of dysfunctions that were rarely chosen in the classical and "post-modern" eras. These are reasons that, in my opinion are both internal and external to cinematographic language and which appear to be economic, social, technological and communicative.

The solid and clear distinction between the subjective and objective, diagnosed by Deleuze, appears to be the central issue in new contemporary forms of narrative. The void created by the permanent and enduring crisis of a subject besieged by complex realities is partially filled in by narratives in which the imaginary and the real became indiscernible and in which the pathologies experienced by the characters seem to be, as Thomas Elsaesser affirms (2009, p. 31), "productive pathologies" that both enhance the boundaries of the human-ness of the characters and enrich the spectatorial spectrum of re-activity, imagining complex structures of storytelling and challenging visual solutions.

Subsequently, cinematographic audiences experience a process of perceptive decrease and their subjectivity needs ever-increasing strategies of experience and meaning formation in order to achieve a temporary balance in the ongoing consolidation of an identity. The task of the viewer (or of the

reader), when confronted with such deranged narratives in which the usual and classical forms of perception are completely subverted, appears to be more difficult. What is undeniable is the disappearance of an organized plan of perception that leaves its place to a rapidly shifting and adapting structure of attendance.

The passage we are witnessing includes a shift in the cinematographic image, a transformation that leaves behind the widely-acknowledged audio-visual immersive aesthetics and projects the perception of the audience towards a more complex and subtle level in which the frame itself opens its boundaries, and the narratives are profoundly transformed by the new experience of time and space that have emerged in the last few decades: modular narratives, puzzle movies, mind-game films, characters who appear to lose their subjectivities, crises of perception and of a direct relationship with the outside world. There are many different signals that show how contemporary mainstream cinema is experiencing a profound reconsideration of the structures and rhetoric of its products, focusing on the weakening of the characters (now that even super-heroes seems to be affected by physiological and psychological disturbances) as it converges with the radical renewal of the strategies and mechanics of spectatorship.

Memory and sight are identified as two human capacities that are extremely relevant in the visual- and narrative-scapes that I analyse in this work. Memory, for instance, as I highlight in Chapter 2, seems to be *the* key issue in many films that have been produced in the U.S. in the last twenty years, films that belong to the uncertain territory of what was called “independent cinema” before the 1980s as well as to bigger and more expensive productions of Hollywood studios. One of the most exploited and well-developed topics of contemporary cinema is the bad or incoherent functioning of human memory. The classical depiction of memory and its relevance for the formation and consistency of characters is, without a doubt, derived from a Lockean inheritance that makes memory coincide with identity. Of course, there are many film theorists and scholars who link memory and cinema, moving from the mnemonic material that remains after (and long after) the projection of the movie to the awareness of

the spectator that *remembers* in a very particular way that s/he is watching a movie, that what s/he sees is a representation. But the memory I focus on in the second chapter is the memory that is radically transformed by the prosthetic nature of the devices we rely on in order to achieve a quantitative and qualitative enhancement of our mnemonic capacities. This extreme process of physical separation between the self, the body and memory itself is narrated in contemporary cinema through a series of films centred on characters whose memories are depicted as fallacious, uncertain, completely erased, in the process of being constantly rewritten without any preservation of previous events, and so on. Memory troubles, amnesiac disorders, partial or complete erasures of mnemonic data: we are witnessing a continuously increasing number of titles dedicated to various kinds of memory afflictions. The second chapter of this work tries to understand the reasons behind this notable trend, identifying the symptoms of this movement, first of all, in the crisis of the primary linguistic element classically related to memory: the flashback.

Moving from the experiments of Alain Resnais and arriving at the destruction of the flashback enacted by such directors as Abel Ferrara and David Fincher, the analysis focuses on the transformation experienced by the process of memory that starts to show its renewed functioning: memory somehow becomes a self-regulating function that profoundly alters the traditional rhetoric of actualization that has been adopted by cinema in both the classical and post-modern periods. We are witnessing a radical modification in the description and narrativization of memory that becomes, in a long series of movies related to the new status of this human (and not only human) activity, a kind of self-governing device that employs the sensory activity of the characters as a mere passage for achieving a form of visibility. The self-regulating activity of memory transforms the cinematic rules of actualisation in two different ways: it determines profound transformations in the definition of the subject and, insisting on a more linguistic point of view, determines a shift in the substantial effectiveness of the flashback that becomes a fragmented, drifting image that cannot help its “owner” and the audience decipher the meaningfulness of remembered events.

Quite obviously, the redefinition of what memory is (or is becoming) and of its rhetorics of

cinematographic representation converge in the consistent and stimulating series of films whose nuclei are amnesia and related memory disorders. In recent years, there have been many titles centered on amnesia, and this topic has become one of Hollywood's most exploited themes. After the huge and unexpected success of the independent movie *Memento* (2000), within just a few cinematographic seasons, an astounding number of movies brought amnesia and other memory alterations to the very centre of the attention of the audience. What is at stake, here, is not the scientific or medical correctness of the representation of brain afflictions, memory disorders, partial or total amnesia; the key issue, instead, is the cultural and social importance that contemporary narratives (even in such popular productions as mainstream TV series) are giving to memory and its modifications.

The representational and sensorial transmutations shown and diffused/disseminated by such successful titles as *Memento* or *Eternal Sunshine of the Spotless Mind* (2004) (the movies that are at the theoretical centre of the second chapter of this research) are highly important in order to comprehend our understanding of both the psychological and bodily mutation our networked and "all remembering" society is undergoing. These shifts are also undoubtedly moulded by the fact that the narrative structures that are mostly exploited in Hollywood cinema are modifying the connections existing among all the topics that are somehow related to memory and amnesia. This is also happening because, apart from fictional narratives, our biological and technologically-empowered memory has gone through a decisive modification that, as stated previously, is connected with the technological instruments and devices that have transformed and are still transforming the biology and the cultural value of mnemonic processes and activities.

The point of view of this research insists on questioning the widely accepted metaphor of the human brain as a computer hard disk. Analyzing Michel Gondry's *Eternal Sunshine of the Spotless Mind*, we both try to underline the cinematographic structure of memory and its processual activity. Memory, rather than being intended as a *tabula rasa* upon which rememberings and recollections find a place in which be mummified and stored, is filmic: it works with a continuous superimposition of time levels, wild and sometimes unjustified combinations of images, voices and sounds that confound the dimensions of

past and present. The filmic nature of memory also involves the presence of a spectator that happens to be the same remembering subject, who is a part (often a fundamental part) of the recalled event, who participates in it and sees him/herself as a character (from Cronenberg's *Spider* (2002) to the main character of Gondry's movie to agent Olivia Dunham of the TV series *Fringe* (2008-present)). Remembering does not mean selecting a preserved memory from a drawer but rather building a new shape for the same event that changes every time the subject remembers. A memory is not untouchable and unmodifiable: it is something that continuously doubles the "event" in a process of formation and, as Philip K. Dick suggests, falsification. What he defines as a "spurious memory" is a memory in which the remembering subject fills the voids and alters the content and the frame of the remembered event. An unreliable reminiscence modifies and fakes the real remembered circumstances and annihilates the differentiation between actual and counterfeit memories, flinging the subject into a reality that does not allow any form of certainty and that denies the presence of a stable and univocal subjectivity.

The filmic structure of memory, foreseen by Bergson and recently demonstrated by the impressive work of Bernard Stiegler, tells us something about the intrinsically prosthetic "nature" of human memory, a biological and chemical process that has migrated from the boundaries of our actual body and organs and has become a disseminated activity that involves technological devices in which our memory data are stored and processed. Alison Landsberg's theory of "prosthetic memories" opens the field to the hypothesis of conceiving memories as not being recognized exclusively by the actual experience of the person who *remembers*. Memories become replaceable and shareable experiences thanks to tools and instruments of mediation (from language and narratives to external devices such as memory cards and VR representations), but it is in the contemporary passage that mass media and radically renewed technologies can create forms of experience which become part of what the audience (cinematic audience, for instance) possesses.

What is questioned, according to the main tendencies of twentieth-century thought and, especially, within the post-modern horizon, is the difficulty of making the real be a part of collective and all-embracing narrative structures; the atomization of perception and the singularity of proliferating

realities leads to a disruption of linear time and to the idea of reality as the result of a controversial sum of individualities that share some memories and cohabit individual realities. Prosthetic memories radically question the assumption of the total possession of private memories as private properties: they are, according to Landsberg, “memories that no individual can own, that individuals can only *share* with others, and whose meanings can never be completely stabilised” (Landsberg, 1995, p. 151). Cinema, of course, is one of the most important media to have generated substitute experiences that have been implanted into the memories of viewers without ever being lived by them. The production of mediated recollections generates processes of identity construction that pass through “memories which become experiences that film consumers both possess and feel possessed by” (p. 191).

The renewed negotiation of memory and subjectivity seems to find in the metaphorical and physiological space of amnesia a perfect synthesis that allows a better understanding of what certain narratives are trying to diagnose, describe and, somehow, re-project in the perceptual field. One of the most interesting phenomena, in this direction, could be *déjà-vu*, increasingly shown, narrated and investigated in contemporary Western fiction and perfectly fitting the coordinates of memory representation and investigation. The centrality of *déjà vu* is quite evidently connected to the intrinsic and Bergsonian duplicity of every moment that splits itself in a perceived now and a remembered now. There is an excess of visibility that could be related to the experience of the virtual that stands at the core of contemporaneity. The virtual is intended, according to Deleuze, not as opposite to the real but to the actual bringing reflection towards a multifaceted “experience of the possible” that shows how *déjà vu* and other afflictions of memory have moved from being the merely pathological and intimate levels and have become symptoms of a collective and perhaps social condition that needs to be discussed.

In the third and final chapter of this research, the profound rethinking of the cinematographic medium that is explored historically in the first chapter and through the lenses of memory and amnesia in the second, is analysed according to the afterthought that involves the linguistic and communicative level of film following the radical innovation in the field of digital images and visual special effects. Cinema is

experiencing an undeniable revolution that is changing the way we understand the very nature and functioning of the medium. The vertiginous acceleration in the use of digital film-making technology involves not only the mechanisms and rituals of collective or private projections or the transformation of the cinematographic object in itself. The exceptional presence of digitally created images inside almost every movie we happen to watch is a phenomenon that leads directly towards an isomorphism between visual operations and mental representations as an unavoidable touchstone in contemporary reflections on visual communication. Human vision is not the only possible vision nowadays, and the utopia of a unmediated vision crashes against the digital realm we are immersed in; systems of visual communication are invested with the intriguing task of both representing the altered reality that human sight cannot comprise and building, through images, an exteriorisation of some human cognitive processes in digital machines, computers and, through those tools, cinematic systems of communication.

There is more to it as well: recent medical discoveries have led scientists to scrutinize the inner workings of the body and the reactions of the brain during visual processes. This possibility has led to a drastic and radical subversion of theories of human mental faculties connected to the eye and the perceptual apparatus as a whole. Connections between the eye and brain sectors related to sight re at the centre of contemporary neurology and neurocognitive science: the conclusion seems that, fundamentally, the eyes do not actually see. Vision is a composite operation pertaining to various areas of the brain, and there are several parts of the brain involved in the registration and refinement of the unprocessed data acquired by the visual apparatus. We have relatively recently discovered that every section of the brain that participates in visual processes has both a receptive and transmissive function: a modular activity that implies no hierarchy and that is based on the fact that various parts of the brain both receive and transmit data and information. An image is a construction because it is the product of the process that begins with the opening of an eye. Medical scientists, supported by such machines as the fMRI and the CAT scan, have affirmed this complex nature of images, and digital images seem to be an involuntary consequences of recent developments in medical technology because they are part of

a bigger and theoretically more devastating process that involves the production of images, not only their reception or perception. The shift regards the relationship between images and what used to be called “reality.” Images are correctly considered not as extractions from the real or as visual manifestations of the distinct shape of things; what is challenging the theoretical assumptions about images and their functioning is the complex position of digital images that are redefining the spatial relationship between the self, its context and the visual domain. The dissolution of the concept of “representation,” linked to the dissolution of the humanistic perspective, brings with it a more articulated crisis of the notion of sameness, of resemblance. The extraordinary developments in visual technology have brought about the end of the prominence of these aforementioned notions and, more significantly, have enhanced the virtual capacities of the medium and, consequently, have pushed physiological boundaries to unthinkable limits. The obsolete concept of *mimesis* has disappeared from our cultural landscape, even though there has been a sort of cryptic reappearance linked to digital graphics and the cultural implications of hyper-realism. Thus, digital images reaffirm the principle of the “constructed image” that analogical photography had partially hidden.

Even though debates regarding digital images have evolved around a difference in the ontology between the analogical and the digital, I think that we should shift the borders and the content of our reflection towards what we do *with* these images. Forgetting whether they are digitally or analogically produced, it remains the fact that images have a cultural and social value that regards their function; in contemporary cinema, we notice that we judge digitally created special effects paradoxically according to their adherence to sensorially perceived reality. The re-creation of a world otherwise perceivable with the aid of our five senses is the frame inside which we look and judge the digital synthesis: we look for the sharpness of the details, the fluidity of the movement, the realism of these visual inventions, forgetting that our eyes do not perceive this level of detail. Cinema insists on the “reality effect” that somehow gives an image a sort of realist certification, even when we are staring at enormous gorillas and extinct dinosaurs. The contradiction of a gaze that searches for a realism in images that are built to integrate and reinvent the planes of possible realities pushes our reflection and forces an interrogation

of the renewed relationship that exists between the screen (any screen) and our perceiving body. In the last chapter of this thesis, I try to read the technologies of the visual not as tools that allow a (realist, faithful, adherent, mimetic) replication of the real, but as occasions we have to push the boundaries of the visible and of the imaginable further. This is one of the main places of conflict in our imaginary. It is a brand new experience that digital images contribute to the creation of. For this reason, technologies of the (re)creation of images can become instruments of meaning making only when they cease to be machines of *representation* (obliged to a couple with an external—real or imaginary—referent) and become a key for reaching a different perspective upon mechanisms of vision, upon transformations regarding sight and its cognitive value.

Just as there are many titles dedicated to amnesia and other afflictions of sight, there are several films that feature blind or visually impaired characters. These movies not simply exploit the blind or almost-blind character with a metaphorical intention (for example, the becoming-blind rabbi in *Crimes and Misdemeanors*, directed by Woody Allen in 1990, that evidently represents the blindness of God in an evil and unfair world in which sins are not punished) but try to imagine new boundaries for the field of the visible and analyse in a narrative (and often entertaining) way the transformations of the sight of the audience itself.

Self-generated digital images, produced without an effective openness to the external world, can become, according to our consciousness, very similar to hallucinations because the spatial-temporal relationship that involves the subjects in the visual process does not exist as such anymore. A hallucination is the real perception of something that is not in front of us; it is an image we see which is not generated by anything that stands before our eyes, or something erroneously imagined to be perceived with the other senses. Hallucinations and blindness can become useful metaphors for telling us something more about digital cinema and images. The most relevant consequence of the explosion of digitally-made images certainly is the possibility of creating images from nothing, without any connection to a source, to an *origin* that is situated outside the machine that produces and builds these images. The creation of a non referential cinema replicates the experience of the hallucination: a very

specific one, not connected to a malfunctioning of our brain, that opens our eyes (metaphorically speaking, of course) to a particular activity carried out by our brain in certain moments. During some hallucinatory phases, for example the hypnagogic, the human being is perfectly aware of the false nature of the images s/he is *seeing*; at the same time, s/he remains inside a perceptual experience entirely linked to images. Observing the dinosaurs in *King Kong* (2005, Peter Jackson) or the Na'Vi in *Avatar* (2009, James Cameron) means being perfectly aware of the fact that these are images of living beings generated with the aid of software, but, at the same time, this activity remains inscribed inside a perceptual scope in which the distinction between analogical and digital has no meaning. As cinematographic spectators, we trust the camera, we rely on it as a camera whose eye has never really “seen” what we are watching on the screen. The revolution is a decisive one: before the digital era, our eyes coincided with the eye of the camera that had caught the visual material. Nowadays, our eyes have completely overtaken the eye we relied on, and cinema seems to have become an eye that produces images without having ever “seen” them.

There is a resemblance between our always increasing use of a “sightless vision” (Virilio, 1988/1994) and the importance of digitally created images in film and for cinema. In order to obtain visible images, nothing has to happen in front of the eye of the camera. Hallucinations are the result of blindness; they are not only metaphorical frames that witness the decline of the eye and the arrival of new mechanisms of vision, but also rhetorical models for the discursive practices of many contemporary films. The eye of the camera, transformed into a sort of “bachelor machine,” abdicates its role and tells us a lot about a more general crisis of the visible that could be one of the partially hidden themes of this research. It seems we are continuing to keep our “eyes wide shut,” as Stanley Kubrick has foreseen, living a condition that strongly summarizes the position of the contemporary cinematographic spectator: a position that is suspended between one reality and others (not between *the reality* and its opposite) and in which the eyes happen, paradoxically, to be both open and shut at the same moment, in the same movement.

1 Where Is My Mind?

The history of cinema is marked by a series of technological innovations which both represent and cultivate certain perceptual possibilities and relations between the subject and an external reality. In order to better appreciate the state of contemporary cinema and its emphasis on perceptual pathologies, it is necessary to situate it in relation to a larger series of transformations which have driven, and been driven by, changing ideas of film's relation to reality and to its audience. From its early days, and across a series of movements and experiments, cinema's evolution has been closely linked to the changing technologies of the medium. The following outlines some of the more important moments that have transported contemporary cinema to where it is today, with its focus on the evolution of the body and its multifaceted responses when confronted with states of consciousness, perceptions and meaning-making.

- The audience and the reaction to the Lumière Brothers' first experiments

When Auguste and Louis Lumière showed their first cinematographic experiments to an audience, a strange reaction occurred among the viewers. Some of them were strongly affected by their experience of the action happening in front of them on the screen; upon the arrival of the train at the station, some audience members—afraid that they were about to be run over by the train—ran away from the theater, demonstrating their complete lack of a representative frame. The experience was direct, immediate. It could be easily said that the shocking experience of the first cinema spectators was the first step in an ongoing process that has never stopped menacing the safety of a simply indexical or realist perception of the spectacle with the possibility that the screen-world is not just a simple, parallel reality juxtaposed to the experiential one, but a transversal world able to question the essence of the so-called reality itself.

One of the most-cited anecdotes regarding the strong experiences of the first film viewers is Béla Balázs's (1952) account of a Siberian girl's first cinematic experience in Moscow. She was well-educated

and clever, but she was left alone by the cousins who brought her there. She left the theater evidently shocked, even though the movie was only a burlesque. Asked how she liked the film, she admitted that it had been a really horrible experience for her, marked by the abomination of the things she had seen and which she had somehow connected to the decadence of a big city such as Moscow in which “dreadful things” are shown to the audience. Her cousins wondered about these dreadful things, and the Siberian girl expressed her revulsion, explaining that: “Human beings were torn to pieces and the heads thrown one way and the bodies the other and the hands somewhere else again” (p. 35).

This is the kind of extreme experience that besieged many viewers who, simply, could not connect their consciousness with the complexity of a fragmented representation. As Balász (1952) summarizes:

We ourselves no longer know by what intricate evolution of our consciousness we have learnt our visual association of ideas. What we have learnt is to integrate single disjointed pictures into a coherent scene, without even becoming conscious of the complicated psychological process involved. It is amazing to what extent we have in a couple of decades, learnt to see picture perspectives, picture metaphors and picture symbols, how greatly we have developed our visual culture and sensibility. (p. 35)

- From German Expressionism to the French School: inorganic and liquid perception

The first relevant fracture during the evolution of cinematic language happened in Germany after the end of World War I. Built around the simple principle of making the interior dimension of expression come outside, German Expressionism attempted to imagine a different way to access the inner workings of perception. Moving toward a complete overturning of the balanced visual strategy deployed in Hollywood, Expressionist cinema extracted the secret and hidden forces of individuality from the spectator rather than tickling the retina with the chromatic effects of Impressionist paintings. There were viscera, nerves, anxieties and fears involved, and Expressionist theorists and directors tried to find the most effective way to draw out these embodied and psychological elements from the viewers of their movies. According to Deleuze (1983/1986):

The non-organic life of things, a frightful life, which is oblivious to the wisdom and limits of the organism, is the first principle of Expressionism, valid for the whole of Nature, that is, for the unconscious spirit, lost in darkness, light which has become opaque, *lumen opacatum*. (pp. 50-51)

In the Expressionist movement, art was considered a powerful cognitive tool capable of activating certain human abilities which are often hidden and kept deactivated. The transformation of the represented reality implies an effort to deform the existing, sensory reality. The experience requested of the audience is to subvert the equation of reality, representation and work of art. It is a sort of parallel world, a hidden universe that becomes visible. Theater, painting and cinema redefine the conceptual limits and the figurative perimeter of Western visuality, pushing the boundaries of human perception and adopting the only strategy they are allowed to adopt: the transformation of the dimensional structure of the visible, which erases its depth in order to reach a perception of two dimensional spaces, creating an altered perception, a diffraction in the usual relation between the self and artistic representation. Robert Wiene, shaping the visual structure of *Das Kabinett des Dr. Caligari* (1920), redefines the inner nature of cinematographic representation, transforming the mechanical vitality of inanimate objects and spaces and offering a self-reflexive analysis of spectatorial perception and experience. *Caligari* underlines the complex inner structures of the traumatic cinematic experience, reinforcing doubts about the wholeness of the psychological awareness involved in the spectatorial act. It is the depicted reality that shifts toward a dimension in which the human part is erased or unnecessary, in which human nature shows itself caught in the middle of a mutation. German Expressionism is the moment in which, for the first time, the visual and perceptual virus which moves from the screen toward the audience is not determined exclusively by the narrative or the inner nature of the characters; it is the invention of a totally new *mise en scène* that transforms reality in order to evoke shocking emotions in the audience. The mutual exchanges among bodies and spaces and psychological tensions are immersed in a new perceptual realm in which the oblivion of reality (that characterizes the ordinary relationship between audience and movie) becomes an alteration of the perception of reality. The representation of a distorted environment, of estranged behaviours, of characters somehow suspended between the instincts of the living and the automatism of non-vital living, inevitably conducts the viewer toward a surprising condition in which the mind still recognizes the appearances of the cinematic spectacle while losing touch with the certainties conquered in the

first years of cinema-going. This is perhaps the first attempt in film history to consider the viewer's mind as an active force that interacts with the visual event, as a dynamic agent in which the equilibrium between subject and screen could also be subverted: the emotional and psychological realm of the audience becomes a soft element that can be continuously shaped and reshaped by the visual and narrative elements.

Around the same time in France, other directors and philosophers were using cinematography as a way of redefining human perception: after the canonization of the *subjective* and *objective image* made by previous cinematic schools in Europe and by a few directors in the United States, these French theorists focused on the con-fusion between these two dialectic forms of image-construction. The seeds of a different form of vision are planted, a form that tries to affirm the autonomous power of its intensity and its eccentric position, beyond the subjective and objective. Deleuze (1983/1986) recognizes that Pier Paolo Pasolini gave a better definition of this theoretical and practical effort:

A character acts on the screen, and is assumed to see the world in a certain way. But simultaneously the camera sees him, and sees his world, from another point of view which thinks, reflects and transforms the viewpoint of the character. Pasolini says: the director 'has replaced wholesale the neurotic's vision of the world by his own delirious vision of aestheticism'. It is in fact a good thing that the character should be neurotic, to indicate more effectively the difficult birth of a subject into the world. But the camera does not simply give us the vision of the character and of his world; it imposes another vision in which the first is transformed and reflected. [...] We are no longer faced with the subjective *or* objective images; we are caught in a correlation between a perception-image and a camera-consciousness which transforms it (the question of knowing whether the image was objective or subjective is no longer raised). (p. 74)

Pasolini's reflection insists on a crucial issue: poetic cinema (identified with the formal solution of the "free indirect subjective" that became his formal trademark), for its continuous effort toward escaping the logic of traditional exposition, is somehow related (even if at only a symbolic or metaphorical level) to the alteration of perception, and this subversion of the usual rules of the visual experience is the ultimate goal of these images, with the spectator becoming a subject who is caught in the middle of this evolution, kept in a state of cognitive and reflective suspension by images that deny a simple and univocal identification.

Henri Bergson proposes a representational model of perception that is selective, that chooses and

refuses, admits and denies: this intuition leads Bergson to superimpose human perception and the essence of the cinematographic mechanism. As De Gaetano (2002) points out, not all cinema works on the principle of conscious perception:

Natural perception and the classical cinema's one that corresponds to it is an abstracting, selective and purely functional perception. Objects and qualities, substances and attributes make themselves perceivable only in function of their practical use. Perception [...] does not need to be measured only according to its conscious and human feature, but can also *extena* the horizon of 'pictures' and 'representations' in order to capture the plan of matter-images. And this is possible only through the aesthetic perception, not the natural one. The extension of the perceivable is the mere object of art, writes Bergson in *La perception du changement*. The main goal of the artist is to *make perceivable* what we had perceived without perceiving. (p. 48)

This is exactly the theoretical point in which cinema could work as an enhancement of human perception, as an integration of the natural one. Given that a certain, classical cinema works perfectly as a replica of human perception (in its abstracting and selective functioning), it is possible to imagine a cinema that allows the expansion of the viewer's perceptual boundaries, that brings human perception into the realm of the unperceivable. Obviously the system of natural perception necessarily maintains its centrality, but only as a potentially enhanced instrument that permits the biological system to escape its finite borders and become something different: a non-human, inorganic perception.

- *Towards a de-humanization of the eye: the importance of the apparatus (Gance, Vertov, Eisenstein, Artaud)*

The work of Abel Gance, for instance, is a continuous attempt to surpass the visual boundaries inherently linked to the specificity of the apparatus. Gance started from a consideration of the point of view which cinema imposes on its audience: a spectator necessarily sees what the director decides s/he has to see. In *La Roue* (1923), Gance tries to transform sight, showing a character whose eyes are damaged and then showing his affected point of view through a soft focus effect that communicates to the audience the feeling of having a disturbed and altered perception. Here, we witness a continuous movement of tension towards an outside beyond the cinematic frame. Altering the focus is an experiment conducted inside the margins of the frame, somehow respecting the inviolability of the limits that represent an inextricable issue for cinematic language. But Gance always felt that cinema was

to be searched for, and eventually found, in an outside, that the boundaries imposed by the specificity of the frame needed to be broken through editing. For this reason, in *Napoleon* (1927) he made extensive use of the split screen (up to nine images composed in the same frame), superimpositions and extremely rapid montage, trying to multiply the sensory unities and perceptual relations between viewer and image: the individual perspectives contained in the split-screen cast doubt on the normative and absolute value of the single point of view. The final result is a sort of jigsaw puzzle in which every single piece has a narrative and formal unity that could tell a story and contain a structural coherence; it is a puzzle that has a sort of bigger narrative imperative, a meaning unit that reaches its goal when it communicates a perceptual event to the viewer that is the result of a multiplicity of visualizations. In this way, the condition of perceptual disturbance becomes not a relational disorder, but a different way of thinking and feeling.

Insisting on the specificities of the apparatus, Russian director Dziga Vertov, pretending to play with words but actually subverting the meaning of things, created the concept of the cine-eye, the *kinoglaż*. Deleuze (1983/1986) writes:

In Vertov the interval of movement is perception, the glance, the eye. But the eye is not the too-immobile human eye; it is the eye of the camera, that is an eye in matter, as it extends from a point where action begins to the limit of the reaction, as it fills the interval between the two, crossing the universe and beating in time to its intervals. (pp. 39-40)

According to Vertov, the *kinoglaż* is not only an improvement on, or upgrade of, the human eye. It is also a process (with a duration and temporality) of the de-humanization of the eye, given that what disappears is the condition of possibility itself of an abstract and objective vision. The cine-eye is the way of freeing humans from their condition of limitation, from their restricted ability to make sense of the chaos surrounding the perceptual apparatus. Life, according to Vertov, is not fully perceivable without the complexity of artificial recording mechanisms and the mobility that characterizes them. So humans must become machinic in order to construct a clear vision of the chaos, to extract knowledge from the amorphous matter that remains inexplicable due to the limited functionality of the perceptual system. For all of these reasons, Vertov imagines cinema as a prosthetic element that supplements the perceptual apparatus, transforming the biological functions of the visual and auditory systems.

In the USSR, Eisenstein worked in a different direction in order to achieve almost the same results. The point of departure for Eisenstein's theories is the radical re-conceptualization of the spectator's function. In his account, the spectator's brain is not simply a passive device able to decode signals and absorb narrative structures. It is instead an active and productive unit that continually creates and determines meaning strictly connecting the sensorium and the brain.

As has been widely acknowledged, *montage* is the pivotal element in Eisenstein's cinematic activity. He proposed a theoretical system in which the film works as a stimuli-creator, proposing visual and editing patterns that continuously influence the spectator's reflexes and mould his/her consciousness. The most simplistic formulas of perception consider the shown images to be the same as the perceived images; Eisenstein radically subverts this apparently logical (and false, as scientific inquiries later in the century would demonstrate) rule and re-launches the possibilities of cinematic images that act differently inside the viewer's brain, determining new forms and new meanings for the raw visual material. Eisenstein is very clear about film's ability to ignite the possibility of the perception of something that is actually more than what the eyes have seen because an image is not only the shown elements but a global structure whose essence may not directly appear but can be communicated by the artist. Sight is thus not inadequate, but rather seems insufficient in the complete meaning-making process of images.

Eisenstein's complex and multifaceted theories clearly attempt to move beyond the merely perceptual and physiological dimension of perception in favour of a more intellectual use of the human faculties in relation to images. In his later work, he also considered the role of emotions in generating meaning in his intuitions regarding the complex process of ecstasy. Eisenstein's concept of ecstasy is rooted in 'pathos,' "conceived of as that which would enthuse and energise the spectator, and bring him or her into a dynamic connection with the work of socialist realist art. It is this more dynamic, catalytic conception of pathos which Eisenstein drew on when developing his ideas on film form" (Aitken, 2002, p. 41). For Eisenstein, the 'dynamic connection' means a sort of being outside the self that directly involves the emotional condition of the viewer, in a process that seems inverted if compared to

the one theorized by Antonin Artaud, relegating the neurological and physiological dimensions of Artaudian discourse to the background. 'Pathos,' in Eisenstein, leads directly to an analysis of ecstasy that necessarily means escaping the limited perimeter imposed by sensorial perception and entering into a perceptual realm similar to the one experienced by the great mystics of human history. He connects ecstasy to the activity of grasping a broader meaning and more general truth in images, a truth that goes beyond the limits of the shown image and reaches the intimate essence of the 'global image': it is the possibility of a single architecture that contains and exceeds its individual elements, bringing the spectator beside and outside him/herself, through the emotional impact of the pathetic impression.

Escaping from the dictatorship of objectivity is also one of the cores of Artaud's words and works which redefined the mutual influences between visual and verbal language and the innermost reality of the brain—a reality intended not as a unity, but as a fissure, a crack. Cinema, according Artaud, is not just entertainment or distraction; rather, it must be seen as a "dissociative force" which introduces a "figure of nothingness", a "hole in appearances" (Deleuze, 1985/1989, pp. 167-168). Artaud, literally, *sees* all the virtual possibilities of cinematic language, *foresees* the enormous potentialities of creating a connection between images and the spectator's brain. The movement of images, the altered dimensions of the depicted objects, the uniqueness of the spatial relation in which images overwhelm the eye and the sensory apparatus of the viewer: these are the conditions identified by Artaud in his diagnosis of what cinema was and, more importantly, what cinema could and should be.

Artaud considers cinema a language that limits itself to the ordinary work of the *representation of the visible*. This limitation is related to the unexpressed potentialities of an instrument that fails to reach the hidden activities of the spirit. Narrative cinema distracts the perception, in Artaud's view, and the mere presentation of things, objects and relations leads to a forgetting of the inner aspects and potentialities of the human being. The hidden life of the interior is not revealed through "pure cinema", with its tendency to worship the visual form. Instead, cinema needs to be "capable of transcending illusion and acting directly upon (and altering) the viewer's perception of material reality" (Jamieson, 2007), thus creating the psychic and sensory conditions for altering perception. Images have to work toward

subverting language itself, the necessary condition for the explosion of the authentic and unstable forces hidden beneath what he called “the human skin of things, the derm of reality”. Artaud wants to cut this skin of things, and his ideas lead to the eruption of a psychic and spiritual reality. So the figure of the cut, the fissure, becomes metaphorically central in the elaboration of his pivotal reflections about cinema.

Artaud’s denial of narrative cinema and serious attempt at joining the activity of the brain and the cinematic spectacle in the same visual event recalls Eisenstein’s ideas regarding cinema’s relation with the brain, the transformation of cinematic language according to this almost biological and psychological goal, the modification of the brain’s functioning by the cinematic experiences borne by new forms of spectatorship. But, as Deleuze (1985/1989) notes, a remarkable difference needs to be pointed out:

In spite of a superficial similarity of words, there is, therefore, an absolute opposition between Artaud’s project and [...] Eisenstein’s. It is indeed a matter, as Artaud puts it, ‘of bringing the cinema together with the innermost reality of the brain’, but this innermost reality is not the Whole, but on the contrary a fissure, a crack. As long as he believes in cinema, he credits it, not with the power of making us think the whole, but on the contrary with a ‘dissociative force’ which would introduce a ‘figure of nothingness’, a ‘hole in appearances’. [...] In short it is the totality of cinema-thought relations that Artaud overturns: on the one hand there is no longer a whole thinkable through montage, on the other hand there is no longer an internal monologue utterable through image. It might be said that Artaud turns round Eisenstein’s argument: if it is true that thought depends on a shock which gives birth to it (the nerve, the brain matter), it can only think one thing, *the fact that we are not yet thinking*, the powerlessness to think the whole and to think oneself, thought which is always fossilized, dislocated, collapsed. (pp. 167-168)

- *Bergson and La perception du changement: the extension of the perçivable as the object of art*

After only a few years of life, cinema was already seen as not only a medium of mass entertainment, but also a technological instrument capable of redefining the audience’s relations with external reality, their abilities and perceptions, and the human biological machine as a functioning whole under continuous external and artificial stimuli.

According to Bergson and Benjamin, such effects are not due to specific experimental techniques by individual artists seeking to enhance cognition but are, rather, intrinsic effects of the medium of

cinema itself as it transforms the functioning of both perception and the brain. For them, cinema is *the* language of the new century and, like every technologically important transformation, leads to a profound modification in conscious perception.

In his complex reflections on time, memory and perception, Bergson never tires of explaining how human perception is strongly linked to the functioning of the cinematic machine—an aspect of his work that is especially important in the chapter devoted to memory disturbances and alterations. According to Bergson, the extension of the perceivable is the key objective of art. In *The Perception of Change* (1997) he writes: “What is the aim of art if not to show us, in nature and in the mind, outside of us and within us, things which did not explicitly strike our senses and our consciousness” (p. 135). Questioning the status of perception and the centrality of the concept of reality, he builds a sort of visionary metaphysics, underlining how the limits of our sensory perception could be enhanced by another form of perception, aesthetic perception. Bergson hypothesizes that our conscious perception works within a perimeter constructed by the conjunctures of particular circumstances (our direct interests, our passions). The movement of perception is one of cutting and strongly resembles the functioning of cinema: the frame implies a drastic separation between what is seen and what remains *hors champ*, and the movement of the camera is simply the shifting in space and time of a tool intended as a dividing device that limits itself to the visible part of the spectacle. But what primarily interests Bergson is the functioning of the cinematographic apparatus, its ability to recompose the movement of the shapes using only still frames by exploiting the mobility that does not exist in the images but in the machine; as he writes in *Creative Evolution* (1907/1944),

The process [...] consists in extracting from all the movements peculiar to all the figures an impersonal movement abstract and simple, movement in general, so to speak: we put this into the apparatus, and we reconstitute the individuality of each particular movement by combining this nameless movement with the personal attitudes. Such is the contrivance of the cinematograph. And such is also that of our knowledge. Instead of attaching ourselves to the inner becoming of things, we place ourselves outside them in order to recompose their becoming artificially.” (p. 332)

So, it is precisely in the last chapter of *Creative Evolution* (1907/1944) that Bergson discusses his theories of cinematography in a more direct manner, analysing the “cinematographical apparatus” as a sort of

equivalence for discussing the path followed by the brain in its approach towards reality. The intellect, in Bergson's view, operates through several spatializing operations which continuously fragment external stimuli in order to reach a (partial or complete) awareness of them. This process is an incessant transformation of the moving reality into a series of static elements, because the intellect is able to express the movement of reality only in fixed terms, as a chain of single snapshots that allow us to recognize and metabolize every difference of state. It is our attention, our cognition, that permits us to recompose these dispersed fragments into a perceptual whole. Our intellect is able to give movement to a reality in which all the single parts are disjointed; it constructs the illusion of change as a continuity, even when the whole reality is a collection of discontinuities. As the mechanical process of cinema consists in splitting the fleeting reality into static snapshots, creating a series of isolated fragmented, and static frames whose movement is created by the projector, Bergson finds it an apt analogy for the perceptual process itself, stating that:

Instead of attaching ourselves to the inner becoming of things, we place ourselves outside them in order to recompose their becoming artificially. We take snapshots, as it were, of the passing reality, and, as these are characteristic of the reality, we have only to string them on a becoming, abstract, uniform and invisible, situated at the back of the apparatus of knowledge, in order to imitate what there is that is characteristic in this becoming itself. Perception, intellection, language so proceed in general. Whether we would think becoming, or express it, or even perceive it, we hardly do anything else than set going a kind of cinematograph inside us. We may therefore sum up what we have been saying in the conclusion that the mechanism of our ordinary knowledge is of a cinematographical kind. (p. 332)

As John Mullarkey (2009) writes, "Here is where the real irony lies, for Bergson has used film to model the ordinary mind even though he is interested in transcending the ordinary in inhuman forms of consciousness" (p. 97).

The metaphor of human knowledge and perceptual activities profoundly relates to the hierarchy of the senses and leads to an analysis of physical and mechanical perceptions as substantially indifferent. As Martin Jay (1993) notes: "In invoking this metaphor, Bergson seems to be making especially extreme claims about the tyranny of the eye. Not only intellection, but *all* perception through whatever sense, he appears to be arguing, is inherently cinematographic in its 'ordinary' cognitive modes" (p. 198).

This is the point where Bergson clearly shows that there is no opposition between a natural perception

and a misshapen, distorted and artificial one. This co-mingling of human and mechanical, organic and artificial, is one of the main lines of reflection that the arrival of cinema put at the centre of twentieth century Western thought. It seems that the fundamental legacy of Bergson's intuition has an inescapable point of conclusion: human perception is not diminished by the concurrent development of mechanical instruments; rather, art can enhance our perception by transforming it into something else, inscribing it in a process of becoming that separates it from the contingency of the present. This *becoming other* of human perception is not related to an intrinsic difference with the cinematographic one; Bergson writes about a "difference of nature" (describing the dissimilarities between the two kinds of perception) that becomes a "difference of degree" when the analysis is applied to works of art. Each work of art fires up distinct perceptual processes in us. This is what explains the differences between classical Hollywood and the European schools discussed in this chapter: while American classics insist on proposing a model of perception that limits itself to the replication of the common human one, the line that runs from Expressionism to some Russian and French directors (and that finds its apotheosis in the Sixties with such authors as Fellini, Antonioni or Resnais) tries to propose a model of perception that becomes almost inhuman and that leads to an inorganic relation between images and the self. One of the main goals of this present work is to analyse the geographical and historical inversion that happened with the end of classical Hollywood and with the last eruptions of auteurism in Europe; after those years, it seems that a part of American cinema started to deal with inorganic and de-humanized perception while the dictatorship of auteurism pushed European cinema towards the normalization of narrative and representational models extremely similar to those of mainstream classical American cinema.

- *Walter Benjamin: the development of cinema changes the perceptual apparatus*

In one of the most cited passages of "The Work of Art in the Age of Its Technological Reproducibility", Benjamin writes: "Just as the entire mode of existence of human collectives changes over long historical periods, so too does their mode of perception. The way in which human

perception is organized—the medium in which it occurs—is conditioned not only by nature but by history” (1936/2008, p. 23). Here, he acknowledges how mechanical and technological instruments transform the way human bodies perceive objects, forms and movements and thus almost necessarily affect the functioning of the organic matter, developing completely different relations among senses and between senses and brain decrypting activity.

Moreover, given that the formation of subjectivity depends on the functioning of our relational models with the outside world, a new structure of the senses leads to a redefinition of our subject formation. The rise of new technologies thus implies new models of self-formation and, simultaneously, a different way of decoding and interpreting the surrounding reality. Benjamin, analysing the new, primarily visual technologies of photography and cinema, argues that:

in most cases the diverse aspects of reality captured by the film camera lie outside only the *normal* spectrum of sense impressions. Many of the deformations and stereotypes, transformations and catastrophes which can assail the optical world in films afflict the actual world in psychoses, hallucinations, and dreams. Thanks to the camera, therefore, the individual perceptions of the psychotic or the dreamer can be appropriated by collective perception. The ancient truth expressed by Heraclitus, that those who are awake have a world in common while each sleeper has a world of his own, has been invalidated by film—and less by depicting the dream world itself than by creating figures of collective dream. (1936/2008, pp. 37-38)

Not only does the camera alter the boundaries of subjectivity, but it changes the boundaries of consciousness/unconsciousness within the subject. Benjamin goes back to similar topics in his “Little History of Photography”, when he writes:

For it is another nature that speaks to the camera rather than to the eye; “other” above all in the sense that a space informed by human consciousness gives way to one informed by the unconscious. While it is common that, for example, an individual is able to offer an account of the human gait (if only in general terms), that same individual has no knowledge at all of human posture during the fraction of a second when a person begins to take a step. Photography, with its devices of slow motion and enlargement, reveals this posture to him. He first learns of this optical unconscious through photography, just as he learns of the instinctual unconscious through psychoanalysis. The nature that speaks to the camera is a different nature from the one that speaks to the eye [...]: instead of a space consciously elaborated by man, there is a space elaborated in an unconscious way. We are sure aware of how people walk, of their gait; but we don’t know anything of their behavior in the very second in which they quicken their pace. Photographs can show it to us in many ways. Only through photographs can we discover this optical unconscious, as we do, through psychoanalysis, of the instinctive unconscious. (1936/2008, pp. 277-279)

Benjamin clearly refers to a totally different nature that is constructed through the activity determined by the specific features that distinguish cinema from other means of communication. When he analyses the distinctive functioning of such cinematic tools as close-up or slow motion, Benjamin highlights that – respectively –the psychological enlargement of space and the widening of the movement do not appear just as a magnifying glass of known and learned moments and occurrences; it is an entirely unsuspected and unfamiliar facet: “Clearly, it is another nature which speaks to the camera as compared to the eye. ‘Other’ above all in the sense that a space informed by human consciousness gives way to a space informed by the unconscious” (1936/2008, p. 37).

Investigating the effects of cinema on the realm of human perception, Benjamin explains that with cinema, and through cinema, human beings are learning and enhancing a different mode of vision, a changed perceptual grammar. Cinema is not only an instrument for the mirroring of reality or, rather, for the visual duplication of sensible data; it is a more sophisticated medium that gives shape to the historical period and plays an important role in determining its visual aspects and relations with visual perception. This fundamental aspect derives directly from the way cinema very quickly became a popular shared medium of communication, a part of everyday life for an enormous portion of the population. The wide diffusion of cinemas, the relatively low cost of tickets, the popularity of a medium that was both innovative and affordable, all these factors determined a perceptual fracture that spread across Western culture at the beginning of the twentieth century. This decisive fracture was determined by two distinctions that cinema brings to the cultural arena:

1. cinema, as a communicative system that seems to work in continuity with other previous languages (photography and painting, but also literature and theater), brought a decisive fracture in cultural history, offering itself as a technological evolution of a discourse developed over time;
2. at the beginning of its history, cinema did not propose itself as art, and when some theorists introduced the artistic issue into this new discourse, the logics of reproducibility elucidated by Benjamin shifted the ground of analysis to its nature as a “medium” rather than an “art”.

Obviously there is also a technological value that cinema contains and, simultaneously, injects into the perceptual negotiations of the century. Recognizing that cinema is a technologically structured medium implies that several transformations are determined in the biological systems of perception; being an exclusively visual medium in its first thirty years, sight became the privileged sense. The relation with perception and, in particular, with sight is of great importance and determines a double transformation, a double movement, that contains both a constant bombing of the spectator's nervous system and a creation of a distracted perception. Again in "The Work of Art", Benjamin explains:

Reception in distraction - the sort of reception which is increasingly noticeable in all areas of art and is a symptom of profound changes in apperception - finds in film its true training ground. Film, by virtue of its shock effects, is predisposed to this form of reception. In this respect, too, it proves to be the most important subject matter, at present, for the theory of perception which the Greeks called aesthetics. (1936/2008, pp. 40-41)

Moving in the uncertain ground in which the medium and the artistic object are confused, Benjamin seems to introduce a paradoxical affirmation, insisting on the contradictory nature of two opposite tendencies such as distraction (the suspension of perception, its floating in an undetermined flow of unconsciousness) and shock (the acute, extremely focused contraction of the perceptual system). He reconceives the nature of human perception itself, exploring the dynamic nature of a transformed visual relation with the cinematic medium in which being exposed to a constant flow of perceptual shocks necessarily leads to a vague anaesthesia. Benjamin obviously intends this idea of shock not exclusively as a personal or individual modification of sensorial perception, but as a collective occurrence in which spectators experience a more radical historical mutation. Benjamin uses the Dadaist avant-garde as an example for a better understanding of the disruptive value of a renewed conception of artistic or communicative mediation, insisting on the revolutionary issues-particular to film:

*From an alluring visual composition or an enchanting fabric of sound, the Dadaists turned the artwork into a missile. It jolted the viewer, taking on a tactile [*taktisch*] quality. It thereby fostered the demand for film, since the distracting element in film is also primarily tactile, being based on successive changes of scene and focus which have a percussive effect on the spectator. *Film has freed the physical shock effect—which Dadaism had kept wrapped, as it were, inside the moral shock effect - from this wrapping.* (1936/2008, p. 39)*

The effect of this analysis is immeasurable: the emphasis is on the audience, its reactions, the physical and psychological effects caused by sensorial contact with the new medium. The political value of this cultural tendency is necessarily inscribed in all the moments of fracture that punctuate the history of culture. And every technical revolution is the moment in which this usually hidden aspect becomes extremely visible and disruptive. In “Reply to Oscar A. H. Schmitz”, Benjamin writes:

Among the points of fracture in artistic formations, film is one of the most dramatic. [...] with film a *new realm of consciousness* comes into being. [...] film is the prism in which the spaces of the immediate environment—the spaces in which people live, pursue their avocations, and enjoy their leisure - are laid open before their eyes in a comprehensible, meaningful, and passionate way. In themselves these offices, furnished rooms, saloons, big-city streets, stations, and factories are ugly, incomprehensible, and hopelessly sad. Or rather, they were and seemed to be, until the advent of film. The cinema then exploded this entire prison-world with the dynamite of its fractions of a second, so that now we can take extended journeys of adventure between their widely scattered ruins. (1936/2008, p. 329)

Benjamin here clearly describes a radical transformation: what film—as a medium—brings to the collective perception is a profound modification of its imagery. Film reshapes the audience’s relationship with the medium itself and, in doing so, also alters the perceptual correspondence with reality. Film introduces a shifting in the common grounds of perception, manifesting its nature as a constant and consistent medium that affects ordinary perception, conducting the attention and the imagery to unprecedented symbolic places.

To measure the actuality of Benjamin’s intuitions we should re-contextualise his discourse with regard to the very profound transformations cinema has been going through in recent decades. Benjamin formed his analysis with an eye to the total subversion of the optical and theoretical experiences introduced by the avant-gardes and by the intuitions of Soviet directors and theorists. If Benjamin clearly affirms that film is a medium that determines subject formation through the inner structures of its apparatus and transformations in the bases of perception, then the updating of this intuition necessarily passes through the redefined physicality of contemporary cinema. The passage from analogical to digital implies an evident subtraction of the physical level, given that the triumph of digital images necessarily contains a separation from the traditional physicality of analogical images.

Nowadays we are witness to a cinema that has lost the materiality of its reference; this loss increases expressive autonomy but also establishes new forms of sensorial relations. This phenomenon of a renewing of perceptions has implication for the narrative dimension, as well. The frequent presence of perceptually dysfunctional characters in the movies analysed in this thesis is one of the consequences of this rethinking of perceptual limits and possibilities. The condition of the characters becomes a metaphor of the audience's experience if we reflect upon the new hierarchies among the senses or on the new forms and modalities of perception.

One of the first steps towards updating Benjamin's intuitions came with the dawn of sound cinema and the consequent definition of the classicality of American cinema. The advent of a structured industry implied the recognition and the (economically determinant) fulfilment of the audience's tendencies and desires. The industrial nature of film led to the formation of a new spectatorial subjectivity, directly modelled upon the communicative and perceptual paradigms imposed by the dominant forms of classical Hollywood.

Benjamin was able to comprehend the nature of this new spectator, a subject who understands just how porous the basis of her/his subjectivity is; however, the mere acknowledgement of this transitory condition means that the spectator knows that any possible completeness of subjectivity is only a provisional condition that makes the viewer a fluid and unstable presence, continuously redefining the limits and activities of her/his subjectivity and often responding to the stimuli arriving from the screen in a dialectical relationship that seems to be one of the turning points of contemporary culture.

Having arrived at the decisive turning point of the Second World War, it is possible to grasp the rationale for the approach taken in the first part of this chapter. Among the theories and revolutionary approaches described in this sort of parallel film history, there is a great absence which is, of course, psychoanalysis and the myriad formulations derived from Freud. The absence of any psychoanalytical analysis of film-making or cinematic reception is connected to a theoretical effort that leads toward a primarily cultural analysis of such issues as perceptual modification and the affirmative use of perceptual afflictions in the process of forming a dynamic relationship with the cinematographic

medium. Since the first pioneering projections, cinema as an apparatus has always had the capacity to enter and modify the nervous system and the psychological organization of the viewer. So, if cinema has always worked – explicitly or not – as a cultural and psychological device that regulates a significant part of the processes of subject formation, a question arises as we analyse contemporary cinema and its extensive use of characters suffering from perceptual afflictions and subjects whose sensory relations to the external environment seem to be deeply informed by a vicious connection with the perceivable realm: what kind of subject formation is determined in these movies? What image of reality and of ourselves are these movies giving back to their audience? Which mental processes are enabled for the first time with images and narrative constructions that openly deal with afflicted beings and psyches?

- A fter the Second World War: classic American cinema vs. European cinema

According to Deleuze (1985/1989), the turning point of twentieth century cinema comes with Italian Neorealism which emerged during and just after the Second World War. Following André Bazin, Deleuze argues that the importance of Neorealism lies not only in its political and social content, but especially in its aesthetic value in relation to “the crisis of the action-image”. The fundamental innovation of directors such as De Sica and Rossellini is a redefinition of the boundaries of perception as perception becomes detached from the action and instead linked directly to thought. The roaming, ceaseless wandering of Neorealist characters unhooks the image from the influence of action, making it directly correlate with thought. While classical realism was marked by a precise location, a determinate setting disclosed by a certain action that is adjusted to or that alters it, Deleuze finds in Italian Neorealism the first attempt at a liberation of sensory-motor concatenation and the ultimate moment of crisis for the action-image.

This shift inaugurates a different approach to narrative cinema, beginning with the mechanisms of identification. In the classical age, the audience was strongly connected to characters whose main feature was the possibility of a reaction to the situations they encountered; the spatial position of the

viewer was strictly outside the image, and the only possible bridge was the traditional form of identification in which the reaction that belonged to the characters was somehow shared by an emotive response or opposition. In the new approach inspired by Neorealism:

the identification is actually inverted: the character has become a kind of viewer. He shifts, runs and becomes animated in vain, the situation he is in outstrips his motor capacities on all sides, and makes him see and hear what is no longer subject to the rules of a response or an action. He records rather than reacts. He is prey to a vision, pursued by it or pursuing it, rather than engaged in an action. (Deleuze, 1985/1989, p. 3)

What interests us, however, is the peculiar perspective that Deleuze opens up when he notes that, in Neorealism,

the sensory-motor connections are now valid only by virtue of the upsets that affect, loosen, unbalance, or uncouple them: the crisis of the action-image. [...] There is a new breed of signs [that] refer to very varied images, memories of childhood, sound and visual dream or fantasies, where the character does not act without seeing himself acting, complicit viewer of the role he himself is playing. (pp. 5-6)

What is subjected to the most radical evolution here is the human body, something that is reduced to being little more than a sensory receptor, whose wandering is not directly determined by a physical reaction but rather by a thought mechanism that is triggered by mental and interior activity. The movement ceases to merely be a spatial displacement and instead becomes a mental transfer, so the subject is transformed into a modulating element that is continuously metamorphosed depending on external stimuli and the surrounding environment.

Thus, according to Deleuze, the epistemological crisis of the Second World War passed through Western cinema, determining a transformation that was subsequently radicalized by the French Nouvelle Vague and by the American directors commonly grouped under the label of “Movie Brats” who were profoundly inspired by the Neorealist revolution and the subject-transformation experience. The French Nouvelle Vague, with its “politique des auteurs”, represents a sort of resistance of traditional cinema against the new position in which the medium found itself in the late Fifties, besieged by television and forced to confront an economic and symbolic crisis that was transforming cinema and its relationship with the audience. Instead of dealing with the possible evolutions contained

in cinematic structures and augmented by technical innovations, the Nouvelle Vague continued to focus on the specificity of cinema, trying to maintain the best intuitions of the previous European schools and avant-gardes. While television begins to work as the “cultural laboratory of modern individuality” (Morin, 1957/2005), replacing the centrality of cinema in the process of specular subject formation, the “politique des auteurs” is positioned as the last form of opposition to a certain kind of cinema-making and to considering the implications of visual communication.

The Nouvelle Vague, despite being the remains of a fading cultural and social tradition in which cinema is the sun around which other media revolve, functions as a bridge between two different histories of cinema and two separate geographic groupings. Before, with Truffaut, Godard and their comrades, European cinema had always meant the power of experimentation and the freedom to pursue sensory exploration that, starting with German Expressionism and culminating in Italian Neorealism, had adopted all possible strategies in order to map and transform the obvious mechanisms of vision, reception and response. The threshold represented by the historical passage of the late Fifties was a sort of suggestion sent to the other side of the ocean, soon taken up by a generation of young filmmakers, who would begin new exploratory and innovative paths inside Hollywood—the same Hollywood which, before the radical turn of the late Sixties, had always stood for classical cinema. While European cinema would continue in the comforting and somehow deceptive utopia of auteurism, Hollywood would reinvent itself and take a new course, developing many of the intuitions that had been at the core of the most provocative and challenging work of European cinema in the first part of the century. Of course, many European directors (such as Antonioni and Robbe-Grillet) would explore these expressively revolutionary motives, and mainstream Hollywood cinema would continue to be the place where the canons and rules were handed down with well-known social and economic implications. But the tendencies became inverted, and even inside the mainstream studios’ production a new approach towards cinema and perception emerged after the Sixties.

Here, precisely at this turning point, the body ceases to be a mere receptor, a simple container for the senses and nerves, and becomes an active system that interacts with images in order to construct and

redefine individuality, states of consciousness, different perspectives on reality and on itself. Time is the key factor, a factor which, released from the contingency of movement, finds a new task to complete: that which Deleuze defines as the construction of the pure and direct image-time that offers the absolute perception of unmediated time to the experience of the viewer. Neorealism served as the catalyst for a tendency and a necessity that led to what may seem an impossible objective, the visualization of time. As Roberto De Gaetano (2002), writes, “the power of time can be injected into images only by means of dissolving the organicity of shapes: deframings, false link shots, aberrant movements are just some of the possible *procedures* through which to convey, through images, the paradox of an un-temporal time” (p. 169).

What Deleuze detects in this time that is disengaged from movement has a decisive consequence: the pure manifestation of time is the possibility for the image to be a simple presence liberated from the obligation of representation. Of course, giving a visual density to time means exploring all the paths that do not pursue the transparency of time itself (see also Bazin on transparent editing), which is one of the most distinctive traits of classical cinema. In order to show it in its unconditioned pureness, time needs to be expunged from the logics of fluidity and chronology; time has to emerge with its absoluteness forcing the linearity of the assumed and shared representational forms and giving space to a broken narrative from whose fissures cinema can certify the death of objectivity. Deleuze (1985/1989) writes:

As for the distinction between subjective and objective, it also tends to lose its importance, to the extent that the optical situation or visual description replaces the motor action. We run in fact into a principle of indeterminability, of indiscernibility: we no longer know what is imaginary or real, physical or mental, in the situation, not because they are confused, but because we do not have to know and there is no longer even a place from which to ask. It is as if the real and the imaginary were running after each other, as if each was being reflected in the other, around a point of indiscernibility. (p. 7)

Moreover, cinema’s loss of its hegemonic cultural position after the Second World War, due to the multiplication of different visual media, brought about profound changes in the function and position of the spectator. Human perception was reorganized, moving from a dictatorship of sight to a synaesthesia that derived directly from the influence of the increasing number and potentialities of

other media. As Fabio Denunzio (2004) notes, during the first half of the twentieth century there had been an inexorable strengthening of spectatorial subjectivity that allowed a continuous interaction with media under the supremacy of cinema and the development of a powerful cognitive domination over media objects; after 1945, however, the

cinematographic spectator [...] is subjected to a process of perceptive weakening and his subjectivity is increasingly in need of an interaction with other forms of medial perception (especially with a spectatorship that is mainly related to television and other forms deriving from digital elaboration) in order to reach its own individuality. (p. 169)

There emerged a cinema that somehow certifies the impossibility and, more significantly, the unnecessariness of a single and solidly structured plan of perception, passing to the rethinking of the whole sensory apparatus after the trauma of the Second World War. The most radical consequence of all these transformations comes from a cinema that changes the habit of watching into a perceptual disarticulation in which the senses need to be re-modulated in order to reach a higher level of awareness in regard to a visual language that ceases to communicate through only two senses and that reaches (or, better, strives to reach) a synaesthesia that erases the hierarchy of the senses itself. The disjointing of the perceptual mechanisms implies a stratified and multifaceted relationship with the visual and aural material. And this is exactly the point pursued by Deleuze when he writes about the indiscernibility of imaginary and real, a moment of sensorial incandescence in which cinema works as both the cause and the solution, being both the venom and the antidote. Cinema attests to this split between the self and the world and, at the same time, strains to restore the erased relation in new forms and according to new epistemological rules.

We are not far from some of the intuitions that characterize Kracauer's *Theory of Film* (1960), explicitly the ones related to the weakening of the spectator's awareness in the peculiar realm of perception that is the darkened movie theater. According to Kracauer, movies, and their specific mode of projection, represent a reduction of the audience's relationship to a reality that, paradoxically, through cinematic representation, is ransomed by the presence of humanity. In its attempt at restructuring the world through images, cinema somehow returns to a timeless dimension in which pure sensation allows the

viewer to experience a different form of reality, to participate in “the murmur of existence” (p. 165).

It is precisely in this epochal passage that the foundation of a completely new way of thinking about cinema was incubated in Europe. The insistence on eccentric and unusual themes such as hallucinations, memory disturbances, hypnosis, dream activity, forces the boundaries of cinema and—according to Deleuze—erases the restrictions of classical American cinema, favouring a visual and narrative composition in which the characters and the audience are caught in a perceptual environment of “visual and sound sensations (or tactile ones, cutaneous or coenaesthetic) which have lost their motor extension” (Deleuze, 1985/1989, p. 55). What distinguishes these kinds of images is also their complete separation from any form of objectivity because the starting point for these perceptions is not memory as a system of recollection and, above all, recognition; this happens because the temporal perimeter of this image-generation is characterized by a precarious and constantly changeable set of images which do not respond anymore to determined sound and optical symmetry but which, rather, move freely as in dreaming activity or in a condition abandoned to pure sensation. Time seems to have been freed from the dictatorship of coherence and continuity, and perceptions and sensations seem to exist almost independently from mnemonic persistence or reliability.

- Cinema as a perceptual tool: affliction as enhancement

There are several reasons for the strong tendency of cinematic language towards narrative and perceptual realism; for example, Bazin (1958/1967) notes that the arrival of sound implied a forced shift in the nature of the cinematic image itself. The purity and absoluteness offered by the “naked” image was replaced by a constructed visual narrative in which, according to Bazin, editing was primarily responsible for a cinema that decided to go towards realism. The sound image, “far less flexible than the visual image, would carry montage in the direction of realism, increasingly eliminating both plastic expressionism and the symbolic relation between images” (p. 33). Analyzing the difference between editing and decoupage (the latter being the visual mark of the visual image), Bazin locates the key difference between the two great periods of film history in the different techniques and procedures

related to the combination of images and sequences: as Elsaesser and Buckland (2002) point out,

The difference is that editing (unlike montage) is analytic, dramatic, and descriptive, that is, analyses and describes the filmed event according to its inner dramatic logic. Unlike montage, editing does not attempt to impose expressionistic meanings or distort the logic or spatio-temporal unity of an event; it serves simply to alter emphasis and viewpoint. (p. 197)

Thus, we arrive at a tendency that seems to intimately belong to cinema and that goes beyond its mere material representation. It is the inner structure of cinema, as understood by Benjamin, Bergson (and, as it will be shown in the following chapter, in the works of Bernard Stiegler), that can determine an experiential movement that gets ahead of any signification and enters the realm of the image.

The experiential approach insists precisely on this shift from image-action to pure optical situations in a complex redefinition of spectatorial functions in which perception is subject to a deterritorialization caused by the automatism of cinema. For this reason, “Anomalous states of consciousness can be celebrated rather than pathologised, both for their stylistic innovations and their impact on the audience who partakes of their effective contagion” (Powell, 2007, p. 22). Cinema ceases to be a mirror in which the ordinary so-called reality is represented, transformed, sweetened or brutalized. As many avant-garde and experimental authors have demonstrated in previous decades, cinema can be a sort of perceptual switch that can permit entry into different temporalities and that can trigger the activation of anomalous states in the mind of the viewer. The main question is, again, about the appearance of a time whose consistence and thickness are no longer measured by the visual obviousness of a movement that becomes action. Deleuze interrogates this suspension and opens up a fundamental distinction that explains most of the chronological transgressions and infringements which are widespread in contemporary cinema. As Anna Powell (2007) points out,

Deleuze distinguishes two kinds of time. Chronos – actual, spatialised time- is both measured and produced by the humanly invented clock. Aeon is the virtual existence of duration itself. Its transpersonal force is powered by the *élan vital* of evolving life. Chronos organises on the present moment as basic unit and measures out the action of bodies and causes. Aeon is the unlimited flow of past into future. The present instant is *never* fully present because it becomes past even as we try to grasp it. Aeon, which is always ‘already passed and eternally yet to come’ is the ‘*pure empty form of time*’. We travel through the layers of duration each time we seek to recall past events. (p. 140)

“Duration” is the keyword, the main entrance to an experience unhooked from the contingency of representation; what Deleuze and other theorists have shown is the substantial superimposition of the human perceptual apparatus and the cinematic apparatus. It is not just a simple biological adaptation that forces human beings to readjust the borders of their activities in order to remain anchored to the advancement of time which brings innovations and progress (see also Cavell, 1979). It is the medium itself that, when discovered and exploited, commands new instances and forces perception to enter inside the mechanism of the device. As Serafino Gubbio (the fictional cinematograph operator in Pirandello’s novel *Si gira*, 1915/2006) testifies, the estrangement of the spectator in front of the screen is a different kind of alienation, a subtle form of co-mingling between the self and the machine, between the inner rules of a technological element and a body that, besides having updated some of its biological rules, alters its consciousness and comes to a suspended condition in which images are not simply images anymore.

What is at stake in this discourse within and about contemporary cinema is, of course, a description centred upon the crisis of the subject. The term “subject” itself seems truly insufficient to describe the composite and unstable nature of what we have become. Subject implies a positionality, a solidification of some aspects. Subjects are nowadays the transitory sites of psychic and physical elements that find ephemeral points of aggregation around a body that, paradoxically, is the result of a continuous process of hybridization with the mechanical and the virtual. Thus we have travelled far from Aristotle’s *principium individuationis* to the actual condition of mere support that receives and holds all the transitory states of transformation determined by our relation with the technological environment, with a sort of extra subject that is the result of the transitory structure of every single state of consciousness we experience.

Apart from considering the body as a physical and biological entity, the

body is a cultural construct lived by men according to imaginary modalities: it always suffers a social and technological determination that, ultimately, also becomes a historical determination. The awareness of the body changes according to the epochs, but if we would like to identify a regularity in this development, we could say that the man’s entire

history can be described as the history of the progressive artificialization of the body.
(Caronia and Gallo, 1997, p. 98)

The new processes involving the radical modification of the perception of the world are also related to the extreme transformation connected to the human body: as cinema has often shown, there is always a direct relationship between the evolution of a technology and the perspective constructed and determined by the same technology and experienced by human beings. Cinema, according to Casetti's *Eye of a Century* (2005/2008),

taught us to look at the world as we had never been able to before [...]: if film reconquered and recast our manner of seeing, it was not only because it embodied the gaze of the human eye, but because it embodied the gaze of the twentieth century. The camera captured what lay before it in forms that revealed the attitudes and orientations with which people were compelled to look at the world around them". (p. 8)

- *The rhetoric of contemporary cinema: an immersive visual experience*

Contemporary cinema is marked by a momentous shift that is usually superimposed onto the postmodern turn; in his important book *L'écran post moderne* (1997), Laurent Jullier identifies the evolution of postmodern cinema with the advent of a totally different relationship between the audience and the screen. He argues that, in the Eighties, mainstream cinema was characterized by a tendency towards the solicitation of the senses and to a stronger, more physical involvement of the viewer. Cinema thus passed from a solid and well-established frontality of cinematic spectacle to an "immersion" that gives the viewer the sensation of drifting inside a realm of images and sounds that ceases to relate only to sight and hearing, seeking to implicate the viewer with a whole-body stimulus. In his analysis, Jullier identifies significant innovations in the sound design of cinema as one of the main elements involved in this perceptual transition. The race for more complex sound in the movie theater leads from Dolby to DTS to THX, sound systems seem to reset the spatial and sensorial relationship between the movie and the viewer:

Sound is the principal factor in turning essentially 2D viewing into a 3D experience. Following on from the introduction of a Dolby Stereo in the mid 1970s, other developments such as THX and digital sound systems have worked in extending the so-called 'off-screen' space of cinema, providing sound with depth and direction enough to make audiences feel as though the action is happening all around them. (Keane, 2007, p. 18)

Jullier also notes a switch from “communication” to “fusion” (p. 71) in which the audience is immersed within the image itself, conveying a sense of total envelopment within the visual environment without the need for explanation or to be shown more than necessary. This immersion offers the perceiver the possibility of moving from a passive and merely receptive function to an engagement that leads to a “*feeling of first personness*” (pp. 90-91). Indeed, the chain of technological innovations over the century, from the advent of sound cinema to Cinerama, CinemaScope and 3D in the 1950s, moved toward the direct and more effective solicitation of the senses. The economic policies of the studios and other leading companies in film production was marked by a constant effort to create a stronger emotional involvement of the audience, an emphasis which often coincided with an increase of the size and scale of images and screens.

Throughout the Eighties and the first part of the following decade, Hollywood developed a uniform and structured language that radically changed the way of communicating with the audience: spectacular and mainstream productions, seen from the distance of the time that has passed, show a similar explosive visual style, an effort that tries to put everything on screen and to offer the viewer a dimensionally stronger experience. The experiments with I-Max and Omnimax are just the tip of an iceberg that is built around the goal of surprising, shocking and immersing the viewer *inside* a visual field in which there is no space for reflection or thought; all the emotions, every single action, need to be shown with a dimensional relevance and with a final effect that stuns and astounds the spectator who is sometimes surprised by the coexistence of elements that were once linked together through montage inside a bigger frame.

One of the results of the so-called postmodern transition of cinematic language was a redefinition of the process of cinematic identification. No longer is there the need to identify with a character who can mediate the experience of the narrative, providing an insider perspective to facilitate a better understanding of the events. Instead, there is a different mechanism of identification, a process that becomes overwhelmed by an excess of visual and aural material and in which the quest for strong

emotional responses appears to be a necessary rule of the game. In Jullier's analysis, visual and sound dimensions work together in postmodern cinema in order to avoid a state of *anedonia*, the absence of emotive responses in the viewer, that, according to several theorists as well as trend setters in Hollywood, raises the potential menace of an inured spectator who attends the narrative ceremony in a movie theater having already learned all the rules and tricks passed down from classical cinema. A new aesthetics is needed in order to shift the focus from comprehension to emotions, from a "you see" approach to a "you feel" one.

This "in-your-face" intensity completely alters the linearity of the connection between the viewer and the object. As predicted by Benjamin and confirmed by Marshall McLuhan years later, the radical modification of the modes, the times, the possibility of medial fruition are connected to technological transformations specific to each medium. If theater was intended as a communicative event in which the spectator needed to be separated from the spectacle, then the conceptual line that ties together television, virtual reality and, consequently, contemporary cinema (itself deeply influenced by other visual media) tells us the story of a progressive process of bringing the spectator back into the spectacle. The symmetrical relation between creator and spectator, mediated by the eye, has collapsed, and the visual event is now a sort of cognitive crash in which external stimuli overwhelm the perceptual apparatus.

Perhaps this is the logical—and provisional—ending of a path in which the extension and augmentation of physical and perceptual capabilities and limits have run in parallel with the rules of the market and economic necessities. The recent explosion of digital 3D technology brings with it a series of aesthetic and epistemological implications, but it is also very clearly an attempt by the film industry to bring spectators back to movie theaters in an epoch of multiple viewing platforms.

In the last thirty years, cinema has been characterized by a paradoxical tendency: a palpable and profound crisis of the entire dramaturgic and narrative system, a determinate impoverishment of the mythopoetic power of the medium and its protagonists, which has been overwhelmed by an extraordinary reinforcement of the technological and structural elements of the shooting, projection

and commercialization phases in the process of film-making. Diminishing inventiveness has been balanced by an extremely vertiginous progress in the forms of exhibition, and this shift is the main element in a different approach towards images and cinema which is more focused on the viewer's experience and its implications.

Though various discourses and reflections on contemporary cinema converge in this diagnosis of crisis, a more finely-grained analysis leads us to the genetic transformation experienced by the frame. The frame, the basic element of the motion picture, has undergone a radical transformation that has led to new rules and new aesthetic imperatives: the influence of digital technology and its visual implications implies a redefinition of the margins of the frame and the material contained within it as they seem to obey the law of extreme filling.

The influence of visual special effects, the possibility of continuous transformations in the post-production phase, gives the frame a new status as an impermanent unity that somehow *knows* that everything can be changed, transformed, erased with the aid of digital effects. It is like an invisible haunting that inevitably transforms the same roots of cinematic language, offering the chance to conceive of the frame as a mutant visual organism, as a protean element that scientists are going to transform.

The frame ceases to be a bounded unity, a closed space, a complete meaning platform, and becomes a single part of a larger hypertext, virtually linkable to other images that exist somewhere else but not in the physical space of the shooting stage. This happens, obviously enough, in the restricted forms of a superficial hypertextuality, the only possible variation of hypertext in cinema being the coexistence of different chronologies inside the same story, the multiplication of virtual narrative levels, plots always more submerged in nonlinear sequences of events. Titles such as *Sliding Doors* (Peter Howitt, 1998), *The Usual Suspects* (Bryan Singer, 1995) or *Amores Perros* (Alejandro González Iñárritu, 2000) show how cinema has moved beyond the realm of merely technological contaminations, showing that something is happening at the narrative level as well. The digital database has exported the conceptual frame of its structure, influencing the way we now consider narrative.

The perception of time and reality are strictly related, particularly because of how variations of time can infect every idea or perspective on reality or realities. From a specifically narrative standpoint, the transformation of time as a variable element of the fictional universe strictly relates to the appearance of other, differently structured medial objects inside the cultural horizon. The modularity of its diversified occurrences is the direct effect on narrative strategies, a transformation that, of course, has profound repercussions for the experience of the audience. As Allan Cameron (2008) writes,

The characteristic structures of modular narratives can be created through temporal fragmentation, through the juxtaposition of conflicting versions of events or through the organization of narrative material by non-narrative principles. In these films, narrational order [...] may differ radically from story order [...]. These divergences may even impede audiences' efforts to establish causal, spatial and temporal relations within the story. In many cases, they offer 'flashforwards' (rare in classical cinema) or flashbacks that are not, strictly speaking, motivated by characters' memories. Arguably, non-narrative spatial and temporal systems are granted a role in structuring these films. In this respect, the term 'modular narrative' could be applied to digital media including computer games, hypertext narratives and the Internet, all of which provide a more literal instance of modularity. (pp. 4-5)

Narrative cinema is absorbing the modular features of other media, paradoxically maintaining its linear form but also adopting the strategy of multiple connections among different discrete temporal portions that are structured according a nonlinear path.

The idea of a nonlinear and malleable time is not exclusive to contemporary narration and epistemology. From Leibniz to Borges, time has often been the subject of multi-layered fictional and theoretical reflections: the impossibility theorized by Leibniz or the forking paths of Borges's garden are there to communicate a complex truth: nothing is real anymore; there are no authentic or fake perceptions, only perceptions, and the tracks of linear time are disappearing, leaving many narrations suspended in an absoluteness that misses every point of contact with a representation of reality like the one the audience was used to during the classical period. When cinema (and narration in general) loses the certainty of chronological linearity, the consequence is the disappearance of truthfulness, though not because of a relativism that is connected with the trite formula "each has its own truth". Rather,

It is a power of the false which replaces and supersedes the form of the true, because it poses the simultaneity of impossible presents, or the coexistence of not-necessarily

true pasts. Crystalline description was already reaching the indiscernibility of the real and the imaginary, but the falsifying narration which corresponds to it goes a step further and poses inexplicable differences to the present and alternatives which are undecidable between true and false to the past. (Deleuze, 1985/1989, p. 131)

Undoubtedly, the notable shift away from the norms and canons of the classical age of cinema has been centred on different thematizations and visualizations of time and the alteration of the experience of spectatorship. The participation required of the new generation of viewers demands basic knowledge of different narration techniques and exploits the cultural evolution of a society that has assumed the general logics of the digital database and rhizomatic movement inside the hypertextual grid as a spontaneous activity. Of course, there has been a notable mutation in the themes that contemporary mainstream cinema deals with: there is more violence, more sex, more extreme situations and emotions. But it is the overwhelming sensory stimuli and the necessity of an involvement that conveys inside the frame a new relationship between the audience and the movie itself. As Elsaesser and Buckland (2002) highlight:

Advocates of a 'post-classical' break would add that it is special effects, new sound design, and the bodily sensations of the theme park and roller coaster ride which most clearly typify the aesthetics of New Hollywood, and that horror, violent death and explicit sex have migrated from the B-movie (and pornography) margin to the mainstream centre. Together, these sensory stimuli and thematic preoccupations have changed the way films are designed and visualized, with the result that they are differently interpreted (or used) by audiences. 'Spectacle' in this context would connote that such movies are 'experienced' rather than watched, that they offer a fantasy space to 'inhabit', rather than opening a window onto reality. The emphasis on sense impact and emotional contact makes it easy to think that story-telling no longer mattered in the way it used to during the period of the so-called classical style. (p. 23)

- The mind becomes the brain: why contemporary cinema makes wide use of perceptual dysfunctions

The same balance between stylistic implications and fictional recreation shows its relevance in the noticeable rise of a sort of a literary sub-genre, one that some critics have defined as the "neuronovel" (see Roth, 2009). These works share the narrative element of one or more characters suffering from some form of brain disease. What was once identified with the psychological novel or the novel of consciousness has now become—with a significant shift—the neurological novel, which is transversing diverse genres in recent American and English literary production. The malfunctioning of a brain

becomes, for these writers, an opportunity to reflect upon the normal functioning of the sane brain, in an inversion that is linked to the cultural shift determined by the emergence of such disciplines as neurochemistry and the study of consciousness. Such titles as Ian McEwan's *Enduring Love* (1997), Jonathan Lethem's *Motherless Brooklyn* (1999) or Mark Haddon's *Curious Incident of the Dog in the Night-Time* (2003) are just some of the many novels devoted to different neurological anomalies and which, despite dealing with different syndromes and varied literary genres, mark a turning point for the narrative horizon of contemporary fiction.

The personal and individual condition of having a brain disorder often becomes an allegory of a generalized condition, and the pathologies are developed both as metaphors for a universal state of suffering and as privileged perspectives for the analysis of the human condition as a whole. The conditions described in these novels are often rare, so that the suffering of the individual characters avoids any simplistic or reductionist interpretation, and, at the same time, point straight to neurology, to a biologically atomic circumstance where individuality becomes impossible to close within a hermeneutic frame.

Of course, the cognitive lack suffered by the characters is not shared by the readers, but some authors, such as Richard Powers (*The Echo Maker*) or Rivka Galchen (*Atmospheric Disturbances*, 2008), try to balance scientific description with an accurate construction that pushes the reader's point of view towards the same "places" inhabited by the characters. The use of language pushes the limits of everyday rhetoric and follows experimental paths with the intention of building a mental frame containing both the characters and the readers.

The substantial loss of the subject becomes the new focus of novels that have abandoned the modernist perspective of the psychological novel informed by Freudian theories. The cultural trend of contemporary mythmakers is to absorb scientific intuitions and transform them into narrative and fictional coordinates. Marco Roth (2009) writes:

What's strange is that science, as it moves in the direction of a total redescription of the mind in terms of the brain, may merely be replicating and systematizing the earlier insights of the psychological novel. [...] Surely the way for a novelist to be a neuroscientist today is still to anticipate rather than follow the discoveries of brain science. It would be no surprise

if a novelist could still describe and mimic traits of cognition that neurology can't yet experimentally confirm.

What Scott Bukatman (1993) describes as the three ego-smashing historical moments (the Copernican revolution, Darwin's theories, Freud's theories—all of them regarding a discontinuity between man and nature) were followed by a profound discontinuity that put the status of the body in a condition of permanent crisis, between man and machine. Narrative reacts to this condition of crisis by entering a state in which new relational mechanisms need to be explored. According to Bukatman, we have entered a historical phase in which the human body still determines most of our perceptual and cognitive relations with so-called reality while, at the same time, experiencing a definitive crisis, a crisis that is related to its functioning, to its very being as a tangible 'object', to its loss of relevance in the processes and procedures of the technoscape. The *embodiment* of the mind (see Lakoff and Johnson, 1999) radically redefines the hierarchical structures of subject-formation or, rather, of subject-dissolution:

The body, here, exists *only* in phenomenological terms: it perceives and it moves (a reductive and utopian version of Merleau-Ponty's model of subject-construction, which eliminates the mortal limitations of a physical body). Through the construction of the computer itself, there arises the possibility of a mind independent of the biology of bodies, a mind released from the mortal limitations of the flesh. (Bukatman, 1993, p. 208)

A new body requires new representations, new narrative strategies focused on the redefinition of the boundaries of what we can still call 'human'. And it is exactly along these boundaries that new discourses about the body, subjectivity and failures of perception are arising. In contemporary cinema, bodily pathologies are primarily pathologies of the self and mainly coincide with a perceptual apparatus that needs to re-organize its procedures while contemplating the impossible task of a complete and wholly comprehending relationship to the outside world. This presents problems concerning the characters of these narratives and, in many instances, the spectators who find themselves caught in a subverted and extended relationship with the screen and the usual practices of viewing. This difficulty explains the aforementioned "rise of the *neuronovel*" and the impressive number of films made in the last twenty years which are directly linked with pathologies and perceptual afflictions. These illnesses

and disturbances do not simply build a damaged subject whose consciousness or identity is merely fragmented or devastated but, rather, can also work as a new perspective on the surrounding context.

As Thomas Elsaesser (2009) points out,

these apparently damaged minds and bodies are capable of displaying remarkable faculties at times, being in touch with agents from another world (*The Sixth Sense*), intuiting imminent disaster (*Donnie Darko*), or starting popular protest movements (*Fight Club*). Their disability functions as empowerment, and their minds, by seemingly losing control, gain a different kind of relation to the man-made, routinized, or automated surroundings, but also to the more “cosmic” energies, which usually center on the new physics of time travel, curved spaces, stochastic systems, and warps in the universe. In other words, these pathologies are presented to the spectator in some sense as *productive pathologies*. (p. 31)

Perhaps these bodies and minds are simply repositioning their own selves inside a highly technologized environment, trying to renegotiate the issues intimately connected with the boundaries of the self and the surrounding world. The possible readings of this transformation can be different and not necessarily exclude each other. It is extremely evident how Benjamin’s intuitions about the disciplinary systems which cinema helps build are becoming implemented. The senses have been “trained” by classical cinema to adapt to a defined relation between the self and the world, and just when the socio-economic condition of cinema production and distribution are being profoundly rethought, the great Western narratives gain a new meaning by adopting a large number of pathologies involving the mind and consciousness. This seems to be a simple updating of a strategy that we can find throughout the entire history of Western cinema. Benjamin certainly affirmed that one of the main aims of cinema is to protect the subject from the extreme shock produced by the contact with technologized civilization: the duplication of the external reality and its pleasurable repetition on the screen facilitate the continuous adjustment of our senses. Cinema, taking on the work of tutoring our perception, avoids extreme traumas and upheavals.

Nowadays, the perceptual and sensorial storm that marks the present condition of communication is somehow canalized in distorted and displaced narratives that reinforce the sense of menace and, at the same time, seem to offer the subject the possibility of new forms of mirroring, of different strategies for relating to external reality, of new hierarchies among the senses and between mind and body.

It is not unexpected that great narrations of contemporaneity are welcoming such important transformations experienced by the concept of identity. As Stuart Hall (1996) writes,

identities are about questions of using the resources of history, language and culture in the process of becoming rather than being: not 'who we are' or 'where we came from', so much as what we might become, how we have been represented and how that bears on how we might represent ourselves. Identities are therefore constituted within, not outside representation. [...] They arise from the narrativization of the self, but the necessarily fictional nature of this process in no way undermines its discursive, material or political effectivity, even if the belongingness, the 'suturing into the story' through which identities arise is, partly, in the imaginary (as well as the symbolic) and therefore, always, partly constructed in fantasy, or at least within a fantasmatic field. Precisely because identities are constructed within, not outside, discourse, we need to understand them as produced in specific historical and institutional sites within specific discursive formations and practices, by specific enunciative strategies. (p. 4)

The disappearance of one of the fundamental issues related to the essence of cinema, the signature of reality impressed on film, inevitably leads to the sense of an absence, of a void. Cinema has always worked as an apparatus in which reality leaves its marks, giving the medium both a spatial and temporal meaning. The space of the frame as a duplication of the reality built in front of the camera, or simply existing behind it, offers the most obvious and still-relevant example of the direct relationship constructed by the intrinsic structure of photographic and analogical specularity. Moreover, when Bazin (1958/1967) wrote about the mummification of time permitted by cinematic language, he intended to fix the essence of an art that could arrest the indistinct flow of time, capturing the passing of time and offering the illusion of control above and beyond chronologies and history. Nowadays, at a historical moment in which cinema thrives on an absence of reality, a disappearance of all the ontological contaminations from reality, the lack of a depicted reality is reversed in a fundamental question: what kind of connection with the external and surrounding reality could be offered by a cinema in which space and time have undergone such a significant overturning? When cinema is not contaminated by reality at any ontological level, what kind of image of reality can cinema give back to us? Following the main shift towards a visual language totally separated from reality, it seems almost spontaneous that contemporary cinema offers a misperception of reality, or, at least a conflictual relationship with those parameters of reality which, in the pre-digital age of cinema, were rarely

questioned or subverted.

As Deleuze explains, the relationship between the categories “cinema” and “reality” requires an updating in which it becomes clear that reality is not a stable and unified entity but rather a continuous becoming in which cinema represents a modulation of the real. This is what leads to the conclusion regarding the intrinsic coincidence between image and reality. Image is reality, because reality “differentiates itself in the actuality of movement-image and in the virtuality of time-image” (De Gaetano, 2002, p. 39).

One of the main keys to this brand new mutual relationship is offered by the complexity of narrative lines, or by the dispersion of chronologies throughout the plot. Telling stories about traumatized characters and affected senses, these movies constantly try to redefine the limits of identity and consciousness, both subverting the senses’ hierarchies beyond the screen and among the audience. While the phrase “losing the plot” usually refers to a condition of suffering related to memory and its activities, it could also be an appropriate label for a strong tendency in contemporary Hollywood, something that derives from its European avant-garde inheritance and that was brought to its apogee by the world wide success of Quentin Tarantino’s *Pulp Fiction* (1994). American independent cinema has often adopted a narrative strategy built upon a systematic violation of the mainstream rules, privileging a fragmentary structure of time and a combinative logic of image and plot composition. The death of Vincent Vega in the middle of *Pulp Fiction* and his narrative resurrection in the last part of the movie mark the acceptance of a once-limited narrative strategy within the main field of popular and mass culture.

The passage toward increased complexity is marked by a transformation that affects both cinema and other mass media, such as television, videogames and, to a smaller degree, literature. The passion for textual complexity automatically leads to the requirement of a different effort from the audience. The reasons of this epic shift are varied and multi-faceted: the emergence of different visual systems of communication and entertainment forces cinema, around the beginning of the Nineties, to rethink its position inside the mediascape, focusing obsessively on complex plots and puzzling narratives. The

totally new mediascape updates Benjamin's intuitions about the connection between technological innovations and the biochemical transformations of human body. Moreover, while the classical age of cinema in the United States is indelibly marked by the transparency of its *mise en scène* and the self-sufficiency of its plots, films related to characters whose cognition and senses fail to achieve their usual and ordinary mission insert a hole into the story and—if the director decides to risk it—make the audience share this lack that is the frame of the entire operation. Filling in the void and closing the hole is a strong trend in contemporary Hollywood, and a passive and non-receptive viewer inevitably fails if s/he tries to follow and experience such complex and puzzling images using an outdated approach. As Steven Johnson (2005) notes, “Like those video games that force you to learn the rules while playing, part of the pleasure in these modern [...] narratives comes from the cognitive labor you're forced to do filling in the details” (p. 77).

Hollywood has always relied on the audience's fascination with stories revolving around a certain ambiguity or with different levels of meaning-making: the accessibility of classical Hollywood texts was a precise strategy aimed at the fulfillment of all of the audience's expectations and desires. The growth of a totally renewed context of reception, determined by the massive multiplication of media, and the subsequent adaptation of human cognitive structures to the transformed visual environment is one of the main causes of the industry's attempts to regain its lost position of prominence and hegemonic power over the representational *noesis* of a large part of the audience. The emergence of videogames, television and the Internet as platforms in which narrative strategies are remediated and spectatorial contracts are re-stipulated has made it necessary for Hollywood: to update its own narrative strategies in order to remain the leading media commodity in contemporary world.

- Every new technology carries within it a new perceptual affliction. The crisis of contemporary cinema in the contemporary visual-scape

The modification of the visual environment and of the technology itself has always meant a constant rethinking of the dramatic and linguistic frames adopted by cinema. The crisis of the subject finds its visual representation in the transformation of subjective vision, a perspective upon reality that becomes

ambiguous, fragmented, uncertain. Perhaps it was with David Cronenberg's *Videodrome* (1983) that cinema embarked on a different path from among the possibilities for representing consciousness: adopting technology as an extension of the actual perimeters of consciousness means the transformation of the dynamics for cinematic representation of the "human-reality" relation. The explosion of new technologies and the effort made using cinematic language and productive structures in order to keep pace with contemporary innovations meet in the profound transformations of strategies for subject-narration.

There are certainly political, socio-economic implications in such processes, perhaps chief among them Hollywood's desire to keep the audience's attention by offering challenging representations of the subject that works both as a mirror and as a model to follow. Moreover, the increasing impact of Hollywood movies on global culture implies the imposition of cultural and social patterns that shape the perception of the present in different ways. But cinema does not necessarily work as an instrument of mass mind construction but rather as a visual event that spreads the perception of the profound transformations determined by the wide diffusion of digital and immaterial technologies. The crisis of contemporary cinema is consequently experienced as a radical rethinking of the perceptual categories that have guided the relations audiences have had throughout the history of cinematic spectatorship.

Narrative does not represent simply an ornament, a superfluous issue in the process of structuring a society; rather, it is a fundamental artefact that individuals use to facilitate a simplification of the complexity of the social experience (see Bruner, 1991). Transformations of societies determine (and are determined by) the evolution of their narrative constructions, and the technological development that rewires present-day societies is mirrored in the narrative forms and structures of contemporary life. It is more than evident that in the passage from the Eighties to the Nineties the impact of digital technologies on our everyday lives radically mutated the narrative horizon of cinema and literature. But the same can also be said about previous decades: the first societies completely immersed in televisual culture experienced the dramatic conflict between linear and alphabetic information and the simultaneous and electrical one proposed by television. The expansion of the consciousness is the

fundamental guideline that leads individuals towards an enlargement and an intensification of perception. A new organization of memory and knowledge seems to redefine the relationship between a multiplied self and the outside world.

Perception becomes the cultural and psychological plane where most of the modifications happen, ceasing to work just as a membranal interface that allows living beings to recognize the external world, making it readable and understandable; instead, it is the permeable border where the differences between external and internal reality collapse in a sort of diffused psychosis that, rather than being an illness, is a permanent condition that signifies:

the effects of the new disciplinary machines of which they are the early warning systems, heralding the next step after internalizing (bourgeois) self-discipline and self-monitoring, where it would no longer be the mind – not even the Freudian mind, with its unconscious and superego competing for control – that is in charge, but instead, where the senses, the sensations, affects, and the body are the ones that are being directly addressed, stimulated, and appealed to, and thus “organized” and “controlled,” in order to fit the subject into the contemporary world and the social matrix of “affective labor”. (Elsaesser, 2009, p. 32, citing Hardt and Negri, 2001)

In the contemporary age of revolutionary technologies, the increasing interest in narratives connected with perceptual afflictions could be read as the discomfort of a cinema dealing with the radical transformation of its productive and communicative model. The huge importance of videogames or new forms of reality augmentation are affecting the contemporary mediascape. The previous, pre-television dominance of cinema among visual media has been discussed within completely renewed relational models converging in the meta-strategy of interactivity. New schemes and new forms of vision are pushing the borders of cinematic narrative and representation strategies. It is extremely important to avoid easy equations in which the intertwining of cinema and its *outside* are described or interpreted following a deterministic account. A glimpse into the debate in film theory during the Seventies offers two interesting perspectives: from a methodological point of view, the approach of Pierre Sorlin seems the most balanced and, perhaps, the most useful for this research. According to Sorlin,

a film, before showing us the interests and orientations of a society, shows us the horizon of thought along which it travels. Before telling us what a given society chooses to portray,

a film tells us what is considered portrayable. Thus, Sorlin posits the idea of the *visible*, by which he designates what filmmakers consider easily presentable and what viewers can easily perceive. The result is to bring into focus both the kind of ‘image’ a culture uses to portray reality and the idea of the ‘image of reality’ a culture possesses. (Casetti, 1993/1999, p. 299)

It is widely acknowledged that Cronenberg’s *Videodrome* (1983) shifted the limits of the visible, showing all the ongoing processes that were transforming cinema and image-viewing at the beginning of the Eighties. Creating a movie in which the separation between the Self and the outside, the subjective and the objective, reality and hallucination is totally erased, Cronenberg focuses on the body and transforms it into the *place* in which mind and machine find an ideal interface in the process of extending their respective influences and boundaries. In a movie strongly affected by McLuhan’s theories and marked by the presence of a character (the tele-messiah Brian O’Blivion) clearly inspired by him, it not surprising that Cronenberg, with a raw corporeal power, shows how technological capabilities have become “the extension of man” (McLuhan, 1964). Cronenberg adapts his poetics of biological and venereal horror to a definition of new standards for the depiction of the transformed subject. Media and biology converge in the formation of a renewed self that extends beyond the physical borders and range of action of the nervous system: an enhancement of the brain that, according to McLuhan, should allow human beings to gain stronger control over the surrounding reality. As professor O’Blivion solemnly affirms at the beginning of *Videodrome*,

The battle for the mind in North America will be fought in the video arena – the Videodrome. The television screen is the retina of the mind’s eye. Therefore the television screen is part of the psychological structure of the brain. Therefore whatever appears on the television screen emerges as raw experience for those who watch it. Therefore television is reality and reality is less than television.

It is extremely easy to recognize McLuhan’s theories behind the prophetic appearance of this mysterious theorist who refuses to appear *live* and who communicates only through videotapes. But what interests us is the entire representational process that Cronenberg engages in with *Videodrome*. His visual strategy, indeed, is completely internal to the cinematic language and works with the meaning and legibility of images, never explaining what is to be considered “real” and what, on the contrary, is narratively explainable as a hallucination experienced by Max Renn or the other characters. The effect is

decisive, as the distortion of perception slowly infects the whole narrative. As Bukatman (1993) writes: “These confusions, between reality, image, and hallucination, pervade the film. There is no difference in the cinematic techniques employed, no ‘rational’ textual system, which might serve to distinguish reality from hallucination for the film viewer” (p. 91). This ambiguous collocation of the hallucinatory frame pushes the audience toward a complex perceptual realm in which the unbelievable becomes the rule and every image seems to be contaminated with this inner uncertainty. The audience is pushed into a condition of wholly subverted spectatorship in which their perceptual system is led to the same spot inhabited by the overwhelmed character of the movie.

Starting with the first contagion experienced with the Videodrome signal, the presence of Max Renn coincides with a spreading hallucinatory state that, substantially, prevents the audience from clearly distinguishing the reality levels of the narrative.

2 I Don't Remember, I Don't Recall

- From Locke and the continuity of memory to the expanded state of amnesia

Lockean theories of selfhood locate it exclusively in the continuity of memory: for Locke, if someone does not remember anything about his/her past, s/he has, literally, no identity. Identity seems to be the extension of consciousness backward in time; whatever can be remembered of a lived past belongs to identity and gives it a shape that guarantees a persistence in time. Unremembered past experiences are not part of identity. According to Locke, forgotten past experiences are excluded from identity because, in his view, a person is always conscious of what s/he thinks and remembers. The person maintains her/his identity and individuality if the subject “consider[s] itself as itself, the same thinking thing, in different times and places” and when “consciousness extends backwards to unite thought and action” (Locke, 1690/2004, p. 267). It is consciousness that works together with thought to determine the perimeters – in space and time – of the person, of the persistence of subjectivity. Thus, if consciousness does not recover something from a recent or distant past, this missing part is not part of the person anymore. So the conclusion is that identity cannot be intended as a fixed or unchanging entity but rather a dynamic aggregation of different, continuously updated memories that incessantly transforms itself.

The substantial identification between memory and self separates Locke from the Western tradition he comes after because, instead of placing the self in the consciousness of the thinking process, he adopts the vision of a consciousness that can go backwards in time. If unremembered experiences, thoughts or actions should not be assumed to be automatically part of identity, the consequence is that identity and selfhood are not related to the continuity of the body or mind. This is why a case of amnesia, according to Locke, is a signal of the loss of identity.

The aporias contained within it (the knowledge of the self as a construction made *a posteriori*) did not

prevent Locke's theory about the perfect identification of memory with the self from being quite influential during the following centuries. Hume, for instance, in his *Treatise of Human Nature* (1740/1978), reinforces this assumption, assigning to memory the faculty of making the causal relations that lead to a determinate circumstance clear to the subject. Hume identifies knowledge with memory or with present perception of facts, giving new shape and actuality to Locke's ideas. In both philosophers, a particular concept recurs: if identity can be extended to a memory that can include events that – whether or not they actually happened – are remembered by the subject, this activity relates to a form of self-narrative. Of course, according to Hume, memory works as a *place* in which previous (actual or fake, real or invented) occurrences are pieced together, whereas, in the system erected by Locke, memory is the guarantee of the existence of the self, the mirror from which the subject reproduces its experiences. While there may be different movements and different directions in their conceptualizations, there is a common trust in the self-defining power of memory and in the narrative value of the ability to remember.

Given that Locke is the most relevant point of departure for every theory about memory until the nineteenth century, it is absolutely clear that, since its birth, cinema has been profoundly indebted to Lockean theories of memory. Classical cinema continued and reinforced this relationship, building an entire system for the visual representation of memory which was premised on the solidity of selfhood and the manifestation of memory as a confirmation of the continuity of the remembering self.

It is obvious that the way we feel about and perceive ourselves is strongly linked to our memory; if something challenges, alters, erases or disturbs our memories, our sense of identity is deeply menaced. This happens when we perceive our memory as a reconstructed phenomenon, the result of a combination of different elements (emotions, images, sounds, interpretations, ours or other people's re-loadings of facts). Our sense of self is challenged when we understand that we never possess our memories, that, on the contrary, we are part of them, because memory is never inside but always outside ourselves. Locke, (as well as Hume and Hobbes) wrote about memory as a sort of private

property, as something that belongs to us and which nobody can transform or steal. When we remember something that happened to us in our past, we discover ourselves in the unique position of subject and object of the same remembering process. We are, in a way, telling a story in which we are narrators and characters, about an experience we lived, facts that happened to us; thus, it is difficult to consider memory as a cold, distant tool useful only for recalling something.

Memory has often been defined as an act that creates unity from chaos, a unity in which there is a subjective and objective identity that Western culture has named “Self” and “World”. These are not a reality in themselves but rather constructions by a memory that discovers actions, thoughts, feelings that belong to a self and that puts experiences and events that would otherwise be lost in a perceptual chaos into a coherent and continuous order (the World).

Moreover, intended this way, memory undergoes a process of objectification: it becomes an object closed in the drawer of the skull. This objectification implies two relevant aspects: firstly, the fact that memory, rather than having the structured and closed shape of an object, is actually an open process, a continuous becoming that is never concluded, is forgotten; secondly, the dynamics of interchange that memory has not only with the brain but with the entire body, with the whole system of senses, become irrelevant. The localization of memory solely in the mind implies an objectification and, in a certain way, a mummification of the remembered event (or sensory experience) that becomes a sort of dead body ready to be autopsied and exhumed every time the subject feels the urge or the necessity of doing so. The dislocation of memory is a complex phenomenon that both multiplies the bodily connections between the remembering subject and her/his private archive of memories and reconfigures the unbalanced relationships with the social and cultural context. The traditional definition of identity – and its one-way connection with memory-related issues – does not consider the possibility of a broader and less individual process of memory formation.

The possibility of reshaping the physical boundaries of memory activities implies a redefinition of the scale and the practices of their representations. Of course, memory has more than one connection with

the main theme of identity. Autobiographical memory, for instance, perfectly exemplifies the paradox of this relation: it seems to be something that exclusively belongs to the owner of the memory itself, but it is the result of a continuous process of formation that more closely resembles a patchwork, a composite structure in which many different memories, public and private, social and personal, converge in order to determine an unstable point of equilibrium between collective and individual. As new medical technologies intensify the possibility of “entering” the hidden parts of our body, human beings experience a bizarre condition of losing the boundaries of what is absolutely private and inaccessible. Public and private dimensions are continuously challenged as solid and immutable categories and, more importantly, lose their spatial scope, their physical limits. Private and public are everywhere, in a spatial continuum that determines a process of dislocation and relocation of what had once been absolute and inviolable limits. This, obviously, leads to a redefinition of the connection between private or individual memory and the definition of an identity.

What is the connection between mind and memory? The history of twentieth century thought tells us that it is neither useful nor correct to identify the two elements, but perhaps it is possible to analyse the possibility that memories exist absolutely independently from the mind. Tomas Maldonado provides a few examples: genetic memory, inscribed in our DNA, and immunological memory that belongs to antibodies are biological manifestations of this extended definition of memory. But there is also the epistemologically decisive issue of memory in relation to computers, tools which store an enormous amount of data, transforming them into something which is always disposable (Maldonado, 2005, pp. 117-118).

Memory has always been considered a vast mental environment in which all of our experiences (connected to and determined by both the outside and inner world) converge, allowing us to decode the raw material delivered to us by our sensory schemata. Every time we have a cognitive experience, our memory is activated in order to make what is happening recognizable and identifiable, continuously relating it to previous experiences and accumulated knowledge. This tells us that memory is central to the process of knowing and the formation of consciousness. However, moving away from strictly

scientific aspects, a question concerning the cultural use and meaning of memory which we intend to explore in depth here is one regarding the physical location of memory itself. The extremely mysterious and elusive position of memory is one of the most contested issues in neurobiology: the engram is the internal trace of a remembered event, a sort of plastic modification that involves synapses that respond to the synaptic communication between connected cells and that, somehow, become stable, building a recorded event and giving it a form of durability (Semon, 1904/1921; Schacter, 1996). The great question that besieges brain science regards the “where” of this phenomenon – the presumed locations of this activity are the amygdala, the hippocampus, and the neocortex. But, despite the uninterrupted debate about this localization, there are no certainties about the question. Perhaps this doubt is bound to be resolvable because of the fact that animals have different kinds of memories and these memories are formed in different ways. If human memory is categorized in – at least – four types (episodic, skill, working, and conditioning), there is a strong possibility that each sort of memory involves separate nervous system tracts and different areas of cells.

As the famous psychologist and cognitive neuroscientist Endel Tulving (1995) writes:

There is no single activity, or class of activities, of the organism that could be identified with the concept that the term denotes. There is no known molecular change that corresponds to memory, no known cellular activity that represents memory, no behavioral response of a living organism that *is* memory. Yet the term *memory* encompasses all these changes and activities. (p. 751)

Most of the films discussed in this chapter try to deal with this fascinating aspect related to memory. The narrative approach somehow gets ahead of scientific accuracy and finds a visual way of depicting the brain and imagining an actual, physical position that helps audiences for spectacular purposes. The visualization of the engram represents a violation of scientific discoveries, offering a direct and stimulating visualization of such mysterious activities and, maybe, tells us something about how contemporary culture deals with memory and how contemporary visual strategies try to overcome some of the voids of the visible. But it is only the latest chapter of an on-going relation between narrative and memory.

Narration is a fundamental aspect of memory functions. Narration implies two relevant issues related to mnemonic activities: in order to tell a story, at least two memories are activated, because we deal with both our memory of narrators and the audience's. Then (and all the studies devoted to narratology have profoundly described this phenomenon), every time we become narrators, we decide the arrow of time, the chronological structure of our narrative product. By doing so, the narrator also decides the majority of the memory activities happening inside the reader-viewer-spectator's system of remembering. All the experimentations conducted by such great writers as Huysmans or Joyce, and many others during the twentieth century, brought to public attention the power of interference that the chronological and mnemonic systems adopted in the narrative structures embrace in order to profoundly affect the readers' reception. And a transformation of the figuring processes inevitably leads to a reshaping of memory formation.

It is easily understandable how the explosion of cinema as a mass language has intensely overwhelmed the mnemonic activities of its audience, adopting images and sounds in a completely new way. The construction of memories shaped in a specifically cinematic way alters common procedures of memory-formation and recall. As extensively demonstrated by several studies and experiments, there is an inner relation between cinema and human mnemonic structures, a relation that lies in the activation of the mnemonic processes involved in every stage of cinematic spectatorship. When we sit in front of a cinema screen, mnemonic activity is suddenly activated, forcing us to move inside the plot and interact with the images according to our modality of spectatorship which has habits, rules, mechanisms that obey the norms of our previous experiences as part of an audience.

Film theory dealt with memory and its implication in the important studies of memorization conducted by Fraisse and De Montmollin. Casetti (1993/1999) underlines an experiment conducted by the two authors which

analyzes both what remains at the end of projection ('immediate memory') and what remains after a long time ('deferred memory'). In the first case, 'what remains is a function of the relationship between the images and the story told; a logical or affective restructuring takes place in overall impression'. [...] In the second case we have, instead, a large amount of data loss and a readjustment of the global picture. With the passing of time 'forgetfulness flattens the acoustic and visual images; it totally eliminates both their

accessory and characteristic details, or those defining the meaning, the originality, and the coordinates of the story told by the film. The memory we retain of the action is in the last analysis a *passe-partout*, a stereotyped tale' . (p. 100, citing Fraisse and De Montmollin, 1952, pp. 55, 68)

Another key-point widely analysed is one that links remembering to nostalgia. Nostalgia and cinema were first connected in the writings of French theorist Jean-Louis Baudry who often wrote about the importance of nostalgia among the psychological features that drive a spectator to go to the cinema. Baudry is profoundly indebted to the Freudian perspective on cinema as a sort of hallucinatory apparatus. Throughout the twentieth century, this Freudian inheritance developed a solid set of metaphors for the condition of the cinema viewer associated with that of the dreamer, with a sort of regression that brings the psychological state to a condition of near fulfillment, where dreams and illusions seem to become true and perceptions of one's own desires appear to be satisfied in a quasi-hallucinatory condition. In his essay "Le dispositif" (1975), Baudry affirms that the desire to be cinema spectators is strongly linked to a joyful condition, a "nostalgia for a state in which a desire has been satisfied through the transfer of a perception to a formation resembling hallucination, which is at play and activated by the cinematic apparatus" (p. 70).

As many other post-Freudian intuitions, this reading of the activity related to nostalgia needs to be updated and reconsidered. Firstly, it seems important to note that the reading of the hallucinatory state connected to the cinematic experience has been dismissed for its inherent weakness. It is really hard to demonstrate the idea that the spectator is simply transported and overwhelmed by images and sounds, that his/her awareness does not help in the correct perception of lived conditions. According to Laura Rascaroli's (2008) writings about the work of Terry Gilliam and Kathryn Bigelow's *Strange Days* (1995), nostalgia should not be considered only as a solitary recreation, as a basic desire for distraction, but also as a productive activity in which the subject experiences cinema as a revolutionary apparatus that allows time travel and permits a free perceptual movement through different time levels and chronological planes. Floating through a distorted or unanchored chronology implies a complex mnemonic activity in which the reciprocal positions of past, present and future are constantly negotiated in a relation

between the perceptual systems that must confront a purely narrative freedom. Focusing on the characters of Lenny Nero in *Strange Days* and Joe Cole in Gilliam's *Twelve Monkeys* (1995), Rascaroli acutely points out how

the spectator never completely forgets that he or she is at the cinema, and fluctuates between credence and mistrust, without necessarily having perfect control of this mechanism – the border between belief and disbelief, as well as between perception and illusion, is precarious and often crossed. This back and forth movement also concerns our metaphorical spectators. Cole and Lenny like their trips and clips so much that they prefer them to real life; and because of this inclination they often cross the above described border between perception and illusion.

Another important theory about the specific connections existing between memory and the cinematic apparatus is Sigfried Kracauer's regarding the Proustian nature of filmic experience. As David Rodowick (2007) points out:

[...] Kracauer suggests that the sensuous examination of the surface of things in film produces simultaneously an interior examination of the self in memory. The perceptual density and indeterminacy of things in their native duration, when framed and reproduced in the alienated form of the photographic image, provoke a nonchronological investigation of memory in the form of *mémoire involontaire*. [...] Film is philosophical because its peculiar form of empiricism – attention to things themselves in their duration – can produce dense philosophical investigations, not only of things but of ourselves in our phenomenological activity. (p. 76)

One of the most challenging and interesting paths followed by contemporary studies of the connections among cinematic language, the functioning of its apparatus and human consciousness doubtlessly is the one that stems from Husserl's intuitions and the recent hypothesis developed by the French philosopher, Bernard Stiegler. Moving from Husserl's phenomenological account of memory in *Logical Investigations*, Stiegler discusses Husserl's theories regarding two forms of memory, primary and secondary retention. But Stiegler somehow attacks Husserl, asserting that in his phenomenological account he misses the point by exploring the *eidos* of the phenomenon of temporal experience rather than considering the technical as a constitutive part of perceptual and psychological occurrence.

Husserl proposes a fundamental opposition between primary and secondary retention in the processes of human consciousness. Husserl (1991) is helped in his analysis by the identification of what he defines as “a temporal object”, one of the many possible objects whose main characteristic is duration

over time, objects whose constitution is primarily temporal. A temporal object is perfectly suited for marking the differences between the first listening (Husserl uses a melody as an example) and the ulterior recollection:

- a) In memorial consciousness grounded on a phantasy-appearance, the 'image' hovers before me as the object does in perception. Or: in perception, the object itself stands before me; in phantasy, I see it 'as it were', and then I apprehend it as the image of something that has been. For example, I have the emerging tone-image and I apprehend it as the tone or as the melody that my little daughter played 'just now' or 'shortly before' on the piano.
- b) In the next moment, this 'image' is past; the tone has lasted for its appointed time (the phantasy-tone, and not only that, but the phantasm of the tone as well); the melody has run its course in phantasy, and accordingly the phantasy-melody-appearance is also past. But then I have the consciousness of the just-had having of this appearance. And precisely in this way: I hear the melody itself playing. I hear the tone itself that has just sounded. And then it is past, but I am still directed towards it; it is not yet out of my act of meaning; I still have it firmly in the consciousness that belongs to 'immediate memory'. But this is not a phantasm, and one should not state that it is. I meet with phantasy-representations and phantasms only through 'reproduction' understood as recollection, as new appearance, not as the continuation of perception (sensation) lasting as long as the 'fresh memory' lasts. (p. 169)

Thus, primary retention is the keeping of what has just passed, a movement that allows consciousness to retain a chain of notes (or images?) that goes backwards in time. This is what allows consciousness to establish the temporal nature of the perceived object. But what happens when we have to recollect the heard melody, sometime after our first listening? Husserl names "secondary retention" the process happening in our consciousness when memory selectively recalls and reconstitutes the remembered object, having access to a "place" unhooked from the continuity of the temporal flow of perceptual processes. Thus, Husserl erects a system in which temporal continuity is structured through two different paths, separated by a caesura that creates a temporal gap: if the immediate perception elongates the present into a continuous duration, the same existence of the second moment (the one characterized by recollection) as a stable perception is guaranteed only by its opposition to the first.

This is the opposition that Stiegler takes up again, offering a direct critique. Following the theoretical road that undergirds the whole philosophical system of the series of essays *Technics and Time*, Stiegler insists on the fundamental assumption that humans have always needed technical prosthesis in order to survive and to develop individual and collective tasks, to give significance and direction to a condition

that seems to begin from an existence that is essentially without essence. So, the technical prosthesis has always been the constant element that has enhanced the human being and has shaped the perception of lived time. The revision that Stiegler works on Husserl's phenomenology is profoundly determined by the attention he gives to the technical varieties of memory that exist in a more dynamic and relational formation of retentions:

Stiegler argues that if Husserl had thought about the consciousness sitting down in his/her living room to listen to a gramophone record, he might have revised his argument in *Logical Investigations*. Each re-listening of the exact same recording amounts to a different experience of it. If the record remains the same, then it is the listener who has changed – the listener conceived phenomenologically not as pre-given individual but as determined perpetually in an ongoing individuation of the pre-individual, factual milieu in which it finds itself. And this change in the listener has changed the primary retention of the object in consciousness. It is precisely through a re-listening to the record that the “immediate experience” of it changes. But this takes place only on the basis of the memories of it that condition the selective attention it receives in the moments of re-audition. And this repeats and differs the first audition, itself conditioned by the protentions “toward” the music that come from both individual memories of musical experience, and the passive synthesis of “musicality” given to consciousness from the cultural archive. (Crogan, 2007)

Time, in Stiegler's account, is strictly related to our perception of it, and this perception seems to be inevitably determined by the technical constitution of a sort of external memory that allows humans to anticipate the future and live through memory rather than lived pasts. In this process, two different and (apparently) opposite strategies are at work: on one side there is exteriorization, that is, the shaping of a cultural and technical context of human socialization, and on the other there is interiorization, the construction of a consciousness that relates to the position of the self in time and to the memory itself. Following the intuitions and terminology of Gilbert Simondon, Stiegler argues that these two human procedures exist in a transductive relation in which reciprocity is the necessary condition for their mutual existence. “The ‘who’ (genetic and ‘epigenetic’, experiential memory) and the ‘what’ (‘epiphylogenetic’, externally accumulated memory) invent each other in a ‘recapitulating, dynamic and morphogenetic accumulation of individual experience’ at the basis of human history and cultural becoming and differentiation” (Crogan, 2006, p. 40).

Stiegler opens his book on cinema and technics by asserting that cinema is a technical device that produces an experience of time that absolutely adheres to the dynamic of chronological involvement

on the part of the cinema viewer; by doing so, cinema creates believability, the perception of a quasi-reality that becomes the strategy through which cinema succeeds in capturing the spectator's consciousness. This happens because, according to Stiegler, consciousness constitutes objects imaginatively.

Stiegler examines the relation between cinema and human consciousness in depth, with the intention of demonstrating that consciousness is intimately cinematographic because they appear to work in the same way. The montage of temporal objects is a process that unites cinema and consciousness around a similar principle: to set up all the constitutive elements in a temporal flux (Stiegler, 2001/2011, p. 14). While Husserl claims that memory is a direct consciousness, Stiegler affirms that it is always a mediated one, continuing a long and rich academic tradition that insists upon the mediated nature of memory (see, among psychologists, Annette Kuhn, 2000, and Steven Rose, 1992).

The importance of the technical aspect of cinema lies in its identification with what Stiegler calls "mnemotechnologies", instruments absolutely intrinsic to the mnemonic process. Husserl considered the gramophone as a mere support for objects (audio recordings) that were able to initiate and contain the perceptions related to memory, while the secondary retention remained separated (chronologically, mentally) from it. Stiegler affirms that this opposition, this separation between the two moments, is not assertable because of the way mnemotechnologies reproduce the same temporal objects as always identical to themselves. But while the object seems to remain the same, the listener/viewer is changed, so every single listening to a melody, every single viewing of a film, is never a repetition of the same experience because each time the audience sees and hears differently, especially because of the effects of the previous listenings or viewings. Stiegler argues that there is a transductive relation between primary and secondary retention because every past experience necessarily influences the following ones:

Perception of a temporal object, then, and by extension, of any object of consciousness perceived in time, is never 'pure', never free of the selective dynamics of the imagination, of selections based on the archive of all past memories. All perception is marked by the protentions emerging not only from within the present moment of perceiving – it is this that can no longer maintain itself in pure opposition to the past or the future in this analysis – but from the memories of past perceptions. This marking is a marking out of

what to perceive from the totality of sense perceptions. In other words, all perception is always already a selective reduction of the total possible retention of the object of consciousness. (Crogan, 2006, p. 44)

The fundamental intuition of Stiegler, what makes him one of the most technologically-aware media theorists, is the ability to transform the position of the subject in relation to memory and its activities. The subject is not simply a receptacle, a holder of re-lived events; while posing always outside her/himself, it succeeds in considering memory from both inside and outside. Cinema is a decisive element in this transitional process: cinematic images, cinematic narrative and expressive structures contribute to the determination of forms of consciousness, and the widespread experience of many different mnemotechnologies determines a profound alteration in the perception of what surrounds us: it seems like there is a real-time montage of every single present we experience. This is why Stiegler writes about the cinematographic structure of consciousness, overlapping the two temporalities with a double coincidence:

- on one hand, the phono-phonographic coincidence of past and reality (“there is a double conjoint position: of reality and of the past,” which induces this “reality effect” – believability – in which the spectator is located, in advance, by the technique itself);
- on the other, the coincidence between the film’s flow and that of the film spectator’s consciousness, linked by phonographic flux, initiates the mechanics of a complete adoption of the film’s time with that of the spectator’s consciousness – which, since it is itself a flux, is captured and “channeled” by the flow of images. This movement, infused with every spectator’s desire for stories, liberates the movements of consciousness typical of cinematic *emotion*. (Stiegler, 2001/2011, p. 12)

The theoretical shift subtended by these accounts is related to the possible uses that the subject can make of her/his memories. Memory can, of course, be just an automatic response to perceptual stimulus, or an image that comes from the past; but the use of memory as an instrument that necessarily leads to an action means that perception and memory cannot exist in their absolute and untouched nature – they have to merge in a unique phenomenon. Classic American cinema has always worked in this way, composing and recomposing the hybridity of these two aspects, somehow insisting on the legacy of Locke and his theories about the person and identity. If Locke (1690/2004) writes that a person “can consider itself as itself, the same thinking thing, in different times and places”, he is

not describing what identity means; so he pays meticulous attention to consciousness and its relationship to thinking, affirming that identity relates to consciousness:

since consciousness always accompanies thinking, and it is that which makes every one to be what he calls self, and thereby distinguishes himself from all other thinking things, in this alone consists personal identity, i.e. the sameness of a rational being: and as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person; it is the same self now it was then; and it is by the same self with this present one that now reflects on it, that that action was done. (p. 267)

There have been many criticisms of Locke's assumptions, especially regarding the static nature of the set of memories that, according to him, give continuity to an identity. The nature itself of what Locke identifies with "memory" gives shape to an anachronistic reading of a subject as the only transforming being, while memories that guarantee the continuity of personal identity remain untouched in the display cabinet of the self.

Identity is not static or integrated at all, and the same memories are susceptible to change. This is due to the fact that memory is not an object, but a *process* that continually exchanges information with the whole body that biologically contains that same process and which projects the combination of both mental and bodily memories onto the context. Cinema has always adopted the flashback as the privileged tool for memory representation. But new forms of memories require new visual representations, and the flashback (as we have known it) needs to be updated accordingly.

- The collapse of the flashback and the repetition of images

The rhetorical function of the flashback is currently experiencing a profound transformation. Since the linear relation between memory, recollection and the representative status of images linked to these mental processes has changed, the flashback has lost its hegemonic power and is caught in a moment of impossibility, of representative uncertainty, incapable of representing the more complex situation of the image itself. The classical use of the flashback technique is necessarily related to a precise and unquestionable subjectivity of the remembering character who becomes the spectator's reliable referent. The flashback is a narrative figure that needs and implies a solid and complete character. Moreover, the flashback is a grammar element that contains, *in nuce*, one of the most-cited

characteristics of cinema as a medium: its capacity to oppose death, to resist the onslaught of time (see Bazin, 1958/1967, p. 9). This results in the memorial nature of the cinematic apparatus, an apparatus that erects a soft and fluid wall against the passage of time and the erasure of memories, in which flashback could be identified as one of the key-rhetorical figures for its ability to visually show, metonymically, the whole cinematic language.

Flashback is also a formal solution that questions the nature of the exhumed memory itself: the flashback could have an owner, it could be linked to the memorial activity of a character. But it could also be initiated by an off-screen narrator, as if the movie itself might have an autonomous memory and private remembering. In both cases, the adherence of the flashback to the actual, remembered events needs to be questioned, not least because every memory works as a reconstruction. Memory as a pure recollection of facts does not exist; rather, memory exists as a partial, private, subjective restoration of what happened. If we think about classical masterpieces entirely constituted in a long flashback, we notice that our subjectivity is mirrored in the remembering main character's memory; s/he becomes the inescapable witness to whom our perceptual subjectivity is anchored. In Billy Wilder's *Double Indemnity* (1944), for instance, the whole narration rotates around a confession that the protagonist, Walter Neff, is recording: he recalls the events that lead him to commit a murder, and the flashback gives visual shape to this remembering, reinforced by the use of voice-over. The combination of flashback and voice-over builds an extremely strong system of identification because the personal interpretation of the events passes through the memory and the consciousness of Neff. We, literally, inhabit his memory, and the movie becomes the visualization of these memory-filtered events. We believe him, or at least we do not have any reason not to trust his recollection. So, in a certain way, every flashback is a bet we place within the spectatorial agreement we sign every time we watch a movie; the fractional part of an individual memory becomes remembering *tout court*, the visual essence of the visible memory. Flashbacks are always overlapped with a extra-narrative presence (the narrator? The cinema itself?) that can freely move inside the time dimension, rendering it a reversible space (as demonstrated in fractal narratives such as those of Alejandro González Iñárritu).

We learn the brutality of this rule every time we encounter a fallacious flashback, an extremely uncommon event we are forced to deal with that unmasks the subtle and fragile nature of the audience's position. It happens, for example, in David Fincher's *Fight Club* (1999) or in Alfred Hitchcock's *Stagefright* (1950). We become hostages of the narration, but we discover this affected nature only when the trick is unmasked and the unreliability of the narrator has been discovered.

An even more devastating experience of time is the one offered in some movies which, while still using the flashback without a misleading purpose, decide to adopt the grammar of remembering by linking it to characters whose memory or perception is not absolutely trustworthy. If Alain Resnais is quite evidently the director who has stretched the conceptual issues related to the flashback and its core meaning, perhaps Abel Ferrara is the most radical experimenter among contemporary directors dealing with the problematic nature of the flashback. In his filmography, there are two movies that acutely deal with these issues: in *New Rose Hotel* (1999), an adaptation of a William Gibson novella, Ferrara transforms the second half of the movie into an obsessive repetition of a few sequences already shown on the screen. The main character, X, understands he has been swindled by the people he believed were allied with him, and he is forced to hide in a hotel room. In the closed space of the room, X begins to reprocess all the memories he has formed during the previous events and becomes involved in a never ending chain of flashbacks that obsessively return, never allowing the remembering subject to create any order in the confused realm of his devastated memories. Closed in the hotel room, X can only investigate his memory by re-processing all the floating images he recalls as flashbacks; his reconstruction of the events tells him something about the failure of his enterprise, but most importantly, tells us something about the contemporary nature of the flashback.

If memory is the only active part in the definition of subjectivity, memories are like body parts that claim their existence floating in the liquid nature of an imprisoned mind. As Gianni Canova (2000) notes, discussing the disintegrated nature of the flashback in movies like *New Rose Hotel*, "the past (the *already seen*) does not emerge from the memory in a linear form. Ferrara mashes, cracks, destroys it. Time implodes and disintegrates into many small fragments which crop up on the screen (and in the

memory of the character), without any logic or chronology” (p. 86). In this movie, there is an unprecedented display of stratified flashback, but the grammar of the remembering fails its main historical target: here flashback does not work as a narrative tool that helps the character and the audience in the cognitive processing of the factual events, nor does it function as an emotional reprocessing of the key lived moments. Images are lost in the mnemonic maze erected by X; they are parts of a dismembered body that cannot be put together anymore.

The destruction of the flashback’s value is a solution Ferrara had already exploited in *The Blackout* (1997), a narration vaguely inspired by Hitchcock’s *Vertigo* in which an actor, Mati, who is a slave to alcohol and cocaine, kills an unknown girl (almost instigated by the director, played by Dennis Hopper) after having discovered that his partner has had an abortion. His reaction to this dramatic event is a sort of mnemonic removal, an erasure of memories connected to this killing. But the violence has taken place in front of a camera, and memories come back to haunt him, assuming the disturbing form of obsessive flashbacks. As Thierry Jousse (1991) writes, *The Blackout*

is an excessive puzzle that summons every kind of image in an eccentric and paradoxical product. Mental images, obsessive elements arriving from Mati’s troubled brain, images from the movie shot by Dennis Hopper, images of the same shooting, images of a video documenting a therapy session, images regarding the life of the couple and the same blurred memory-images produced by the blackout of the main character [...]. (p. 59)

The Blackout, moreover, deals with the visual recording of memories, in line with the inner nature of cinema itself. Some of the dramatic events in which Mati is involved happen on the set of a highly erotic remake of Christian-Jacque’s *Nana* (1954), so there is a video recording of the things he has done but which he does not remember at all. In the coexistence of different images, Ferrara also tells us something about the nature of video images in the cinematic body. As Jeffrey Pence (2003) writes, “Many current films can be seen as figuring their difference from other media precisely through a textualisation of film technology’s relationship to the past, to human and collective memory, in contrast and competition with the same relationships as mediated by different technologies” (p. 239). The presence of video images as traces of the past, of a recorded past possessing the authenticity of a testimonial form, has been broadly used by many directors as a way of declaring the authenticity of the

depicted events. Directors such as Atom Egoyan have built an entire poetics around this variable textualisation that shows visual models of remembering. Ferrara, on the contrary, does not adopt the differentiation of visual texts as a rhetoric of distinction: neither cinema nor video have a legitimacy *per se*, because of their photographic or electronic structure. *The Blackout* is a movie that shows a counterfeit reality where the recording of it cannot have any validation of authenticity. Here, the recording of reality (and the intrinsic possibility of its falsification) is less important than the ability of the human body to generate images that substitute for reality itself. Mati experiences a sort of incapacity to stop the generative process of images that his mind produces almost against his will. The uncontrollable desire to substitute reality with its replication can lead, Ferrara clearly shows, to a sort of autonomy of images, definitively separated from our possession of them and almost self-generated.

Ferrara clearly makes us experience *sur place* journeys, involving the alteration of consciousness and mnemonic illumination; this perceptual shifting is part of a broader reflection about the actual movement of remembering processes, a movement that can be fragmented into small and partial images that become an indistinct flow, background noise, erasure of an active consciousness. But, and this is a decisive aspect of these two movies, Ferrara exploits the obsessive nature of images that always return the same as a visual representation of a memory that enters a phase of stalemate and, forced to work anyway, does not find anything better than a compulsive insistence on a (predetermined) perceptual space.

The process adopted in these two Ferrara films pushes us in a direction that leads back to Resnais and his ability to propose links between independent images. If Deleuze is right in affirming that classical cinema is characterized by rational cuts (and that in this issue we can find a distinction from contemporary films), Resnais's entire body of work can be seen as a relentless effort leading to a new definition of the logic contained in every cut and of the rule of 'returning' images. As Deleuze (1985/1989) notes,

As in *Je t'aime, je t'aime*, there is return to the same image, but caught up in a new series. Ultimately, there are no longer any rational cuts, but only irrational ones. There is thus no longer association through metaphor or metonymy, but relinkage on the literal image: there is no longer linkage of associated images, but only relinkages of independent images.

Instead of one image after the other, there is one image *plus* another, and each shot is deframed in relation to the framing of the following shot. [...] It is a whole new system of rhythm, and a serial or atonal cinema, a new conception of montage. The cut may now be extended and appear in its own right, as the black screen, the white screen and their derivatives and combinations [...]. In the first place, the cinematographic image becomes a direct presentation of time, according to non-commensurable relations and irrational cuts. In the second place, this time-image puts thought into contact with an unthought, the unsummonable, the inexplicable, the indecidable, the incommensurable. The outside or the obverse of the images has replaced the whole, at the same time as the interstice or the cut has replaced association. (p. 214)

The “deframing” style adopted by Ferrara consists precisely in this process of connecting independent images; the memory flow that besieges X in the closed room of the New Rose Hotel is not a voluntary movement decided by the remembering subject, an active development that the protagonist determines with his complete awareness of the happened events. Instead, memory becomes a sort of autonomous mechanism that uses the perceptual criteria of X as a passageway for reaching its visibility. The self-regulating activity of memory transforms the cinematic rules of actualization in two different ways: it determines profound transformations in the definition of the subject and in his/her ability to resolve the puzzling reality with the help of memories and their visualization; consequently, it alters the functioning of the flashback, associating a mere haunting presence of time with the images coming from the past. Time and images, and their algebraic sum, do not bring a new meaning to the present nor a deeper significance to the past. The flashback loses its historical signifying individuality and becomes a dispersed, floating image unable to help us in the decrypting process of our rememberings.

- Amnesia and memory diseases: WHO AM I?

The real, medical conditions that lead to amnesia and other memory disorders are often associated with organic brain infections or the consequences of brain surgery, or can be caused by trauma such as a stroke; there are also psychiatric bases for such memory troubles, and the trauma can be a psychological one. But in most cases identity and personality are elements that remain untouched or unaffected, even if the capacity to concentrate or the level of attention can be limited by these syndromes.

But in movies things, are slightly different. One of the main effects of the amnesic syndromes seems to

be an experience of profound and radical transformations of personality or of the extreme reconfiguration or erasure of identity. There are countless movies in which amnesia is used as a convenient narrative expedient, and there are also many different variations of the causes and the effects of these syndromes. The motivation is always linked to storytelling techniques, and the final result is one of creating a narrative in which a void is firstly created (the diagnosis of the malfunctioning memory, questions about identity, the gap between the evidence of the present and the lack of a remembered past) and then filled with the rest of the story.

Curiously enough, in recent years there has been an increasingly high quantity of movies dedicated to amnesia, and the theme has been introduced on a large scale among mainstream Hollywood's big themes. In the span of just a few years, an impressive series of titles brought amnesia and memory disorders to the center of audience attention. After *Memento* (2000), an independent movie that had enormous success, allowing its director, Christopher Nolan, to become a major studio darling, many screenwriters remembered the value of amnesia as a narrative element. The arrival of memory disorders as a key feature in major movies was certified by its presence in two important films in the next few years. In *The Bourne Identity* (2002, directed by Doug Liman), the first episode of the Jason Bourne saga (the only updated version of the James Bond-style secret agent at the beginning of this millennium), we encounter the hero as a victim of a severe amnesia that is the main narrative motor, forcing the protagonist to find all the hints needed for a reconstruction of his past. In a similar way, again firmly within mainstream cinema, the animated Pixar aquatic adventure *Finding Nemo* (2003, directed by Andrew Stanton) contains a key character, the Blue Tang called Dory, who suffers from an uncertain short-term memory disturbance that creates many problems for learning and maintaining new information such as remembering names or recalling where she is going or why she is doing something. Obviously enough, her complex state is used to repeatedly create amusing or funny situations, but it remains an important element in the narrative development. The number of movies using such themes is in the dozens, but particular note should be taken of *50 First Dates* (2004, by Peter Segal), a romantic comedy starring Adam Sandler and Drew Barrymore. Here, the male protagonist is

forced to invent a new “first” encounter with the girl he falls in love with every day; her condition, in fact, implies that she can easily create new memories during the day, but every time she falls asleep, all the memories are erased and she wakes up having forgotten what happened to her. So he needs to arrange a new stratagem for meeting her and trying to make her fall in love with him each day; the girl’s head injury becomes a romantic metaphor of an ever-renewing love.

Two important elements can be identified in this partial but suggestive inventory (that will be implemented in the following paragraphs). Firstly, it is relevant to note the persistent and constantly increasing attention accorded by mainstream and commercial cinema to amnesic characters and narrative descriptions of different forms of amnesia – an increasing consideration that should be read as a cultural trend and thus as an indication of a broader and more profound concern of contemporary subjects. It is obviously not a coincidence that contemporary cinema is using so many amnesiac characters, and in such a specific way, indicating that memory disease has become a cultural metaphor or symbolic manifestation of the wider crisis of the subject so avidly analysed by film historians and theorists. Secondly, the analysis of this particular phenomenon should not be conducted according to the scientific correctness of the diseases and conditions portrayed in these movies. Conducting a study of the adherence of these movies to the actual forms of amnesia and their medical implications is rather unenlightening: what counts is the decisive aspect of the cultural value of such a transformation of the narrative focus. Scientific incorrectness is merely an accident that should be left to psychiatrists or psychoanalysts interested in the comparative study of cinema and science; the cinematic reality that emerges from the movies discussed here is a sort of self-sufficient world, not because it is not permeable to external stimuli and social modifications, but because the visual and perceptual transformations contained in such amnesiac narratives as *Memento* or *Eternal Sunshine of the Spotless Mind* are extremely relevant to our understanding of the cognitive and physical transformation our whole society is experiencing. These transformations are also determined by the fact that contemporary narrative structures are altering the relations among issues connected with memory and amnesia, not to mention that, independently from cinema and narrative, our memory has gone through extremely

profound transformations following recent technological innovations that have biologically changed our nature.

This new attention focused on memory and its alterations is manifested even in movies in which memory is not a central element of the plot itself, movies which instead operate within the mechanisms of the viewers' memory, confronting them with disrupted narratives that question the elementary functions of audience attention and retention. Movies that adopt the narrative strategy of the forking path -- *Groundhog Day* (Harold Ramis, 1993), *Sliding Doors* (Peter Howitt, 1998), *Lola Rennt* (Tom Tykwer, 1998)-- force the audience to follow multiple threads, keeping the memory alert for a complete understanding of the complex storytelling. Or we can refer to the first movies of the Mexican director Alejandro González Iñárritu, in which the temporal organization of disrupted and achronic sequences forces is the main effort requested of the viewer. The narrative tactic utilized by González Iñárritu is quite simple: the creation of multiple narrative gaps that will be filled in a very disordered and chronologically confused way with the subsequent scenes that need to be positioned in the correct position in order to fill the narrative void previously created. These are movies that overtly request a specific way of retaining the narrative data in order to piece them together in a coherent way that is deliberately denied by the director. Memory is not a substantial element of the plot, but it becomes a central part of the cinematic experience, forcing the viewer to recreate a fragmented puzzle that is shown following an anarchic timeline.

The narration of amnesia and memory diseases is, again, a question that leads to an ultimate uncertainty. Our trauma culture never ceases to repeatedly pose the same question: Who am I? There are, of course, many ways of asking this question without ever mentioning these three words, and the crisis of the subject can even be narrated in oblique and indirect ways. Memory has been turned into one of the most stimulating fields of study because it has become a decisive element in the redefinition of the subject's boundaries. And, similarly to amnesia, its opposite, too much memory, emerges as a contemporary and symbolic affliction: an excess of memory paralyzes thought and its capacity to

connect an event to its own context because memory becomes an insistent process focused on the same part of the event or, more riskily, on the various possible ways an event may have happened.

The remembering of an event is of course relevant, but the capacity we have to connect it with the context, allowing us the chance of a punctual and sharper reading of something, is becoming equally important. Each memory disease, amnesia or excess of remembering, determines a substantial impossibility of contextualizing events and, similarly to what happens in Ferrara's *New Rose Hotel* (not unintentionally cited for its disrupted use of flashback), every image appears as an individual and singular fragment disconnected from the others.

Amnesiac characters and amnesiac spectators cease to perceive the wholeness of the visual material and transform the identified optical elements into a mosaic of scenes, as severed sequences, a sort of perpetual present or eternal past that is chained to a never-ending loop that undermines our perception of the distance existing between present and past. Once again, Bergson comes to help us when, questioning the effective being of the present dimension, he says that the past *is*, the present *becomes*.

- A progression in representing memory and the acts of remembering the rise of new cinematic technologies

As previously noted, there is a strong connection between technologies of memory and transformations related to this human activity. Among the technologies of memory we should include every visual technology that deals with images; as Georges Didi-Huberman (2003/2008) has noted, in order to remember something, it is necessary to imagine (pp. 49, 59-60).

Images have a life of their own, and the amount of time condensed within each of them directly refers to their capacity of coalescence. Considering images as living entities means that the authentic essence of the visual media has to be found in the dimension of time. Memory is a biological activity that is profoundly linked to the perception of time, with an emotive affection that colours each experience lived in a duration of time. And images are the coalescence of this connection with time. This is one of

the main themes raised by twentieth century reflections about images: images have a life, a duration that does not coincide with the permanence of their sameness, but, rather more complicatedly, with a persistence into time that has been analysed by Walter Benjamin and Aby Warburg. The concept of *Nachleben*, as proposed by Aby Warburg, refers to the posthumous life of images, their survival, their particular form of persistence within a horizon that can be biological, emotional or cultural. As a matter of fact, Warburg not only refers to the physiological persistence of images that remain on the eye's retina, but describes a sort of historical persistence of images that, transmitted together with their mnemonic power, guarantees their posthumous existence and produces new significations arising from their renewed value and context.

This persistence of images determines a profound change in the way human consciousness stabilizes its relationships with the visual. This theory, indirectly or not, leads us inside the perimeter of the (partial, perhaps questionable) re-reading of Bergson proposed by Deleuze. The recollected image is not a fragment of the past taken from the closed box of memory: rather, as Deleuze (1985/1989) writes, "the recollection-image is not virtual, it actualizes a virtuality (which Bergson calls 'pure recollection') on its own account. This is why the recollection-image does not deliver the past to us, but only represents the former present that the past 'was'" (p. 54).

This decisive transformation in the way remembered images are represented and intended leads us directly to the substantial insufficiency of the flashback in proposing the surfacing of the past, opening the way to an entirely new series of visual forms and narrative strategies that attempt to build a bridge to the past dimension in a way that adheres to human consciousness and psychological activities.

Certainly, there are different ways to depict memory and to use memory issues. What we are discussing here is the crisis of the relation between cinema and memory, a wider symptom of a possible syndrome: not only the matter of the death of the Bazinian ontology and the disappearance of the direct connection between an image and the actual reference of it. The transformed representation of memory and mnemonic processes also passes through a redefinition of the frame inside which cinema shows a remembering activity directly connected to its own memory. Images have a history, and often

improved and enhanced technologies of image treatment must deal with film history or with a visual documentation of the past that becomes a central element in new feature films. One of the collateral effects of the morphing and digital manipulation of images is the renewed system of connections that comes from the digitally-treated images and the represented past; it looks as if cinema is reinventing its modes of representing history and, subsequently, memory. If history itself seems to be a sort of collective mirror in which several different pasts are reflected, the visual treatment it undergoes pushes it away from the territory of the document because of the increased re-reading of historical images (or of images that are somehow marked with a historical frame, immediately recognizable as documents arriving directly from the reality of their times) as fictional material. As Robert Burgoyne (2003) notes,

with its increasing use of morphing techniques and computer generated visual environments, the cinema would seem to be a medium that refuses history in the traditional sense of origin, authenticity and documentation. And yet, contrary to expectations, film in the present day appears to have strengthened its cultural claims on the past. (p. 223)

Thus, the document loses its role as a vestige of the past and becomes raw material that is available to be transformed in order to recycle an imagery and to establish an artistic re-enactment. Robert Zemeckis's *Forrest Gump* (1994) is a clear example that shows how the relation of authenticity with the original document does not rely on philological fidelity with the cited footage but is more related to the "emotional and affective truth" determined by its visualization. Thanks to the use of such digital techniques as morphing and interpolation, the character of Forrest Gump, played by Tom Hanks, is continuously contextualized with an archeology of moving images that somehow transforms Zemeckis's film into a visual palimpsest of the entire twentieth century: an image of Gump is inserted into a sequence of David Wark Griffith's *Birth of a Nation* (1915), 16 mm footage of President John F. Kennedy, newsreel footage of George Wallace and the historical events at the University of Alabama, television footage of John Lennon, and many others. The oblique ubiquity of *Forrest Gump*, his narrative function as the improbable epitome of the entirety of twentieth century American history, demonstrates an urge to transform each sequence into an iconic testimony about the hidden history of images in the digital era. The symbolic value of *Forrest Gump* is rooted in its continuous transformation

of the visual inheritance of film history. Zemeckis's film attests to the malleable and stratified nature of the digital, cinematographic image and succeeds in presenting the conceptual paradox of a historical film that rewrites America history from the active perspective of a developmentally disabled boy who just happens to *be* a decisive witness inside the frame of many of the turning points of U.S. socio-political life. Given that digital technology makes every image virtually distinct from its original, Zemeckis forces the limits of this truth and counterfeits the entire history of a country, building a complex narrative in which history ceases to be an inaccessible and fixed element but rather a transformable organism in which the positions of the subjects continually shift and where even a not-so-smart man can become the driving force of decisive historical moments.

The betrayal of the original is admitted, as most of the choices adopted by Zemeckis demonstrates, and the modification of the visual material made possible by the most recent technologies of image-transformation becomes just a conceptual adjustment that transforms this relation into a paradoxical remembering. If, on one hand, the loss of realist legitimacy seems to transform cinema using a visual language that somehow erases its genuine relation with the past (in the more orthodox, Bazinian way), this is not to be intended as a complete and absolute refusal of history. Burgoyne (2003) adds:

[...] contrary to expectation, film in the present day appears to have strengthened its cultural claims on the past. The cinematic rewriting of history has, in the present cultural moment, accrued an extraordinary degree of social power and influence. Film appears to have acquired, more than ever, the mantle of meaningfulness and authenticity with relation to the past – not necessarily of accuracy or fidelity to the record, but of meaningfulness, understood in terms of emotional and affective truth. Cinema, in effect, seems to evoke the emotional certitude we associate with memory for, like memory, film is now, to a greater extent than before, associated with the body; it engages the viewer at the somatic level, immersing the spectator in experiences and impressions that, like memories, seem to be burned in. (p. 223)

Again, we are confronted with a redefinition of memory in the contemporary visual scape; from a cerebral and exclusively mind-centred kind of experience, film and memory emerge as sharing their new position as sensory and bodily kinds of experiences. If the relations established in contemporary cinema between mnemonic processes and their visual representations have been profoundly transformed, the *object* of these procedures, the content of these activities, ceases to be intended as an

untouchable event, crystallized in the absoluteness of a distant and petrified past. The proliferation of visual documents that everywhere surround our present is a constant certification of our – continuously measured – distance from the past. Visual documents from the past transform memory: from an individual dimension in which the relation with the past is constructed according to personal parameters, memory has become a shared experience in which visual documentation plays a fundamental role. Sharing a visual experience implies that the formation of memory is becoming a collective event, and this shift transforms remembering into a collective process that leads to a shared relation with the remembered fact.

Cinema is a language that continuously tries to consider the consciousness of the audience as part of a developing process aimed at the redefinition of how the world is perceived: this means that the external reality itself, through the recollection and visual repetition of recurring aspects and events, is continuously shaped by the perceiving activities of the cinema audience.

The twentieth century has often been identified with cinematic technology, but in the latter portion of it other visual systems have extended into many of the cinematic functions: television, electronic and, then, digital images, visual special effects, virtual realities and so on have profoundly modified many of the peculiarly cinematic issues, shifting the perceptual application of cinematic language itself. There is, of course, a cinema that pretends to continue the everlasting state of grace, the hegemonic power of the single form of visual communication; there is also a more aware cinema that prefers to deal and to confront itself with other specific languages, transforming film in a sort of media-collector in which different media converge, redefining the limits and the effects of the cinematic experience. The illusion of controlling the world given by the emergence and diffusion of cinema, with its implications related to the possibility of reshaping external reality, is strongly linked to a collective and rather social sense of the film experience. The sensation of a shared communion of film's visual and emotional life determined the constitution of a generalized and interpersonal memory, directly inspired by the sensation of controlling reality in a collective manner. However, the subsequent atomization of the cinematic experience itself, inevitably connected to the spreading of new technologies of reality

capture and reconstruction (such as video, digital images, CG images, and so on), leads to the constitution of an individual and intensely personal memory. This is due to the personalization of technologies that moved the illusion of controlling reality from a collective to a singular and private dimension. The activities of seeing, capturing, eventually transforming, and re-experiencing reality marks a profound caesura in the perception of the possibilities offered by the media, and cinema needs to find visual and conceptual frames to better explain this transformation.

As Jeffrey Pence (2003) points out,

This possibility destabilises our notions of what memory might be by privatising its collective form and totalising its subjective form. The instruments, institutions, styles and practices that one would term postcinematic also, by definition, lead us into a state of postmemory.

Not surprisingly, for filmmakers and critics alike memory plays a crucial role in efforts to distinguish between the nature and influence of these different media. To a great extent, recent North American cinema forwards a profound contrast between narrative cinema and the textual forms associated with new technologies as models and modellers of memory. From one point of view, this transformation may lead to panic, as in an entire genre of techno-dystopian films emerging from Hollywood such as *Strange Days*. (pp. 237-238)

The notion of postcinematic clearly indicates a posthumous condition of cinema as we have known it for a long time. The linearity of the relation is self evident: if cinema has always been a privileged path for defining and shaping the social memory of each individual spectator, affirming the possibility of a unifying language able to connect different individual memories in a collective recall, the postcinematic (with its practices and instruments that determine narratives and styles) is shaping a condition of postmemory, in which cinema has to rethink and reconsider its own position inside the visual scape of multimedia, and memory becomes something different from the complex system we were used to during the classic age of film. One important effect determined by this transformation directly refers to an effect that cinema has widely exploited to better mark its difference from other visual languages, the “textualization of film technology’s relationship to the past, to human and collective memory, in contrast and competition with the same relationships as mediated by different technologies” (Pence, 2003, p. 239). We are not just referring to the obvious opposition shown through several works dedicated to television and its dangerous effects: from Sydney Lumet’s *Network* (1976) to Gus Van Sant’s *To Die For* (1995), cinema has often tried to locate its enemy in television, offering one-dimensional representations in which evil and the cathodic tube share the same position. The textualization of the differences, that is, the visual shape of different time positions, is noticeable in such works as Kathryn Bigelow’s *Strange Days* (with the Squid technology we will discuss in a further chapter), in Steven Spielberg’s *Minority Report* (2002) or, in a more traditional way, in almost the entire filmography of Canadian director Atom Egoyan. Throughout his entire career, Egoyan has always tried to offer a visualization of the work of memory and of its decisive persistence in the present dimension, erecting a linguistic system that has always connected past and present through a coexistence of past and present inside the same conceptual perimeter but with a differentiated textual substance. In each film of his filmography, Egoyan has always adopted the use of video (in the first part of the career) and digital (in his most recent film) inserts that help orient the viewer within the time frames of the sequences and allow the director to build a personal poetics in which past and present, while clearly opposed, exist in a mutual relation of influence and extension. A remarkable example is *Speaking Parts*

(1989), a film in which there are at least three different textual differentiations: electronic images are experienced in a sort of video cemetery where relatives of dead people just sit and watch recorded images of their lost loved ones; video sequences express a spatial distance in the form of a video conference (where the illusion of spatial nearness is covered by the certainty of the time proximity); the recorded images of a surveillance system offer an aseptic and uninvolved perspective on the relationships among the different characters.

While in his latter films Egoyan uses digital images as a substitute for the electronic ones he widely used as a recurring theme in his first movies, *Speaking Parts* is still striking in its originality and in its personal use of a technology that is clearly linked to a past that nowadays seems very distant.

Adopting a very different approach, in *Minority Report*, Steven Spielberg, focusing on a future world where vision can assume the form of a prophecy, builds an entire set of technologies that literally besiege human life, offering infinite possibilities of visual experience but also transforming the Foucauldian panopticon into a social emergence of power. The devices adopted for transplanting memories into the present here assume the form of a support resembling a little glass tablet in which visual recordings of the past are stored: the painful memories of the past haunt the main character, Anderton (played by Tom Cruise), through an obsession with his dead son. The private system of vision that Anderton uses in his worst moments of sorrow is a complex device that projects holograms of recorded sequences; the visual logic of the home movie is transported into a dimension in which screens do not exist anymore and vision becomes a more physical immersion that enhances the emotional implications of the visual experience. Spielberg chooses not to let the audience's perspective simply overlap with that of the main character. Moving laterally, the camera offers a disturbing glance at the immaterial thickness of the hologramatic image, offering multiple looks on the artificial nature of the reproduced memory. The reality effect of these images is so strong that Anderton talks with his former wife and his dead son, pretending that they are actually in the same room with him. The purpose is the same as the visual proposal contained in Egoyan's movie, but the electronic magnetic image has been replaced by an enhanced image contained in a transparent support. Between these two

visual and technological extremes, we can find an enormous range of techniques for the visualization of the past, since one of the main goals of cinematic language has always been the preservation and visualization of memory.

The videotapes and futuristic holograms carry out the same mission: making the viewer aware of different chronologies, visually separated by different textualisations that immediately help the audience in the process of identifying the past and the present as distinct narrative frames.

The unbelievable augmentation of storage technologies – whose applications profoundly affect contemporary cinema and its image-production – inevitably leads to a sort of endless and all-embracing retention, and this structural transformation determines a changed set of features that identify the human faculty of memory. Where once memory was structured around the necessity of selective associations and contrasts, the prosthetic nature of digital and electronic devices implies a nonselective storage of information, a generalized keeping that dramatically alters the essence of mnemonic functions and that, by contrast, affects its opposite: forgetting seems impossible, both because of the infinite capacities of the mnemotechnologies to which we entrust our recollections and because of the subsequent disappearance of the reciprocal spaces of present and past. The spatial and temporal inflation of memory weakens the boundaries between chronological areas which were once clearly separated and erases the possibility of oblivion. Or, conversely, it transforms oblivion into a sort of necessity in a perceptual realm in which continuous recollection becomes the generalized virtuality of a culture that is affected by an indistinct flow of time inside which one can no longer distinguish between past and present. The narratives offered by visual media concur in this memory depletion, often proposing narrative models in which no effort of time decoding is required and where a flattening of chronological distinctions seems functional for the purposes of the storytellers. Frederic Jameson, with his usual prophetic tone, warns us about the possibility of new form of spectator, an involved subject that becomes “a quasi-material registering apparatus for [...] machine time [...] and the video image or ‘total flow’ “ (Jameson, 1987, p. 206).

The new forms of cinematographic spectacle seem to work in the direction of a profound redefinition of the chronological categories of present, future and past. As Pence (2003) continues,

Where once modernity and the cinematic could be seen to break the grip of history on the present – precisely through disciplining the past by monumentalising it – and redirecting action and sociality toward an unmade future, postmodernity and the postcinematic seem initially to wrest the present from the domination of the future in a process by which the here and now becomes identical with the there and then. (p. 246)

Maybe we have to return to Benjamin and his decisive analysis of the relationship between the “now” and the past. In a description that has a lot in common with some of Bergson’s theories, assuming the existence of only a single, generic past that is possible to recall in the present, Benjamin (1983/1999) writes:

Every present day is determined by the images that are synchronic with it: each “now” is the now of a particular recognizability. In it, truth is charged to the bursting point with time. [...] It is not that what is past casts its light on what is present, or what is present its light on what is past; rather, image is that wherein what has been comes together in a flash with the now (Jetzt) to form a constellation. In other words: image is dialectics at a standstill. For while the relation of the present to the past is purely temporal, the relation of what-has-been to the now is dialectical: not temporal in nature but figural <bildlich>. Only dialectical images are genuinely historical – that is, not archaic – images. The image that is read – which is to say, the image in the now of its recognizability – bears to the highest degree the imprint of the perilous critical moment on which all reading is founded. (p. 463)

Images have a life, and their textual connotation inevitably influences the way the viewer interprets them. The necessity for the cinematic image to exist only in the present dimension raises questions about the insistence of a different time “inside” the perimeter of the present. The dictatorship of the flashback is linked to the illusion that images inevitably *are* in the present; by doing so, the analysis seems to forget that the present is always inhabited by the suspended dimensions of past and future (Deleuze, 1985/1989, pp. 37-38).

- *Bergson, cinema and memory diseases: immersion inside memory and multiple coextensive pasts*

The effects of Bergson's intuitions are fundamental to understanding the recent evolution of the relationship between cinema and the representation of memory. Moreover, there is a director whose filmography stands as a crucial turning point that separates the classical and contemporary forms of mnemonic activity both inside and in front of the filmic screen. The work of Alain Resnais certainly represents the communicative and representative interval that completely transforms the traditional relationship between the cinematic image and the mechanics of a memory that somehow seems to admit that narrative is the only possibility for the same existence of memory. In the diptych composed of *Hiroshima Mon Amour* (1959) and *L'année dernière à Marienbad* (1961), the French director explores a wide range of new possibilities offered by cinematographic grammar in the effort to represent memory and its implications in a way that is not only *memoirist* but which tries to make cinema work in the closest way possible to the human activity of recollection. *Hiroshima Mon Amour* tells the story of a confrontation between memories: a memory lived and experienced in first person and without any mediation, and another one structured around the representation of what happened, around a narrative that tries to free the main character (played by Emmanuelle Riva) from an oppressing past. The passage moves away from memory as a haunting condition towards memory that becomes an act and can be left behind for a new beginning. On the contrary, *L'année dernière à Marienbad* proposes the hypothesis of a memory that, suspended in an uncertain state in which its truthfulness cannot be verified, is offered as a basis for a possible future. When the man played by Giorgio Albertazzi proposes to the woman a story about a recent past that he claims to remember but which she cannot, everything becomes enshrouded within a pervasive uncertainty that reduces reality to mere appearance. As present and past start to reciprocally superimpose, every word becomes an image, and every image becomes a memory. The realities that exist inside and outside the human brain are identical. Thus, the audience never fully understands if the shared memory offered by the man and initially refused by the woman is an invention or an actual recollection: what remains is the visible representation of how memory works, the decisive shaping of a cinematic reality exclusively through a journey inside the brains of the characters. While Resnais may have been working after decades of cinema in which dreams and

hallucinations had been represented, he was perhaps the first director after Eisenstein to break up cinematographic language in order to search for direct access to the actual operations of the human brain and to offer them a visual organization. By doing so, Resnais succeeded in substantiating the identity of mind and world, an identity that Deleuze (1985/1989) acutely analyses with these words:

In Resnais this identity already appears less in a whole than at the level of a polarized membrane which is constantly making relative outsides and insides communicate or exchange, putting them in contact with each other, extending them, and referring them to each other. This is not a whole, but rather like two zones which communicate all the more, or are all the more in contact, because they cease to be symmetrical and synchronous, like the halves of the brain in *Stavisky*. In *Providence*, the bombshell is in the state of body of the old, alcoholic novelist, who rattles in every direction, but also in the state of the cosmos in thunder and lightning, and in the social state in machine-gun and rifle bursts. This membrane which makes the outside and the inside present to each other is called memory. If memory is the explicit theme of Resnais work, there is no reason to look for a latent content which would be more subtle; it is better to evaluate the transformation that the notion of memory is made to undergo in Resnais (a transformation as important as that carried out by Proust or Bergson). For memory is clearly no longer the faculty of having recollections: it is the membrane which, in the most varied ways (continuity, but also discontinuity, envelopment, etc.), makes sheets of past and layers of reality correspond, the first emanating from an inside which is always already there, the second arriving from an outside always to come, the two gnawing at the present which is now only their encounter. (p. 207)

The correspondence between layers of reality, as Deleuze puts it, inevitably leads to a redefinition of the standardized time, to a new visual regime in which the very classicalness of a cinema that made clear what had been and what is now present through a self evident differentiation must be reconsidered. The fundamental position of Resnais in this process of transformations regarding memory and its narrative representation is undisputed; his declared interest was the visualization of thought processes, creating a cinema that could be called intellectual because it was focused precisely on the active functions of a brain building its own world and expressing the emotional activities contained in and determined by it. Resnais lays the foundations for the cinema to come, confronting cinematic language with an evolution of the same Eisensteinian concepts: if the great Russian theorist affirmed that montage *restores* the rules followed by thought processes, Resnais opens up a totally different perspective on the same issue, reinforcing the early revolutionary ideas proposed by Bergson. The contemporary evolution of scientific knowledge about the brain and its functioning may be seen as a supporting event, without any causal relationship between the two phenomena.

The passage from *Hiroshima* to *Marienbad* erects a complex system of representation in which we seem to witness infinite variations of all the possible combinations of space-time relations in which the logic of causality appears totally forgotten. The Where, the When and the Why stand as unknown quantities; the interpretation of the events, having lost the visual hold of spatial and chronological continuity, loses itself in the words of the Narrator, caught in the continuous bounce-back between now and then, without any solid chance of clearly understanding what really happened.

The fragmentation of the narrative world represents the collateral effect of the over-scaled inflation of memory above actual perception, of the past above the present. Resnais discloses a narrative realm in which memory shows its immensity and absolute power: the possibility of a false memory unhinges memory itself from the dictatorship of history or truth. All questions remain unanswered; the audience fails to identify as real or imaginary all the visual illusions, all the plot twists: the final result is the dispersion of many of the previous assumptions that cinematography does not have the capacity to reach a point in which mental processes or invisible thoughts or emotions are shown. The surface of the characters (their behavior, the words they pronounce, their movements) has always been intended as impenetrable, and the inner thoughts, the hidden emotions and feelings, have been conveyed through such particular and schematic solutions as the extreme close-up or specific camera movements. Resnais makes clear that the same cinematographic apparatus that has always been used with a curious shyness about these issues can enter the fissures of the characters' surfaces and be *an integral part* of their brain activities. If Eisenstein wrote and theorized about a restoration of mental activities, that is, a specular representation of them, Resnais throws the cinematic apparatus *inside* those activities, comparing and equating film grammar and brain functions. The inner difficulty of cinema that, according to its nature, has to depict reality and extract from it its own genetic material, is bypassed by Resnais thanks to several inventions and innovations, including the representation of mental evocations through glimpses of images, through flashes of thought that break the continuity of the narrative and shift the viewer's mental plane towards other spatial-temporal realities (see Callev, 1997).

The nonlinear chronologies of the chosen images – or, better, the fragmented reality constructed by the

directorial choices – and the non-associative structure of images and sounds that, in *Marienbad*, becomes the puzzling mosaic of unintelligible events, the necessity of the flow of images in time: all of these elements converge in the revolution initiated by Resnais, a radical transformation that would go on to have its most significant effects in latter decades. And it is memory that undergoes the most profound transformation: in Resnais's cinema, memory is not a mere re-enactment of the past or simply a present that has been:

The memory filmed by Resnais is not a present that is now past. None of the experiences of memory [...] refer to an ancient present that Resnais would try to introduce in the actual present, or to reconstitute; but, in a very different way, the important thing is the heavy presence of the past, of the remembrance which always vanishes. The memory in Resnais's work is always active, it determines the characters, makes them unable to achieve certain actions, or urges them to achieve others. It is a constantly present memory, continuing its effects. (Debaise, 2000)

Having a memory, for Resnais, does not mean re-living already-lived situations and conditions. Rather, it means interpreting the possibility of forgetting, the actuality of an impending oblivion, forcing the subject into a partial and selective fragmentation of the lived events. Memories are transformed by the particular perspective from which the memories are recalled. In this way, the multiple types of interference coming from the complex web of connections existing among past, present and future are multiplied by the germination of mental images. The conceptual jump determined by this visualization of the life of the brain projects Resnais' cinema to the realm of imagination and memory; the virtual nature of the mental projections makes possible a present totally conditioned by unverifiable possibilities, all marked by the same degree of actuality.

The risk of a purely psychological cinema – or, as Deleuze writes, of an “abstract” cinema (1985/1989, p. 209) – is always around the corner, but Resnais makes memory and imagination live outside the perimeter of his characters' brains. There are encounters, dialogues, quarrels, pains and joys; in short, there are events, and these events are profoundly determined by the unstoppable flow of the intertwining consciousnesses which is actually happening inside, and never outside, the life of the brain:

Therefore, Resnais's cinema is at the same time an attempt to account for the processes of thought, and a cinema of the event, of the difficulty to explain, to relate what has happened, even when these events are constitutive of the characters. Events, like memory or imagination, are not added to consciousness; altogether, they form a network that

determines the character; he is just as much the event that has determined him as he is the way he feels or imagines a situation. (Debaise, 2000)

Resnais's influence on contemporary cinema has been subtle, but undeniable. The explosion of mental images is not intended to produce a better understanding or a wider political awareness, as it often was with Eisenstein's visual manipulations. Instead, his cinema shows the determinant effects that mental pictures have on everyday life, on the choices the characters make, on the turns their lives take. A close examination of recent movies that deal with memory issues and brain activity demonstrates how Resnais was the initiator of a different use of cinema and its narrative and visual structures.

- The visual representation of memory: the hard-disk metaphor, the cartography of memory

One of the most important and stimulating points of reflection that so-called cyberculture has brought to cultural debate is the parallelism made between the computer and the human brain. Significant thinkers such as Minsky (1988) and Moravec (1990, 2000) have discussed the possibility of implanting chips directly into the brain or connecting a computer directly to the nervous system. Cinema has broadly followed these visionary suggestions, substantially adopting the surface of these reflections without any deeper analysis of the reliability of the scientific assumptions. The goal behind this insistence on the ability of machines to exactly replicate cognitive activities or to simulate mind actions is probably the same one underlying some theorists' dreams of ultimately superimposing artificial intelligence onto humans and making machines and biological persons equal. A discussion of the scientific accuracy of this equation and of these visions of the future could be interesting, but might also be misleading: what seems more appropriate for the purposes of this research on the cultural relevance of such visual metaphors is to examine the ways in which social representations of subjectivity, subtended by these perceptual facilitations, come to be determined. In the end, the analysis should be focused within a cinematic framework, questioning these metaphors and trying to catch a glimpse of how cinema represents itself as a medium and what this explains about its cultural status. Analyzing films built around memory issues and closely observing the visual figurations subtended by

them, we discover intriguing aspects of cinema itself rather than generically comprehending the reality we live in or the subjects we are becoming. As cinematographic narrative has explored the mind-computer metaphor, it has spread the constitutive elements absorbed from scientific and literary culture to the world of everyday life through popular culture and its myriad manifestations. By doing so, cinema has profoundly explored its own nature as a medium, constantly subjected to technological innovations and transformations, and endlessly attracted to analogies such as cinema-dream, cinema-thought. This set of rhetorical and visual metaphors seems to be the late actualization of Benjamin's intuition regarding media technologies which, undergoing radical transformations, determine proportioned alterations in the experiential and perceptual possibilities of the subject.

If metaphor has always been the privileged key in the process of explaining something we do not know (in science this is the most common procedure, in order to make clear and known something that is obscure and unknown), then perhaps the complexity of activities and systems such as biological and biochemical ones forces the cultural process to make them simpler by analogizing them to contemporary technological innovations which are equally complex. From the clay potter to Cicero's wax tablet, metaphors have always worked by comparing memory (just as any other scientific issue – for instance, consider how the nervous system was once described as a hydraulic or, after Galvani's animal electricity, electrical system) to something else. The computer seems to be a more complex metaphor, because the scientific and technological evolution of this tool has been marked by continuous parallelisms between it and the human brain. It worked in this way from Wiener and Von Neumann's theories, and the path marked by the pioneers dramatically influenced the following steps. From Intelligent systems that can substitute for humans in specific activities to the Artificial Intelligence widely debated in scientific and literary scopes, the computer has always been intended more as a substitute element rather than a prosthetic implementation of biological functions. As Steven Rose writes,

the metaphor reverses itself. Instead of biologizing the computer, we find ourselves challenged by the insistence that human memory is merely an inferior version of computer memory, and that if we want to understand how the human brain works we had better concentrate on studying and building computers. (Rose, 1992, p. 95)

One important historical precedent in this direction was the Perceptron. The Perceptron was designed by Frank Rosenblatt with the intention of replicating the functions of human neurons, associating learning and remembering, but after a while it became evident just how different the representation offered by Rosenblatt was from the actual complexity of neuron activity. Later came connectionism, with an entire set of models designing for computers: rather than conceiving specific elements intended to 'take care' of the mnemonic activities, the connectionist design was more complex and built around a vaster set of networks. The effort was clearly directed toward replicating the complexity of the different layers of neurons and networks working in a human brain. Dialogues among computer modelers, neurobiologists and philosophers formed the beginnings of a new approach which became computational neuroscience (see Churchland & Churchland, 2002; Kosslyn, 1994).

One of the most radical opponents of connectivist theories is the mathematician Roger Penrose. The kind of specific responses to specific inputs that characterizes the deterministic functioning of brain-based computer models simply does not exist in neural responses which instead, Penrose argues (1990), possess a strong indeterminacy both in terms of reactions to a given circumstance and outputs that are not determinable:

According to Penrose, then, a reductionist strategy must fail on two related grounds. In the first place, indeterminacy at the level of the neuron and its synaptic interconnections means that one will never be able to understand the mind or the brain simply by an analysis of its individual components, whose responses are inherently unpredictable. In the second place, however, this indeterminacy at the level of the component gives way to predictability at the level of the system. Consciousness, intelligence, memory thus emerge as properties of the brain as a system rather than those of individual components within that system. (Rose, 1992, pp. 87-88)

There is also an important issue that needs to be discussed which ties together the artificial nature (the once-oxymoronic phrase that is no longer so...) of memories, according to the use of technological tools that supplement our biological memory, and the coexistence of individual and collective memories. It is true that modern technologies, which can embalm memories, insuring them to the ravages of passing time, work as an enormous collector of individual memories, but it is equally evident that the opportunity to share individual pasts builds an entirely new collective memory. Then, as we

have previously seen, the dichotomy between fact and fiction, especially thanks to cinema and its functioning, blurs and disappears:

Modern technologies – photography, film, video and audiotape, and above all the computer – restructure consciousness and memory even more profoundly, imposing new orders upon our understanding of and actions upon the world. On the one hand, such technologies freeze memories with all the rigidity of old Victorian sepia family portraits, providing an exoskeleton which prevents them from maturing and transforming themselves as they would do if untrammelled and without constant external cues within our own internal memory systems. On the other, they dissolve the barriers between fact and fiction in quite subversive ways. (Rose, 1992, p. 95)

But maybe the point that interests us in a very specific way is related to the way that the indeterminacy discussed by Penrose leads to the conclusion that the brain is not infallible or unerring and that the linearity of computer systems is not observable in brain networks. The fallibility of memory stands as an insurmountable obstacle for any connectivist equation, especially if we consider that every single piece of information managed by the brain carries within itself the key-element of *meaning*. *Meaning* refuses a simplistic representation because of its processual and developmental structure; *meaning* does not exist as such but rather is a continuous metamorphic phenomenon. Each time we remember, we make a substantial change inside our memories, recreating them according to the modified condition that surrounds – physically, historically, psychologically – the event, the act of remembering.

Here, once again, we are confronting the main issue of the processual nature of mnemonic elements and the continuous recreation of memories. This is what happens with cinema, a sort of mnemonic metaphor on its own, when confronted with these issues.

One of the most interesting cinematic experiments in recent years is Michel Gondry's *Eternal Sunshine of the Spotless Mind* (2003), written by Charlie Kaufman and winner of an Academy Award for best original screenplay. The movie begins on Valentine's Day, when Joel and Clementine meet on the beach in Montauk. There seems to be something between them, and they decide to spend the night together. Then the story goes back to a few days before Valentine's day: when his girlfriend Clementine splits up with him, Joel is devastated to hear that she contacted an unusual firm, called Lacuna Inc., in order to have her memories of him erased. Joel decides to get revenge and undergo the same procedure to wipe out all his memories related to her. But during the process of cancellation, Joel discovers that he really

prefers to keep the remembrances of their affair with him and desperately desires to foil the procedure. Lost inside the labyrinth of his fading recollections, Joel listens to Clementine who suggests hiding her in some obscure sections of his subconscious. Joel goes back to his childhood memories, trying to insert the mnemonic presence of Clementine into a moment of his life in which she was unknown to him. Joel fights a sort of battle to take back the memories of her from the tool that carries on the procedure. When Joel and Clementine go back to the memory of their first encounter in a house on a beach, right before being “caught” and erased, they decide to meet again on the Montauk beach. Joel awakes from the procedure, and it’s Valentine’s Day. He goes to Montauk where he meets Clementine in a repetition of the first sequences: they are actually having their first meeting for the second time. They do not remember anything of the past, but they somehow feel something happening between them. Later they discover everything about Lacuna, their prior relationship and the erasure of their reciprocal memories, and they decide to try a second time.

Eternal Sunshine of the Spotless Mind is perhaps the most typical of the movies which represent the visual processes related to memory. It offers a fallacious and misleading visualization of location of memory, but at the same time it is characterized by a narrative description of memory and its activities that few movies have offered before. Beginning from actual experiences, and showing a notable awareness of the most recent discoveries about memory, the conceptual frame encircling *Eternal Sunshine of the Spotless Mind* is entirely built around the key concept of memory as a constant recreation. Looking closely, almost all the scenes in which Clementine appears and interacts with Joel are determined by his memory. The entire narration of Gondry’s movie is the measurement of the distance that exists between the actual Clementine and the girl that is fabricated by the main character. In one of the pivotal moments of the movie, Clementine asks Joel to hide her in order to escape the erasing mechanism; this moment, as do many others in the film, happens in Joel’s memory, when he is just talking to himself. Maybe this is the best visualization of the process happening inside the memory of actual events. Joel continuously recreates them because, each time we try to remember something, we reprocess the memories we have and repeatedly recreate the memory. But before getting into the

analysis of *how* memory seems to work, how memory processes and recreates remembered events, it is useful to examine the cartography of the brain as depicted in Gondry's movie, as well as in other contemporary visual works.

The fictional Lacuna Inc. is a medical service that offers its customers a procedure that detects and erases specific painful and unwanted memories. The method appears to be physically painless and normally leaves just a headache the day after thanks to the ability of the medical staff involved in the process and their precision in localizing memories within the complex space of the human mind. If a patient chooses to erase a part of her/his mnemonic property, s/he needs to gather all the things that are somehow linked to the memories destined for erasure. This solution has a double effect: getting rid of all these objects, the patient cannot be confronted with otherwise unexplainable things after the procedure and, more importantly, these items are used to locate the spots of memory during the first step of the process. The patient is connected to a brain scanning machine and asked to look at every single item; doing so, s/he allows the technician to locate exact coordinates in her/his brain, specific places that light up in response to the visual stimulation that fires mnemonic correspondences. All these single spots are noted and registered in order to create a sort of memory map that is used by the technical staff during the erasing process. After the patient has been sedated, the Lacuna staff re-activates each single point charted on the map and in this way each memory is re-experienced by the patient who, in the meantime, inhabits the recalled memory and watches it as it is dissolved by the eraser.

This visualization of the brain map directly derives from the visual implementations we have witnessed in recent decades of scientific progress with technologies that allow a profound and detailed analysis of the interior of the human body. On their screen, Lacuna technicians see a bidimensional map of the brain, very similar to a real one determined by a functional MRI machine, with specific spots lit up and, after the successful erasure, the selected marks disappear. This is a simplistic and popular idea of erasing memories that some scientists claim could one day be possible: at the basis of every neuronal learning, there is the synaptic linkage of two neurons, and behind the synapse there is a protein

synthesis; blocking this synthesis during the completion of a selected learned activity could lead to a loss of that particular behaviour. The visualization offered with the help of the adapted fMRI machine used by Lacuna is more elementary, but there are other scientifically correct issues that balance this approximation and its cinematic justification (for those who are interested in this kind of scientific realism).

The removal of each mnemonic fragment is made with a sort of fading progression and, more importantly, the course of the erasure proceeds following an inverse time-line. The procedure begins with the most recent recollections and ends with the most distant in time. This is a precise effect that links memories to the emotional nucleus that allows the event to plant more profound roots in the lived experience. The intervention of Lacuna operates at the emotional level, on the sensitive substance of an event that is not only perceived but also linked to emotional reactions and precise implications.

There are many different ways in which fading and dissolving memories are shown in *Eternal Sunshine of the Spotless Mind*. Once they are tracked and targeted, memories are destroyed both at the surface, visual level and the purely sensible and emotional level. Objects, bodies, signals, facial features and background details, everything is subject to a sort of rubbing device that, slowly but implacably, finds even the most hidden aspect of a remembrance and cuts it out of the visual field. There are very few CG special effects involved in a narrative structure that is aware of one of the most bizarre *a priori*: a large part of the movie shows, from inside Joel's brain, the progress or the momentary collapse of the device that is supposed to wipe the memories from his brain. Gondry makes a clear choice, adopting a strongly focused narrative: the main part of the movie is framed in the erasure procedure taking place at Joel's apartment during one night. Joel is present, sleeping but (as the audience well knows) extremely active in his effort to protect some memories that he does not want to be cleaned up anymore. These sequences alternate with ones taking place inside Joel's brain, where memories, bodies, places and items are attacked and erased by the Lacuna device.

As the director of photography, Ellen Kuras, says,

Much of the syntax of the dramatic action leads you to believe that you're in a memory, or a memory of a memory, but the reality of where you are in time and space is not exactly clear [...]. One of the ways Michel wanted to suggest this visually was by calling back to early cinema, where magicians were using live-action practical effects in order to change time and space. He didn't want them to feel or look completely seamless. In one of the scenes, he wanted me to shake the camera so we could see it was a handheld effect in camera, as opposed to a locked-off superimposition effect or double exposure. That was the enigma of the film to me: we would have these unconventional, trompe l'oeil transitions that were not transparent film language, but the lighting sources had to be naturalistic at the same time. (Pavlus, 2004, pp. 36-37)

This undecided and confused situation seems to become a sort of cinematic cancer that attacks the basic logic of the *mise-en-scène*: the proliferation of flashbacks constantly besieges the audience's attention and sense of cognitive location. The traditional linguistic choice meant to represent the movement backward in time with a certain visual clearness becomes undistinguishable from the rest of narrative.

There is strong tendency in contemporary cinema toward representing the brain as a map in which it is possible to find the place of memory. Each time memory is visually represented in its relation to the human brain, directors and screenwriters seem to be obliged to offer a cartography of the brain with specific sections and spots that are supposed to be the places in which remembered things and events can be found. The cartography of the brain is the most obvious solution for a visual representation that needs to refer to otherwise invisible activities, but in *Eternal Sunshine of the Spotless Mind* this visual twisting is brilliantly balanced by the whole mindset which undergirds the complex vision of memory built by Gondry and screenwriter Charlie Kaufman. Here the technicians of Lacuna Inc. switch on a monitor that, in a very cold and aseptic black and white, shows a bidimensional section of the brain, with a point of view from above the invisible skull. The matter of the brain is represented with the usual scientific iconography, with the two lobes and the different shades of gray that distinguish the different parts of it. Little green and orange spots are the precise locations in which memories lie. It is a sort of videogame, with the technicians targeting the exact spots that have to be erased.

Recent discoveries about brain activities as well as technological innovations dedicated to examining brain regions (CAT scans and other innovative tools adopted for medical use) have permitted doctors and scientists to produce representations of the brain, leading fictionalized works related to this topic

to emphasize the concept of visualizing the brain offered by these tools. The necessity of finding and identifying singular places and regions of the brain devoted to specific activities and connections has led to another massive cultural phenomenon: the metaphor of the brain as a hard disk. The same linguistic arsenal that uses terms such as memory and data storage is directly connected with the pervasive and ubiquitous presence of personal computers in everyday life, and thus the brain has come to be frequently represented using this hard disk metaphor.

Paycheck (John Woo, 2003) is another movie in which neurons and synapses are visualized in a very obvious way, with a sort of journey inside the brain; a software programmer is forced to erase all the memories related to the programming activity he has carried out for a big corporate firm. The purpose is to wipe each fragment of cerebral activity in order to avoid any attempt at industrial espionage. As is typical in such films, the head is connected to a brain scanning device, and the movement of the device is visualized by the technicians involved through a sort of subjective shot that moves the perspective through a three-dimensional environment in which there are biomorphic elements that are supposed to be neurons and synapses. Once they reach the exact spot in which the memory is located, they fire a beam at these *places* that, just as in a videogame environment, destroys the targeted organism. A parallel screen shows, with some extremely cinematographic sequences, the visual narratives which are connected to the selected spots that are to be erased.

This seems to be the preferred way of representing the located memory, transforming the brain cells and regions into a sort of battlefield upon which some technologically advanced devices start a micro-war against the spots where (dangerous, painful, unwanted, unnecessary) memories are situated. There are cultural reasons, of course, for this spatial metaphor, a fictional representation that has little to do with actual brain functioning but which tells us a lot about the visual regimes that determine most of our perception nowadays. Memory, as I will try to show in the latter portion of this chapter, is becoming one of the most mediatized elements of our visual culture.

Lacuna Inc. offers a highly symbolic service to its customers: it actually creates memory gaps and voids and, at the same time, confirms and reaffirms the social construction of mnemonic processes. The

mapping of memories during the first part of the procedure is built around a system that duplicates and mirrors the formation of memories determined by media's effect upon our brains. Filmic language and grammar are central to the visual representation of memory offered by cinema in many works, such as *Eternal Sunshine of the Spotless Mind*. Here, for instance, the kind of relation established between the remembering subject and the narrative of his recollections is clearly a double one. Joel is, at the same time, the spectator and main protagonist of the remembered events, and the interactive nature of these memories is clearer once we analyse the fact that Joel continuously chooses the characters and actors of some sequences, updates the narrative situations, and creates for himself a paradoxical and ageless role as he reprocesses the actual events in order to find a way to escape the wiping process. In brief, he just tells himself his story, reaffirming the power of the narrator who chooses roles and narrative twists, and showing once again the transformable and always updatable nature of memories, to which he adds a new editing logic, some voice over, and new possibilities of narrative development. Revisiting his memories with the aid of Lacuna Inc.'s devices and helping the technicians in the process of creating a visualized map of the located memories, Joel is asked to connect some items to the immediate recollection that is linked to them. He is forced to recreate a narrative for each single object, because the successful erasure of memories occurs through a surfacing of their emotional core that is inextricably linked to the related story, the associated narrative of their formation.

In her essay about Gondry's movie, Carolyne Jess-Cooke (2007) brilliantly analyses the relation between memory and mass media intended as narrativising instruments; discussing the process of brain mapping starting from memory-charged objects, and the inescapable connection between memory and desire (a connection that is coagulated in the affective value of each item to the patient/customer), she notes that every single object selected by Joel is associated more with a story than a memory. Each memory has found its place in Joel's brain because, as he says when confronted with a snow globe during the first step of the procedure, "there's a good story behind this". The past is clearly determined by the possibility of narrativizing it, because the narrative structures that are hidden behind an object or an image are the emotional link that can re-activate the experience of memory formation. It is not the

object that needs to be erased from the mind of the patient; rather, it is the constructive procedure of its related narratives. This assumption leads to the conclusion that, if the process of memory formation is a narrative one, then the interpretative frame of the event becomes more and more important in the relation the subject establishes with the memory.

This would mean that memory creates a meaning for the past while the process of narrativization runs parallel to that of rewriting the memory:

Eternal Sunshine figures memory as filmic, with superimpositions, overlapping voices from the past and present, and an editing process that reflects the invasive technologies of mnemonic erasure. In this kind of memory, the subject is also the spectator, both participating in memories and gazing upon himself as a “double” entity. The film suggests in addition that the act of re-remembering involves doubling the “original” memory. As a consequence, the “original” or “real” historical event is not doubled, but instead a double rupture is created between history and the act of remembering. (Jess-Cooke, 2007)

Gondry and Kaufman use the character of Joel and the invention of the erasing device to point out an ultimate, possible truth about the fluid and inextricable nature of memory: there is never an exact and absolutely truthful correspondence between memories of events and the events themselves. Because memory is an act of narrativization even at the moment of its formation, the remembering subject finds him/herself in the powerful position of always creating a partial reconstruction of what actually happened, working at both a conscious and unconscious level. Memory formation implies an instantaneous falsification of reality because all the events that actually happened are affected by emotional, moral, sentimental and psychological variants and alternatives. When a memory is formed through a narrative procedure, it immediately enters the realm of the “re-creation” of the event, and the exact correspondences between the two poles of the narrativization (fact and invention) become so blurred that the concept of truth itself fades and loses all of its relevance.

The impossibility of verifying memories is another key aspect of cinematic narratives related to memory problems and different forms of amnesia. This implies a theoretical shift that associates a physical and sensual relation with memory and mnemonic procedures. Memory does not have a place in the mind because memory is determined by an entirely bodily experience (an experience built through the senses), and its cognitive value becomes less relevant than narrative and emotional ones. In

Eternal Sunshine, emotion and memory are linked because of the decisive role that the emotional value of memories has on the way that they are stored differently according to the positivity or negativity of the feelings connected to them. The mental journey experienced by the unconscious Joel as he tries to hide certain memories in order to avoid a complete erasure leads him to both pleasant and mortifying memories, and the remembering subject is surprised by the emotional strength of the re-lived experiences. This emotive re-enactment of the previous experiences determines a curious level of awareness, clarified when Joel, returned to his childhood, calls his mother and affirms, “It’s amazing how strong this feeling is”.

Through Joel’s experience with the erasure process engineered by Lacuna Inc., *Eternal Sunshine of the Spotless Mind* paradigmatically describes the remembering subject’s double condition as spectator and main protagonist of his/her narrativized memories. Jess-Cooke (2007) describes the cinematic value of this directorial strategy:

This is reflected in the ways in which Joel re-experiences his past. Throughout the memory erasure procedure, Joel’s process of narrativization, or re-remembering, is a kind of experiential spectatorship. This is the notion of experiencing by perceiving. Joel not only “spectates” his memories, but re-experiences their various sensual processes and emotional contexts. Like Taussig’s suggestion of the flexibility of the self, floating easily between the environment and subjectivity, experiential spectatorship can be read as reconciling mutually affective embodiment and disembodiment at the level of mnemonic mimicry. Memory narratives are specifically point-of-view based, yet they may figure the subject as a third party, as present in their own memory (like Joel), as a mimetic double that guides the narrativizing process of the memory. The dialectic of absence-presence at the heart of memory in this context is an important component of narrative memory. The emotional core of a memory retains the “presence” of the subject, and it is essentially this bodily-stored emotional response that ruptures temporalities by re-situating the subject back into the remembered past via his or her senses.

The “flexible self” epitomized by Joel is a sort of multiple character who occupies the screen also on behalf of the audience. Their identification with him leads the audience to experience a suspended visual condition that confounds reality and imagination, memory and present time. Gondry and Kaufman build a labyrinth in which the recognition of the temporal dimension is erased together with the memories contained in Joel’s brain. There is constant rebounding among different times and different narrative situations, and the only common element is Joel’s presence, both as a sedated spectator lying in his bed wearing pajamas and a brain scanning machine and as the hyperactive

protagonist of a losing battle against the erasing device. The setting is always his mind, a mind that ceases to exist only in a metaphysical condition and that, finally, shows its material and embodied nature. Inside Joel's mind, the struggle he makes is not only aimed at saving his complex system of memories, but is also concerned with protecting his identity from an erosion of the self embodied by the unstoppable doubling of his experiences. If the movie is quite entirely set inside Joel's psyche, spectatorial activity is confronted with a temptation toward disembodiment that is opposed to the central idea regarding the physical and bodily location of a memory. Memory is not located in a single spot in the brain, nor is it wholly located in the brain; it rather is dispersed throughout a self that finds the body as a stratified place of memory (see Rutherford, 2003).

Another aspect worthy of further attention is *Eternal Sunshine's* system of visualization, especially in comparison with some sequences of the aforementioned *Paycheck*. In the latter, a Philip K. Dick adaptation, particular emphasis should be put on the visualization of memories that is shown on the parallel screen during the erasure procedure. In these sequences, the audience sees on the screen an aseptic room in which the "usual" technicians are working on the brain of the character played by Ben Affleck; the survey in the brain's inner zones is conducted with a sort of flight simulator that moves the point of view of the shot through a three-dimensional, biomorphic maze of thin green lines that intersect in nearly spherical forms. While the representation of neural synapses holds little interest for our argument, it is more interesting to analyse what happens on the other screen that occupies our field of vision during the erasure sequence. While Jennings's brain is wired and connected to the scanning machine, the only criterion adopted for distinguishing the different contents of these synapses is to visualize the images contained in them. For this reason, a cinematic sequence corresponds to each synapse, as if cinema could be rooted in the located memory, and as if a single synapse could be visually translated into a cinematically structured sequence in which there are no narrative first persons, no subjective perceptions, no hierarchies of emotional involvement.

Thus, while the visualization of the Lacuna Inc. device never offers the technicians a visualization of

the content of the targeted memories, in *Paycheck* the externalization of these images transforms the images that are hidden in the subject's brain into shared visual material. The difference is profound. Joel's recollections remain his property or, at least, are re-seen and re-experienced only by their "owner"; the external subjects (everybody apart from himself and the Clementine that inhabits his memories) are cut off from the experience, and their contact with the more personal issues of the facts lived by the patient are limited to the visualization of a schematic medical snapshot of a brain section. The cinematic declination of the recollections remains anchored to its bodily frame, to the same organism that is directly connected to the memories. In *Paycheck*, the memories that are to be erased are experienced for the first time by external viewers, while the remembering subject lies in a semi-comatose condition; his brain is used as a storage unit, and the mnemonic properties cease to belong to him and become inert visual fragments, absolutely separated from their emotional root, their process of formation. The opposition set out in this comparison precisely duplicates the absolute antagonism that exists between two different ways of considering memory and the processes of memory formation.

While *Paycheck* seems to be unaware of the most recent discoveries about the human mnemonic system, *Eternal Sunshine of the Spotless Mind* adopts a relatively coherent perspective on the way contemporary neuroscience explains the process of memory formation. This is because Gondry's movie (even though it assumes the possibility of memory erasure, which seems highly improbable) works upon one of the main concepts in contemporary studies about memory: reconsolidation. Recollections are transferred from the procedural memory to the structural memory, and the assumption at the basis of *Eternal Sunshine* is that in order to complete the erasure of memories it is their emotional cores that have to be eradicated. In fact, the mechanisms of memory storage in the human brain have been shown to be very selective and differently modulated. There is a vague *locatedness* (there are memory zones in our brain, there are no memory spots) in the process of memory formation. Recent discoveries have found important differences in how the brain saves memories that have an emotional implication. The brain somehow chooses to preserve a more detailed storage of negative emotional recollections, and the traumatic memories seem to be secured in the amygdala (one of the zones of the brain dedicated to

emotional responses) and the hippocampus (which is associated with most of the mnemonic processes). While the majority of movies that offer a visualization of memories and memory problems describe recollections only as passive and objectified elements that are immutably stored once and forever, one of the better solutions adopted in *Eternal Sunshine of the Spotless Mind* is to show all the emotional traces that reinforce the deepening of memories and create a challenging cinematic visualization for the representation of this phenomenon. This point becomes extremely clear with the character of Clementine who, after her memory erasure, seems to have only the emotional linkage of the destroyed memories remaining inside her.

Issues of embodied memories, spectatorial doubling in front of movies set in characters' psyches, and, more relevantly, the narrativization of unverifiable memories can be found in many contemporary movies, but perhaps the most effective and striking is David Cronenberg's adaptation of the Patrick McGrath's novel *Spider*. *Spider* (2002) is the story of a man named Dennis Cleg, whose nickname "Spider" comes from his childhood habit of weaving webs made of thin rope all around the house. Spider is released from a mental institution and, after having stopped taking his medication, is haunted by memories concerning what happened to him before being imprisoned in the psychiatric facility. All his recollections are focused around a tragic event that destroyed his family. Raised in a brutal working class milieu, little Spider developed a morbid relationship with his mother and a sort of hatred for his father and his betrayals. The movie features a continuous movement that joins two separate temporal dimensions: Spider visits all the places in which his memories are set: his childhood house, the pub where his father spent most of his nights, the sordid streets and fields of his neighbourhood. Filtered by the flashbacks of the adult Spider, we see the child discovering the adultery committed by his father with Yvonne, a vulgar and rude prostitute who resembles his mother. When Spider's mother discovers her husband with his lover, the man kills the wife and buries the corpse. He then takes the prostitute home and imposes Yvonne on the son as a substitute mother figure. When little Spider becomes more aware of the crime committed by his father, he seeks revenge by turning on the gas through a complex system of his obsessive web. The incident is fatal to Yvonne but not to the father who, emerging with

the dead body of his wife in his arms, accuses the boy of having killed her. The boy Spider is taken to the mental hospital in exactly the same way that it happens to the adult Spider at the end of the movie: after having finished his personal journey through his private memories, Spider tries to kill his landlady, believing that she is the same Yvonne he failed to kill when he was a child.

Spider is built entirely around a strong polarization between two temporal dimensions, the past and the present, and this double timeframe is represented by Cronenberg through an extensive use of flashback. The movie constantly moves back and forth between showing Spider as a boy and as an adult, assuming that the geometrical pivot of this narrative is the present time in which the adult Spider remembers what happened to him during his troubled childhood. The sharp and precise use of flashback is indicated by the mnemonic effect of places and sounds, bodies and colours. Each time the adult Spider encounters something that is somehow linked to his childhood, the mechanism of the flashback turns on and we are suddenly projected into the past where we meet the narrative situations that concurred to create the damaged psyche of the remembering subject. But, Cronenberg being the challenging director he has always been, the rhetoric of the flashback is profoundly affected by the disruptive forces that inhabit Spider's fragile mind. As the director himself declares in an interview,

Spider is a movie about psychosis and about the reconstruction of reality or, maybe, more precisely, about reconstruction of reality as continuous process. Basically, a psychotic does everything any other human being does, but he suffers a sort of discrepancy with the collective psychosis which is society, and so he is hardly compatible with it. (Grünberg, 2002, p. 19)

It is precisely for this reason that the mechanisms of flashback undergo a procedure of visual transfiguration that transforms them into the visual representation of the puzzled memories of a psychotic. Cronenberg enters Spider's mind, offering a visual realm that mirrors the affected brain of the adult man without insisting on abominable visions or delirious nightmares.

Spider follows a narrative procedure that avoids visual special effects and bizarre images. Cronenberg continues working at dismantling the linearity of the logics implied in the rhetorical functions of the flashback. The solution adopted here is a very uncommon one: during the remembered moments, inside the frame of the flashbacks as images coming from the past, Cronenberg makes both the child and the adult version of Spider appear. In the same frame we can watch the remembering subject and

the remembered object: when Spider, confronting a place that fires up some memories in the labyrinth of his mind, remembers an event, a dialogue, an action, he is physically transported inside the same space-time frame of himself as a child. He becomes the mute (but active) witness of his memories: he opens the doors, he sits in front of his father and mother, he watches the child version of himself talking with his mother. This is a radical – but, at the same time, very simple – way of showing the activity of a damaged mind. The psychosis is shown at an elementary level, with the duplication (one of the most common signs of psychosis) complicated by the presence of a third element that transforms the linearity of time; there is the double Spider in the same frame, but there are also Mrs Cleg and her eroticized double Yvonne (both played by the same actress).

The simultaneity of these impossible presences marks the saturation between our perception and the productive activities of Spider's memory. The most evident example of this generative nature of mnemonic procedures comes in the fracture that happens in the aforementioned process of composite flashback generated by the visits Spider pays to his memory places. At a certain point, indeed, the adult Spider ceases to appear only in the flashbacks where he is present as a child and begins to be present also in places and times where he was not many years before. These are the moments in which the imaginative nature of memory is manifested in its pure essence: the difference between imagined or actual facts loses its relevance. *Spider* erases the eccentric and asymmetrical use of the flashback and inaugurates a second phase of its narrative structure, an enhanced procedure of splitting the past into different reconstructed fragments totally separated from the lived experiences of the child Spider. Cronenberg slowly shifts the audience's attention from the perceptual realm of a psychotic character towards the labyrinthine nature of memory. Spider happens to remember events he never witnessed, but while the adult protagonist recalls these sequences and appears at the centre of the falsely remembered events, the spectator finds her/his position inside the generating mechanism Spider's memory is becoming. Watching the movie as it goes on, we perceive a distinct sensation of a suffocated environment in which any possible image appears in its double nature of both representation and creation.

By doing this, Cronenberg pushes us to inhabit this affected memory, to trust a disrupted psyche and to abandon ourselves to the procedure of meaning construction that does not belong to images or sequences but that is their direct emanation. While pretending to adopt a visual structure profoundly connected to the tradition of classical narration, Cronenberg subverts the rules of spectatorial agreement and transforms the movie into an unstoppable descent inside the absorbing and morbid nature of a language-dispossessed character. Flashback becomes as liquid and malleable as any other rhetorical figure adopted to represent a mental illness and the subsequent distortions of perception. As Patricia MacCormack (2003) writes:

Time is no guarantee of development of reason, and thus it is reversed or diffused. This is the essential definition of memory. Like cinema memory is the immanence of different places, events and periods compressed into accessible and immediate recollection. In order to remember the actual we must first distort time and space, clearly a paradoxical and thus hazardous project. Thus the rudimentary observation of less critical viewers that the film is about the unreliability of memory fails to see that memory as a concept has no relationship to authenticity or reliability. It is a tactic rather than a fact.

It is through the patient building of a different logic that we enter in phase with the mental associations determined by Spider's malfunctioning memory. The obsessive use of the little diary in which Spider annotates every single thought in a confused and illegible way, the compulsive and productive excrescence of the web that determines his nickname and plays an important role in the murder of his mother, the neurotic use of the voice (a sort of undistinguishable mantra that duplicates almost every word or sentence coming from the "narrative past": all these concurrent elements help Cronenberg construct an undeniable identification between the spectator and the psychotic character. In a movie that is built entirely around the distance that exists between the different versions of memory and the actuality of real events, Cronenberg pushes the audience towards a place in which the pathologies of the protagonist become a "common space" where the experience of memory seems to maintain its cognitive value while, on the contrary, it also becomes a creative and productive activity that can also relate to a destructive and counterfeiting event. The difficult combination of Spider's eccentric and unorthodox memories and the reality intended as a memory shared by a majority form the mirror in which Cronenberg shows us how all memories are imaginative and constructive, counterfeiting and

protective.

It remains a fact that the mind, as the title of Gondry's movie reminds us, is "spotless". There is no possible way to, nor any conceivable visualization that can, show the exact location of memories in our brains. The metaphor of the hard disk, with its precisely situated mnemonic elements, is not sufficient for a correct understanding of brain activities and is not scientifically accurate. But it remains, *per se*, an important metaphor for the necessary mediatization contemporary culture seems to impose on our visual system of orientation in the realm of images. And it is precisely the constant narrativization and visualization of memories that offers a sharper and more profound visualization of memory's functioning: the malleable nature of an interactive and "open" narrative implies a temporary condition that is the substance of mnemonic activity.

As Bukatman (1993) notes, analyzing some of Baudrillard's most fertile intuitions and reflecting upon the transformations of bodily representation in science fiction and horror movies,

The subject is the *body*, mutable and mutated. The subject is the *mind*, thinking and cognizing. The subject is its *memory*, recalling history and experience. [...] In the era of terminal identity, the body has become a machine, a machine that no longer exists in dichotomous opposition to the "natural" and unmediated existence of the subject. [...] Baudrillard's prose mutates the body into a device fully assimilated to the modalities of the telematic interface. The body is no longer metaphor or symbol; nothing lurks below the flesh. The body is now an infinite set of surfaces – a *fractal subject* – an object among objects. (pp. 244-246)

Obviously there are historical, social and economic reasons for a simplified metaphor that fulfills our compulsive desire for mediatized representation. In *Eternal Sunshine*, when Joel visits Lacuna for the first time and asks for information from the doctor, he wonders if the procedure could cause brain damage. The doctor patiently explains that the entire process of partial memory erasure *is* a form of brain damage, a bland form of damage (he compares it with the effect of a heavy drinking night). Curiously enough, when Bergson first studied mnemonic activities and their connections with the physiology of the human brain, he wrote about the impossible localization of memory and the connection between memory problems and neurological damage. In *Matter and Memory*, Bergson (1939/1991) writes:

All the arguments from fact which may be invoked in favour of a probable accumulation of memories in the cortical substance, are drawn from local disorders of memory. But if recollections were really deposited in the brain, to definite gaps in memory characteristic lesions of the brain would correspond. Now in those forms of amnesia in which a whole period of our past existence, for example, is abruptly and entirely obliterated from memory, we do not observe any precise cerebral lesion; and on the contrary, in those disorders of memory where cerebral localization is distinct and certain, that is to say, in the different types of aphasia, and in the diseases of visual or auditory recognition, we do not find that certain definite recollections are, as it were, torn from their seat, but that it is the whole faculty of remembering that is more or less diminished in vitality, as if the subject had more or less difficulty in bringing his recollections into contact with the present situation. (p. 315)

Bergson is extremely clear: there is absolutely no relation between the loss of mnemonic data and a precise or localized brain damage. In Bergson's view, the spatial connection between brain regions and memory locations is unverifiable. More precisely, Bergson adds, "There is not in the brain a region in which memories congeal and accumulate. The alleged destruction of memories by an injury to the brain is but a break in the continuous progress by which they actualize themselves" (p. 160). The actualization of memory appears to be the main problem, given that what seems to be lacking in people affected by memory diseases is not the rude data of actual events but the process that leads to the recollection itself.

The metaphor that visually associates the brain and the hard disk is based on the parallel made between memories and data. The necessity of finding a visual representation for a located memory seems

paradoxical if we think about the huge cultural shift that has progressively pushed the same concept of identity away from the continuity of memory or from the physical permanence of the same subject. The cultural disappearance of the stability guaranteed by all the forms of bodily and subjective continuity creates a theoretical void that, in several narratives, seems to be fulfilled by the permanence given by the uniqueness of mnemonic elements. Memory substitutes for thought as the constitutive element of the self, and this substantial transformation happened ironically while memory itself was losing all connection with the concept of physical location and univocal correspondence with a single “owner” of the recollections. As Bukatman (1993) writes,

To have memory is to have history; it is also to develop empathy. [...] Memory is thus constitutive of the self in these fictions. In an era of bodily transformation, change and dissolution, the mere (and ahistorical) fact of physical existence is no longer a guarantor of truth or selfhood. (pp. 248-249)

- A spurious memory for a spurious reality

As we have stated before, the work of Alain Resnais forms a sort of monument to the virtually unlimited connections between cinema and memory; nearly every frame of every film he has directed seems to be haunted by the intuitions we can find in the masterpieces he realized between 1959 and 1961. *Hiroshima mon amour* and *L'année dernière à Marienbad* are two movies entirely devoted to the exploration of visual and mental phenomena connected to memory and its problems. Memory continues to be a radical construction in which the presence of data and information merits the same attention usually devoted to absence, blank spaces and voids. Memory is always incomplete, its own substance related to lacunas and blind spots. Cinema certainly is a medial prosthesis (see further in this chapter) that enriches the limits of the remembered and of what can be remembered, and it is also a strong and active support that backs up the biological functionality of human memory. However, more than anything, cinema remains a decisive example of how “media and memory mutually constitute our everyday experiences [...], inscribe and transform each other” (van Dijck, 2008a, p. 76).

Hiroshima mon amour certainly represents the turning-point for a certain way of representing memory and its diegetic implications. Michel Foucault theorized the possibility of escaping the uniqueness of

history by contemplating the possibility of many different histories, each with its own specific speed and duration, that sometimes find a point of intersection that we can define as an “event”. Event, in Foucault’s account, ceases to be a single portion or specific fragment of time and becomes a plan upon which different and separate historical paths meet and overlap. The dialogues between the two lovers in *Hirosima mon amour* are constantly haunted by the impossibility of verifying their reciprocal accounts of the past: when the French woman describes what she saw in Hiroshima, her Japanese lover continuously answers: “You saw nothing in Hiroshima”. But while her words refer to the collective heritage of the historical moment of the bombing of Hiroshima, he is speaking about a private, singular witnessing of the enormity of what happened. The event, according to Foucault (1972, 1977), is precisely the point in which two different and apparently incompatible truths meet. The becoming-image of memory entails the definitive breaking of linearity, of any possible truthfulness of the recollections. Cinema, after Resnais, becomes the narrative place in which different realities, historical paths and mnestic perspectives meet and merge.

Moving on from the intuitions about memory and its processes present in many of Resnais’s movies, we are substantially approaching a decisive issue: memory could also be intended as an invention. As Bergson (1939/1991) made clear, there is a radical distinction between “memory” and “memory images”, the latter being the actualization of the first. He explains:

Whenever we are trying to recover a recollection, to call up some period of our history, we become conscious of an act sui generis by which we detach ourselves from the present in order to replace ourselves, first in the past in general, then, in a certain region of the past a work of adjustment, something like the focusing of a camera. But our recollection still remains virtual; we simply prepare ourselves to receive it by adopting the appropriate attitude. (p. 171)

The virtual nature of the recollection, its positioning on a sheet of the past characterized by specific issues, means that we cannot find the desired point, we cannot discover it because of its unapproachableness or, as Deleuze (1985/1989) points out,

a third case can arise: we constitute a continuum with fragments of different ages; we make use of transformations which take place between two sheets to constitute a sheet of

transformations. For instance, in a dream, there is no longer a recollection-image which embodies one particular point of a given sheet; there are a number of images which are embodied within each other, each referring to a different point of the sheet. (p. 123)

In this way we create a series of relations among images that are disjointed, belonging to different time-frames, extending their trajectories and mutual links in a chain of non-chronological mechanisms. This is the case in which memory determines the outcome of its fallibility, the chance of its collapse: “sometimes we only produce an incoherent dust made out of juxtaposed borrowings; sometimes we only form generalities which retain mere resemblances. All this is the territory of false recollections with which we trick ourselves or try to trick others” (p. 123).

The proliferation of mediated forms of memory enormously enhances the possibility of our recollection succeeding in its quest, in its effort toward actualization that finds an immaterial substance in the memory-images. But, at the same time, it somehow increases the eventualities of its failure, the trap of incessantly disjointed references among several sheets of the past, among virtually infinite planes of recollections. The exposition of our perceptual apparatus to a plethora of stimuli allows us to extend the use of external media devices that empower the active capacity of our memory, but also contains the risk of a fallible recollection that alters and misrepresents the actual remembered events, rendering the distinction between true and false memories impossible. As Philip K. Dick (1978/1985) writes in his controversial essay *How to Build a Universe That Does not Fall Apart Two Days Later*,

our memories are spurious, like our memories of dreams; the blank are filled in retrospectively. And falsified. We have participated unknowingly in the creation of a spurious reality, and then we have obligingly fed it to ourselves. We have colluded in our own doom. (p. 8)

In 2000 a very interesting movie arrived from a quite unknown English director, Christopher Nolan. After the scarcely noticed *Following*, Nolan re-elaborated a short novel written by his brother Jonathan and the two came up with a bizarre screenplay. *Memento* encountered a discreet success after its release, but an unstoppable drumbeat spread the word about this unique spectatorial experience. Success arrived, slowly, but becoming massive; *Memento* soon became a cult movie that brought a lot of attention upon its director who went on to become a huge blockbuster-maker, with such successes as

Batman Begins (2006) and *The Dark Knight* (2008).

The plot of *Memento* is, at the same time, both very easy and very difficult to summarize. It is the story of an investigation, conducted by Leonard Shelby, into the rape and murder of his wife. He looks for the perpetrator of this awful crime, a mysterious John G., having only a little information and a strong will. The investigation, unfortunately, is thwarted because, due to a head injury which happened during the assault that led to his wife's death, Leonard is incapable of making new memories. This means that, within a period of a few minutes, all new data and information are somehow erased from his memory, leaving only the remembering of what happened before the tragic incident. This means that Leonard remembers everything up until the moment of the fatal assault he suffered with his wife. He remembers his name, his past, how to use a telephone or a camera, how to drive. He also remembers his identity, or, at least, this is what he believes. This condition of anterograde amnesia forces Leonard to erect a complex structure of mnemonic mechanisms which he calls "a system". He gets several tattoos that recapitulate the essential details of his investigation; he takes a lot of snapshots upon which he writes the information he collects; he writes many notes to himself; he creates meticulous routines in order to maintain control over his everyday life.

It is impossible for Leonard Shelby to rely on his previous knowledge to direct his behaviour. His condition forces him to live in a permanent present that, literally, fades from his horizon every ten minutes. He is continuously obliged to re-start his relations, to re-boot his investigation, to re-encounter for the first time people he has already met. To explain the difficulty of his condition, Leonard explains that for him it is "Like waking. Like you always just woke up." Given the intricate configuration of his search and the suffering situation of his mnemonic system, Leonard is constantly manipulated by the undecipherable figures around him. He is aware of this menace, so he must endlessly doubt all the information he comes across. He is uncertain of every circumstance because he always has to verify the source and find the exact position of the newly acquired knowledge in the landscape of his external (written, photographed, tattooed) memory. When someone tells him a story, gives him a clue or suggests something to him, Leonard is caught in an inextricable situation: he is instinctively led to

believe what he hears or discovers, but, simultaneously, he has to doubt every single word because he cannot afford the luxury of trust. Trust is almost always built on previous experiences or knowledge, and if Leonard Shelby lives every minute without his, he cannot rely on anybody. And this also happens to be the spectator's condition while watching *Memento*.

In the opening sequence, we watch the development a polaroid shot of a murder; this sequence is run completely in reverse, and the picture fades back from the developed image to the black of the film. This reverse development of the polaroid contains, *in nuce*, the functioning of the whole narrative machine built by Nolan and his brother/co-writer. Nolan is telling us, in the only scene shot in a reversed timeline, what will happen during the rest of the movie, and his statement is made clearer by the impressive killing sequence that shows a murder played in rewind, with the blood of the victim that flows back from the wall into his wounded head and the bullet returning into the gun. All the other sequences are shot normally; each of them follows the correct chronology of time. But while watching *Memento*, we know what is going on in the plot, but we never know what has happened. In fact, *Memento* is edited in a reversed chronological order, so that the first scene we watch is actually the end of the narration, and we proceed from one scene *before* the other. The arrow of time is inverted, so we know what happened before the events that are taking place in front of our spectatorial eyes only in the subsequent sequence. This means that we experience a condition that exactly corresponds to Leonard's. Moreover, the film continuously jumps between the color sequences depicting Leonard's quest and his everyday life and black-and-white scenes that show Leonard within the closed space of a motel room while his voice-over describes the medical details and the practicalities of his condition, or he talks on the phone to an unknown person. Only the color scenes proceed backward in time, and the black-and-white segments follow a chronological development. The last segment of the film is the one in which the two differently colored timelines converge, and finally the audience seems to have an almost complete understanding of the events and the narrated facts.

The narrative stratagem adopted by Nolan leads to a repositioning of the audience: we are put inside Leonard's head, and we completely experience the consistent puzzlement he inhabits. The reliability of

the narrator is influenced by Leonard's condition, and consequently is profoundly informed by the reversed chronological structure of the narration. As the director says in an interview featured on the DVD, "the confusion comes from putting the audience in tune with the protagonist's mindset. [...] The protagonist becomes the surrogate of the audience. Nobody knows how he happened to be somewhere. Including himself". All the uncertain data Leonard collects need to be verified by the facts, but the facts cannot exist until the following piece of movie that actually contains the preceding narrative block. Our ignorance about the facts proceeds together with the stratified awareness reached by Leonard. While following his actions on the screen, we find ourselves surprised by the uncommon and uncanny situation in which we partially or completely lack knowledge about what led the character to the specific circumstance he is in: why he is there, who are the characters depicted, what happened that determined the narrative event. We have to await the passing of time in order to achieve awareness of what occurred before. This endless movement forward and backward in time necessarily puts the audience in a weak position, since the lack of information collides with the apparent linearity of the film's structure.

There are several movies in which the narrator turns out to be an unreliable one (David Fincher's *Fight Club*, for instance, is one of the most recent and influential examples), but the canonical trope regarding this peculiar narrative figure is related to the fact that he is dreaming, lying, or in a coma. Most of the movies that use an unreliable narrator turn out to be counterfeited narratives only at the end, showing the actual relation that the protagonist has with the surrounding reality and with the narrative context. Most of these choices obey the dictatorship of the final twist, the solution that necessarily has to surprise the audience, forcing them to re-read the movie with a new understanding. *Memento* avoid this obvious trick, altering the relation with the images at its roots: the structure imposed by the authors onto the narrative force the audience to doubt every single event because the cognitive filter that works throughout the movie is Leonard's perception of events. So it is the whole relation of identification, empathy and sharing of knowledge that undergoes a profound alteration in a movie such as *Memento*. The procedure is standard: putting the audience into the mind of the main character looks

like a common expedient that usually determines a primary process of identification. But Leonard suffers from his peculiar condition, so everything he does, sees or “remembers” is unreliable. In a mystery movie in which the solution is shown in the first sequence of the film, the end of the story (actually its beginning) inevitably leads to another anomaly. If the trust we have in Leonard and his actions is, paradoxically, doubtful throughout the entire film, at a certain point we discover ourselves in a more uncomfortable position. We totally mistrust him and start to doubt the main issue of his investigation. As Elasaesser (2009) writes about what he calls the “mind-game film”,

In each pathology of subjectivity [...] the mental condition is such that it exceeds the clinical case-story. Indeed, the point of giving such subjectivities-in-action the format of a mind-game film would be to draw the audience into the protagonists' world in ways that would be impossible if the narrative distanced itself or contextualized the hero via his or her (medical) condition. In other words, the hypothesis would be that mind-game (reconcile with other) films imply and implicate spectators in a manner not covered by the classical theories of identification, or even of alignment and engagement, because the “default values” of normal human interaction are no longer “in place,” meaning that the film is able to question and suspend both the inner and outer framing of the story. (p. 30)

Teddy is a sort of companion who constantly helps Leonard in his investigation and who seems to have found the killer who attacked Leonard and his wife. At the same time, Leonard is convinced by a woman that it is, in fact, Teddy that he is looking for. So Teddy, understanding the forthcoming danger, decides to tell Leonard the truth: he tells him that the real rapist and killer was found years before and killed by Leonard himself. Of course, Leonard cannot remember this event, the same way he does not remember that his wife survived the assault. So he is forced to deal with the possibility that his entire memory is false, that his pursuit of the killer is just a way to “entertain” himself in his otherwise insignificant life. In order to change the meaning of his existence, he needs to change his memory. But he does not have a memory, so he falsifies the notes that represent the surrogate of his remembrance. He writes a few notes that *he knows* will later convince him that Teddy is the killer he is chasing.

This is the point of the movie in which the audience finds itself more than caught in the mechanism of unreliability erected by the process of identification with Leonard. Having followed all the mental acrobatics, the audience reflects upon the possibility of a fallacious process of identification. During the whole movie, the Teddy's face has been associated with the description “Don't believe his lies”,

written at the bottom of his Polaroid image. So, since the identification is extremely strong, the viewer is forced to make a choice: who is more trustworthy? A protagonist whose system of recollection has been proven to be fallacious and extremely problematic? Or the unpredictable and apparently deceitful Teddy who seems to be the only one in possession of all the facts? Curiously enough, the perceptual sympathy determined by the shared memory problems moves the audience closer to Leonard.

The link between memory and reliability is made clear during one of the most important dialogues:

TEDDY: Lenny, you can't trust a man's life to your little notes and pictures.

LEONARD: Why?

TEDDY: Because you're relying on them alone. You don't remember what you've discovered or how. Your notes might be unreliable.

LEONARD: Memory's unreliable. No, really. Memory's not perfect. It's not even that good. Ask the police, eyewitness testimony is unreliable. The cops don't catch a killer by sitting around remembering stuff. They collect facts, make notes, draw conclusions. Facts, not memories: that's how you investigate. I know, it's what I used to do. Memory can change the shape of a room or the color of a car. It's an interpretation, not a record. Memories can be changed or distorted and they're irrelevant if you have the facts.

Like many other movies related to amnesia, *Memento* makes a big narratological assumption: that the lack of memory implies a sort of narrative blank that the plot will fill according to determined strategies. In *Memento*, this void is never transformed into a closed and meaningful unity of sense. The disclosure of understanding is continuously postponed, even if the concept of "post" needs to be re-imagined in a movie built with a reversed timeline.

The reasons for *Memento*'s success are not difficult to understand. *Memento* is a rare kind of visual experience and, moreover, is a movie that directly questions the audience about the visual functioning of the human body. The perceptual experiment conducted by the Nolan brothers is directly addressed to the questioning of identity issues. The disturbance of memory necessarily implies doubt about identity. As Basil Smith (2007) suggests:

In point of fact, what is unique about *Memento* is the way in which it poses this problem. It is not just that Leonard may have been fused from two consciousnesses, but also that there is no way to discern, either from the inside or from the outside, which elements of the two former persons now exist in the resultant person, and, thus, that nobody knows which beliefs from which series are true or false. Leonard may be constituted by two series of conscious memories in an uneasy mix. But what is really troubling is how his plight may mirror ours. (p. 38)

The increasing attention towards amnesiac characters is just another massive brick in the wall contemporary cinema is erecting in order to discuss and problematise the issue of redefining identity. This crisis has reached previously unexplored levels nowadays, and *Memento* perhaps represents a turning point. There are exact and disputable questions raised by the Nolan brothers, and their choice is to adopt a double path to reach the problematic. First comes the puzzling storytelling that directly challenges us in questioning our spectatorial habits and reflecting upon the levels of attention involved in the visual experience of a film audience. Then, the complex narrative structure is successfully linked to the specific nature both of the character and of the mnemonic mechanisms involved cinematic experience. Among the few answers given by *Memento*, the most important is about the persistence of identity over time. If Leonard is the living (and exasperated) example of the necessity of a continuous mirroring that allows us to achieve a constant and renewed awareness of our identity, “it asks us to abandon the notion that personal identity is transitive, that our memories must be true, but also that such identity is not static or unified” (Smith, 2007, p. 38).

The constant sensation of abandonment is conveyed to the audience through the substantial dyscrasia existing between the absolute trust professed by Leonard about his remembered past before the traumatic event of his wife’s violent death and the information surfacing at each narrative twist. As a matter of fact, parallel with the reversed storytelling of Leonard’s investigation – and at the core of the black-and-white timeline – Nolan inserts the story of Sammy Jankis, a character that Leonard encountered in his “previous” life as an insurance investigator and which the amnesiac Leonard uses as an anchor for his existence. According to the insistent memories that Leonard constantly shares in telephone conversations that take place in a motel room, Sammy Jankis was a man affected by the same short-term amnesia that Leonard suffers from and whose authenticity Leonard strongly doubted.

Sammy was perfectly able to take care of the insulin administration for his diabetic wife, so Leonard decided to refuse the insurance claim for his disability. Subsequently, in order to test the legitimacy of her husband's condition, Sammy's wife made him repeatedly inject her with insulin shots. This desperate attempt ended tragically, because she died and the husband remained lost in his unwitting oblivion. What counts in this narrative procedure is always the unreliability of Leonard's memories, and this long flashback seems to have no credibility because of the self-evident unreliability of Leonard, and the audience has to be extremely doubtful about what Nolan shows. And Teddy, the undercover cop who seems to help Leonard, confirms viewers' doubts when he yells at Leonard that he has entirely altered his memory of the Sammy Jankis story to avoid the acknowledgement of the fact that it was actually his wife who, having survived the attack that Leonard says was fatal, died after he administered an overdose of insulin to her. Jankis really was a cheat, and Leonard has reconstructed his character as a poor victim in order to reshape the form of his counterfeited memory.

Another decisive point raised by such films as *Memento* is the redefinition of the positions occupied by memory in the technological environment of contemporary life. Memory has always been a fundamental theme of film narratives, and its cinematic treatment has always been an intriguing challenge. The extremely significant modification in the collective perception of mnemonic processes has led to an increasing literary and cinematic production of works that deal with memory and its alterations. The social construction of memory seems to be an emergent issue, and mediatized memory significantly constructs a sort of shared past. The privileged form of memory sharing in *Memento* is the one of the database (see Manovich, 2001) of images, in a constant metaphorical turn that Nolan uses for testing the actual limits of the cinematographic medium's possibilities in the hyper-medial present. *Memento* paradoxically reminds the audience about the awareness of a past that mediatized memory (even in its more private and intimate form) rebuilds, re-enacts and reshapes, a past that has been transformed by the amnesiac event.

- Prosthetic memories: We do not possess our memories, we are part of them

If the representation offered by memory's philosophers leads to a visual definition of memory as a sort of object contained in the skull, and the visual representations that many movies offered tend to follow this conceptual path, there are two issues that need to be discussed: first of all, the spatial position of memory is far from being clearly identified as coincident with the brain and its physical mass, and there is also the fact that memory cannot be described as an object. As previously noted, memory should be rather intended as a process, "a process of mental representation engaged in a continuous interchange with the wholeness of the body" (Maldonado, 2005, p. 23). The question that arises, thus, is connected to the link between this idea of bodily memory and the reciprocal belonging between the body and the self. Is the body that produces the process of memory a single and individuated body, connected with a determined and solid cultural identity, or, rather, does the mediatization of memory imply a dissemination of private and individual memory, an interchangeability of recollections that radically question the existence of the concept of the "individual"?

Locke, Hume and Hobbes described memory as an integral part of the self and its continuity. There is a way of considering memory as a kind of private property, a sort of immaterial capital or inalienable resource that is substantiated by the owner's experiences of this disordered and elusive accumulation. In the media-scape of contemporary technologies, of course, it is, to say the very least, complicated to affirm the univocity of this reciprocal sense of belonging, given the atomized and shared dimensions of mediated memory that are owned by many subjects at the same time. Perhaps it was Nietzsche (1882/2001), in his analysis of consciousness and communication, who first wrote about the human consciousness as a network of connection between different human beings:

My idea is clearly that consciousness actually belongs not to man's existence as an individual but rather to the community and herd-aspects of his nature; that accordingly, it is finely developed only in relation to its usefulness to community or herd; and that consequently each of us, even with the best will in the world to understand ourselves as individually as possible, "to know ourselves", will always bring to consciousness precisely that in ourselves which is "nonindividual", that which is "average"; that due to the nature of consciousness – to the "genius of the species" governing it – our thoughts themselves are continually as if they were outvoted and translated back into the herd perspective. At bottom, all our actions are

incomparably and utterly personal, unique, and boundlessly individual, there is no doubt; but as soon as we translate them into consciousness, they no longer seem to be. (p. 213)

The increasing use of external technologies that store and process memory data is somehow transforming both the material foundation of the memories that are constantly mediated and also the cultural nature of memories and acts of remembering. The focus should be placed on the transformed social use of recollections, because the evolving technological enhancement has not modified the objects of memory, but rather, as José Van Dijck (2008b) suggests, the “performative nature of memory – that is, the way we create and deploy memories as a way of giving meaning to our lives” (p. 119). What is changing is not the content of a hypothetical box of memories, but the use we make of this constantly transforming box itself. Digitization is one of the main elements of this transition. The profound transformations determined by the evolution of the material supports in which we everyday inscribe our memories is reshaping our entire culture, and digital technologies are the most important element that is effectively multiplying the mediation of each remembering act. The meaning given to mnemonic processes and the different perceptions of every remembered event leads to decisive questions about the political and social implications of what we call “cultural memory” (Sturken, 1997, p. 1) and represents a collective plan in which a negotiation between individual stories and representations takes place. The inner structure of the field of negotiations clearly depends on the changing and evolving systems that technologically permit the constitution of a memory that becomes increasingly less individual and more collective.

One rich and stimulating analysis of this cultural and theoretical stalemate is offered by Alison Landsberg in her work on prosthetic memory. Her essay “Prosthetic Memory: The Ethics and Politics of Memory in an Age of Mass Culture” (2003) summarizes most of the issues discussed in this chapter, treating cinema (and some movies in particular) as a field of both investigation and exemplification. The definition of prosthetic memories is linked to the possibility of considering memories as not being constituted by the lived experience of the remembering subject. Having prosthetic memories implies the hypothesis of interchangeable experiences that generate multiple and shared recollections. Landsberg clearly underlines how, in the whole of human history, memory has

always been prosthetic and shared, and that every historical reality has been the result of a mediation (beginning with language and cultural narratives), but she adds that the radical emergence of “the mass media – technologies which structure and circumscribe experience – bring the texture and contours of prosthetic memory into dramatic relief” (p. 191). Referring to mass media, Landsberg emphasizes the importance of cinema and its substantial capacity to produce experiences which are immediately possessed by the audience.

What is questioned, according to the main tendencies twentieth century thought and, especially, within the post-modern horizon, is the difficulty of making the real be a part of collective and all-embracing narrative structures; the atomization of perception and the singularity of proliferating realities leads to a disruption of linear time and to the idea of reality as the result of a controversial sum of individualities that share some memories and cohabit individual realities. Prosthetic memories radically question the assumption of the total possession of private memories as private properties: they are, according to Landsberg, “memories that no individual can own, that individuals can only *share* with others, and whose meanings can never be completely stabilised” (p. 151). Cinema, of course, is one of the most relevant media to have generated substitute experiences that have been implanted into the memories of viewers without ever being lived by them. The production of mediated recollections generates processes of identity construction that pass through “memories which become experiences that film consumers both possess and feel possessed by” (Landsberg, 1995, p. 191).

Landsberg (2004) identifies the main characteristics of prosthetic memories in four points:

First, they are not “authentic” or natural, but rather are derived from engagement with mediated representations (seeing a film, visiting a museum, watching a television show, using a CD-ROM). Second, like an artificial limb, these memories are actually worn on the body; these are sensuous memories produced by an *experience* of mass mediated representations. [...]. Third, calling them “prosthetic” signals their interchangeability and exchangeability and underscores their commodified form. In this sense, I agree with those who have rejected the “culture industry” model in which mass culture is seen solely as a site of domination and deception. I argue that commodification, which is at the heart of mass cultural representations, is precisely what makes images and narratives widely available, available to people who live in different places, come from different backgrounds, from different races and from different classes. [...] Finally, I call these memories prosthetic to underscore their usefulness; because they feel real they help to condition how an individual thinks about the world, and might be instrumental in generating empathy and articulating an ethical relation to the other. (pp. 20-21)

What Landsberg is trying to underline is the decisive aspect of media-generated memories that goes beyond the irrelevant distinction between true and false recollections, arriving directly at the fundamental issue regarding the foundation of a subjectivity that ceases to be a merely individual one and becomes one of the foundational elements of a social, multiple identification that can create possible paths for counter-hegemonic activity.

Landsberg (2003) admits that the risk of commodification for such memories is relevant, especially given the fact that they are produced and employed within the boundaries of a commodity culture. But it is their intrinsic structure and genesis that transform them into paradoxical commodities that can never be completely owned, that cannot coincide with any form of private property and, therefore, into a complex cultural object that occupies “a unique position within and yet implicitly opposed to capitalism” (p. 151). She cites Etienne Balibar’s (1994) concept of “universal property”: an idea about property which affirms that there are objects “that can be appropriated but not totally possessed” (p. 220). Prosthetic memories, Landsberg argues, are the exact counterbalance to the dictatorship of private property. As a movie such as Paul Verhoeven’s *Total Recall* (1990) demonstrates, memories can become public, collective, shareable: memories, often, do not belong to an owner, do not arrive from a single body or brain but are sold and implanted. And, again, there is no distinction between real memories and prosthetic ones when memories are produced and spread by media and create the memory of an experience.

The social implications of new technologies of reproduction have always been related to the capacity for identity-formation that collective media have always had. But Landsberg (2004) brings the reflection one step further, claiming that

Prosthetic memories originate outside a person’s lived experience and yet are taken on and worn by that person through mass cultural technologies of memory. The idea of prosthetic memory, then, rejects the notion that all memories – and, by extension, the identities that those memories sustain –are necessarily and substantively shaped by lived social context. Prosthetic memories are not “socially constructed” in that they do not emerge as the result of living and being raised in particular social frameworks. At the same time, prosthetic

memories are transportable and hence not susceptible to biological or ethnic claims of ownership. (p. 19)

The liquid and wearable “nature” of these memories transforms them into disseminated entities absolutely detached from individuality or singularity, from a person’s actual and *real* past, and yet they remain fundamental elements in the definition of what we still call “subjectivity”. It is a partial subversion of the Lockean assumption discussed in the beginning of this chapter as decisive in the process of memory representation in pre-classical and classical Western cinema. But, at the same time, the identification of cinema as a *place* in which prosthetic memories have been working since the beginning of film history leads to an analysis that connects the new protocols of experience that cinema continuously reinvents in order to build a bodily and sensuous activity.

Prosthetic memories, as intended by Landsberg, are not metaphors and, most relevantly, break with the old distinction between authentic and inauthentic experiences, between real and unreal, which have been paradoxically reinforced by postmodern thinkers such as Baudrillard and Jameson. Affirming that the “real” is no longer capable of being experienced, they somehow claim the existence of a “real”. The prosthetization of memories, rather, implies the disappearance of any possible discrimination among the various levels of authenticity that separate the authentic from the unauthentic, insisting on an experience of reality that does not rely upon the authentic adherence between the lived and the (prosthetically) remembered experience.

The two movies at the centre of Landsberg’s analysis (2003) are Ridley Scott’s *Blade Runner* (1982) and *Total Recall*; both are science fiction movies set in the future, and both are inspired by the literary work of Philip K. Dick. In both movies, there are characters that wear implanted recollections as elements of a prosthetic memory that does not biologically or organically belong to them. *Blade Runner* and *Total Recall* are works in which the possibility of memories being technologically created and implanted inside the bodies of the subject is assumed to be ordinary. Artificial memories (they are not “real” or “false”) become a determinant part of the characters’ pasts, as the cyborgs of *Blade Runner* are able to recall a childhood they never lived or the working man of *Total Recall* can be sure of having been to Mars thanks to specific memories technologically created and implanted. These movies have somehow

reinforced the power of the metaphor of the mind as a hard-disk on which information is written and stored. The same idea is found in Robert Longo's *Johnny Mnemonic* (1995), an adaptation of a William Gibson novel that considers the same possibility, with the main character as a courier who carries data stored inside his brain, which is also precisely what happens with Neo Anderson in Larry and Andy Wachowski's *The Matrix* (1999) in which his "virginal" brain is enhanced with uploaded information such as martial arts ability.

The decisive difference between Scott and Verhoeven's movies is that, in *Blade Runner*, the authenticity of memories is considered relevant as soon as it enables humans to discover and identify replicants because of the false nature of the memories they have. In *Total Recall*, memories are treated as commodities because there is a special agency, named Rekall, Incorporated, that provides its clients with specific memories of whatever they want, allowing them to go on holiday even if they do not have the money to afford a vacation: as the firm's advertising says, the first time it catches the attention of Douglas Quaid (played by Arnold Schwarzenegger), "you can buy the memory of your ideal vacation, cheaper, safer and better than the real thing". When he asks for information about the fake memory of a trip to Mars, Quaid poses the decisive question to an employee of Rekall: "How real does it seem?" The man answers, "as real as any memory you have. Your brain will not know the difference".

The lack of difference between real memories and implanted ones disappears because of the incapacity of the brain to detect any difference. As a matter of fact, the brain makes impossible the implant because of a capsule of memory already present in it. The doctors at Rekall fail in the operation because, as they discover during the treatment, Quaid has already gone under a memory erasure and the process they have just begun to do has activated the artificial recollections found inside his brain. Thus a society in which memories are sold and worn as commodities uses recollections as it does other visual devices that determine and define the construction of the subjectivity. It is what cinema has always done. As Burgoyne (2003) confirms, there is a strong continuity between films and prosthetic memories as proposed by Landsberg, because a movie "engages the viewer at the somatic level, immersing the spectator in experiences and impressions that, like memories, seem to be burned in" (p. 223). Movies

are, in Landsberg's (2003) words, "part of one's personal archive of experience" (p. 235), even if the bits of life experienced by a spectator in a movie theater (or anywhere s/he can experience a movie nowadays) are simply fragments that are not lived in the first person by the remembering subject.

Further, Stiegler (2001/2011), analyzing what he calls "mnemotechnologies", writes that all forms of memory that we can call "objective" (such as cinema, of course) work both as a complex system that offers a testimony of a past not necessarily experienced by the subject and as something that moulds and manages the sense of time experienced by someone. Thus we arrive back at Stiegler and his theories about the externalization of memory as a solid element of the entire history of mankind. The passage from mnemotechniques (methods of memory storage, from ideogrammatic writing to the calendar) to mnemotechnologies which store and give order to memories (computers, cell phones, GPS systems, memory cards, data storage disks) means the ever-increasing objectification of our knowledge. These technological extensions of the human mind constantly redefine the boundaries of what we consider thought and memory and enact their most relevant transformations, both reshaping the limits of many human cognitive processes and the way we understand the relationship between past and present and their mediated representation.

Somehow we are confronted with the superimposition of the past and present, in a sort of technological concretization of what Deleuze (1985/1989) wrote about the past intended not only as images coming from an undefined distant period, but rather as a

virtual element into which we penetrate to look for the "pure recollection" which will become actual in a "recollection-image". The latter would have no trace of the past if we had not been to look for its seed in the past. It is the same as with perception: just as we perceive things where they are present, in space, we remember where they have passed, in time, and we go out of ourselves just as much in each case. Memory is not in us; it is we who move in a Being-memory, a world-memory. In short, the past appears as the most general form of an already-there, a pre-existence in general, which our recollections presuppose, even our first recollection if there was one, and which our perceptions, even the first, make us of. From this point of view the present itself exists only as an infinitely contracted past which is constituted at the extreme point of the already-there. The present would not pass on without this condition. It would not pass on if it was not the most contracted degree of the past. (p. 98)

The bodily experience of memory that Deleuze draws from Bergson is a form of memory which

differs from the concept of it as mere images recollected and consisting of “corporeally inscribed habits” (Jay, 1993, p. 193); this insistence upon the body and its prostheses, the basis for the aforementioned theories of Landsberg, is connected to embodiment theories rather than to post-humanism and its theory about the whole body as a prosthesis.

The exteriorization analysed by Stiegler and Landsberg does not coincide with a simple transplantation of data that finds different places for their storage, independently from the biological or technical environment they happen to be in. The extension of humans into inorganic prostheses radically alters the constitution of personal and cultural experiences, profoundly interferes with the processes of identity definition and subverts the relationship between individual consciousnesses. It is the direct continuation of Simondon’s (1958/1980) theories about the parallel paths of human evolution and the development of technological objects and Canguilhem’s (1952/2008) ideas about the continuity existing between human organisms and technologies.

The radical increase of external devices to which we refer many of our mechanisms of conscious functioning (as consciousness tends to adopt external memories as integral parts in the flux of its development) necessarily leads to a quantitative impoverishment of biological memory activities; however, this does not result in collective amnesia thanks to the many technological devices that help us in the task of improving the capacity of a hybrid memory and reshape the paths of mnemonic consolidation.

The unverifiability of memories in a completely mediatized mindscape is also becoming a pivotal issue in mainstream television, especially in a few narrative and visual experiments carried out in a current series. *Fringe*, broadcast by Fox in the US, comes from the same producers and creators as the worldwide success *Lost* and has more than one thing in common with the adventures of the survivors of the plane crash on a mysterious island. Created by J.J. Abrams, Roberto Orci and Alex Kurtzman, *Fringe* follows the “Fringe Division”, an autonomous unit of the FBI that investigates a mysterious and inscrutable series of paranormal events which seem to be connected in a comprehensive and cryptic

“Pattern”. The team is formed by an FBI agent, an eccentric scientist (who has lived for many years in a mental hospital) and the son of the latter. The scientist’s presence determines an investigative strategy that draws intuitions from “fringe science”, a sort of in-between discipline that opens scientific discourse to the possibilities disclosed by the most radical and innovative discoveries of contemporary physics.

Like many other narrative (cinematic, literary) objects, *Fringe* exploits the narrative strategy of a past that, episode after episode, slowly comes to the surface thanks to the traditional device of the flashback or of the character who reveals bits of past time, helping the audience and other characters figure out the most important parts of the plot. But memory, in a series so connected to scientific experiments and visionary technology, can offer more on a narrative basis: memory, its formation and its multifaceted recalling processes are at the core of several episodes, seeking to redefine the boundaries of contemporary reflection upon memory and technology.

The first bizarre occurrence of an “explanted” memory happens in the opening episode of the series and has a very strong importance in the economy of the whole narrative. In order to have information about a secret conspiracy, Olivia Dunham, the FBI agent who is the main character of the series, participates in an experiment that allows her to enter a state of mental resonance with a man in a coma. This is the only way she can get inside his brain and discover hidden aspects of the secret plan she is investigating with her team. This journey inside someone else’s brain causes some of her dying colleague’s memories to be imported into her mind; so, during the plot development of the first season, we often find her dealing with memories that she doesn’t know she has, with detailed knowledge of places and situations she has never visited or experienced. Moreover, during these travels inside what becomes an inner part of herself, she often sees her own memories from the point of view of the colleague (the two were having an affair when he was mortally wounded). So, for example, when she relives the experience of a dialogue she had with the man whose memories she is trying to “steal”, she happens to see herself in the double position of external viewer and internal character. By doing so, even at a very elementary level, this narrative solution adopted by the creators of *Fringe* shows the

paradoxical condition of the remembering activity, with the subject that discovers her/his ambiguous position.

Thus, it is the confrontation between a fragile and unstable self and a reality that is continuously perceived as an effect of an ongoing process that determines the aberrant perceptions and frequent reconfigurations of consciousness. *Fringe* tries to push some of the most challenging assumptions of visionary science even further, and in an episode of the second season, entitled “Grey Matters”, there is another kind of memory “transplant” when three patients housed in mental facilities undergo brain surgery to have pieces of their brains extracted. The plot revolves around an experiment performed many years before during which a part of the brain of the mad scientist, Walter Bishop (the scientist of the Fringe division), was removed and put into other people’s heads in order to preserve a secret contained in his memory. A mysterious character in the present is collecting the pieces of Dr. Bishop’s brain, trying to read them together and unveil the best-hidden secret of the scientist’s memory. So, in order to achieve a complete reading of the severed parts of the brain and their content, this man collects brain fragments from different subjects whose mental conditions dramatically change after the surgery that allows them to return to sanity. This detail shows how the implantation of a fragment of brain/memory coming from a foreign body was the cause of the temporary insanity of the patients.

Imagining stories without a strict or obsessive attention towards the scientific truth, *Fringe* operates in a gray zone in which science and its unorthodox secondary paths follow the anarchic and experimental inspiration of a scientist, the aforementioned doctor Bishop, who in past decades had tried to lead human consciousness to unexplored places. The two examples just cited show again how much popular forms of entertainment are dealing nowadays with such topics as the redefinition of consciousness, mind expansion and the limits of human memory.

Moreover, let us return to a crucial point in this chapter, that is, the authenticity or inauthenticity of memory and recollections. As Paul Grainge (2003) writes in the introduction of a volume he edited about memory and popular cinema,

The concept of “authentic memory” is, of course, highly problematic. The desire for memory as stable, reassuring, and constant has always been plagued by the fear of its instability and unreliability, and its disposition towards fantasy and forgetting. The impact of digital mediation further compounds and complicates the question of authenticity [...]. In certain kinds of critique, however, a notion of memorial authenticity has endured, linked negatively to presumptions about the deracinating effects on memory produced by and within particular forms of technological media. (p. 5)

- *Déjà vu: mnemonic or visual phenomenon?*

Déjà vu (2006), directed by Tony Scott, is a film which, despite its title, never deals with the most stimulating possible concepts regarding the eponymous perceptual phenomenon. It is just an ordinary action movie in which a few agents work with a revolutionary instrument that allows a sort of visual analysis of previous events. The technology utilized by these agents is related to a wormhole that offers them the possibility of examining the past in order to re-live traumatic or violent situations (here, an explosion on a boat) and modify their developments. Employing complex devices, they witness only once, and with a four day and six hour delay, a number of events. But this is merely a superimposition of different time levels, not anything strictly related to *déjà vu*.

Déjà vu is a phenomenon that rarely enters into contemporary narratives, and when it does, it is infrequently narrated in its complexity. This circumstance is quite striking given that contemporary literary and cinematic fiction largely employ every possible affliction or disturbance of memory and the human perceptual system. There is a very subtle reference to *déjà vu* in *The Matrix*, in a short sequence featuring a black cat that Neo, the protagonist of the trilogy, sees doing the exact same movement twice in less than ten seconds. “A *déjà vu* is usually a glitch in the Matrix. It happens when they change something”, Morpheus and Trinity explain to Neo to make him recognize a forthcoming danger.

In Brian De Palma’s *Femme fatale* (2002), *déjà vu* is the visual key of the entire representation (starting with the trailer of the movie, in which De Palma shows the whole movie in thirty seconds, compressing it with a high-speed fast-forward). The duplicity of the mysterious main character is the double life she lives, the double identity she steals, the double reality she visits before we understand we have been watching her dreaming before she lives her actual life in the second part of the movie. Throughout the entire movie, De Palma sends out a lot of signals that literally duplicate every detail, showing that we

are witnessing a doubling of the perceived material; we literally travel with the character's consciousness suspended inside a dream. And after her awakening, we start – together with her and the whole movie – to reprocess the visual material we have been watching through her eyes in the first part of the movie. Two different advertising posters appear at two turning-points of *Femme Fatale*: in both of them we read “Dèjà vue”, and De Palma suggests that, while there is nothing new to watch, there are a lot of perceptions yet to be experienced just by inhabiting already seen images. This is the iconization of a condition that condemns us to a visual scape which always seems to work with the same material.

A more frequent use of the mysteriousness of déjà vu is that of a continuous reliving of a situation that appears always to be the same, a curious situation that we find in the comedy *Groundhog Day*, directed by Harold Ramis, and in an episode of the sixth season of the TV series *X-Files*, entitled “Monday” (written by Vince Gilligan and John Shiban, original airdate February 28, 1999). Here, an ordinary day rotates around a bank robbery involving the agents Mulder and Scully; although the robbery apparently always happens the same way (we repeatedly watch one of the two agents die), the narrative lets the characters acquire an increasing consciousness of what happens, forcing them to continuously modify its development. However, only the robber's girlfriend – the only character having a clear awareness of the temporal cage she inhabits – lives this as a true déjà vu.

Déjà vu is usually read as a continuous movement around the same time frame, a sort of chronological obsession that transforms the experience into a repeating loop, rather than being a glitch in our ordinary relation with the context we live in. This is also the assumption around which the complex narrative structures of Chris Marker's *La Jetée* (1962) and its almost-remake *12 Monkeys* (1995), directed by Terry Gilliam, are built. Here, a child becomes the spectator of his own death and remains haunted by this traumatic image for the rest of his life, until he dies once again (and again, and again) in front of a child version of himself. In the middle, there is the illusion of time travelling, contrasted with the final acknowledgement of the inevitable truth: “there was no way out of Time”. The déjà vu sensation that literally revisits the man during his entire life is the image of a man dying and the odd impression of not fully understanding what happens in front of his eyes. His déjà vu only appears to be a déjà vu,

since we imagine that, after witnessing his own death, this child will re-live his life again in search of this lingering final image, thus becoming a slave to the *mise en scène* of the inescapability of Time.

Here, we are confronted with the main issue of *déjà vu*: the uncanny sensation determined by the consciousness of an interrupted perception, by the postponed unveiling of an occurrence that seems to be re-lived while actually being lived for the first time. In 1908, Bergson dedicated the essay entitled “Memory of the present and false recognition” to *déjà vu*. Going against the main psychological explanations of the phenomenon, Bergson chose to clarify his assumptions about *déjà vu*, following the intuitions he had already presented in his previous *Matter and Memory*. Starting from the idea that *déjà vu* should not be considered a pathological and extraordinary occurrence, Bergson (1920) insists on his well-known description of the formation of memory as simultaneous to perception: “*The formation of memory is never posterior to the formation of perception; it is contemporaneous with it*. Step by step, as perception is created, the memory of it is projected beside it, as the shadow falls beside the body” (p. 128). He then focuses on the relation between actual and virtual, stating:

memory seems to be to the perception what the image reflected in the mirror is to the object in front of it. The object can be touched as well as seen [...] it is actual. The image is virtual, and though it resembles the object, it is incapable of doing what the object does. Our actual existence, then, whilst it is unrolled in time, duplicates itself all along with a virtual existence, a mirror-image. Every moment of our life presents two aspects, it is actual and virtual, perception on the one side and memory on the other. Each moment of life is split up as and when it is posited. Or rather, it consists in this very splitting, for the present moment, always going forward, fleeting limit between the immediate past which is now no more and the immediate future which is not yet, would be a mere abstraction were it not the moving mirror which continually reflects perception as a memory. (pp. 134-135)

Bergson continues his analysis, insisting on the necessity of distinguishing among different “heights of *tension* or *tone* in psychical life” (p. 120), a tension that allows us to activate some psychological devices that prevent the separation of the perception and recollection of events inside consciousness, thus foreclosing a clear perception of *déjà vu* at every moment. Bergson also individuates the strangest part of the phenomenon in the eccentric occurrence of a subject who watches him/herself living and observes a particular form of his/herself from the outside, like a viewer in front of a screen. It is in this twofold experience, which deranges the usual functionality of the conscious processes, that the subject experiencing *déjà vu* falls into a paradoxical condition of someone watching a recollection

which is actually happening in the present time, and in which he is both the main character and the only viewer. About the impossible localization of memory and the wholeness of the past, Bergson states: “In false recognition, the illusory memory is never localized in a particular point of the past; it dwells in an indeterminate past – the past in general.” (p. 111); Deleuze (1983/1991) adds: “Not only does the past coexist with the present that has been, but, as it preserves itself in itself (while the present passes), it is the whole, integral past; it is *all* our past, which coexists with each present” (p. 59).

The Italian philosopher Paolo Virno (1999), in his essay about this Bergson text, acutely links Bergson’s theories to what Nietzsche wrote about the use of history, making the two thinkers converge on the equation between the hypertrophy of memory and the impossibility of action. As Nietzsche (1873/2004) wrote:

Imagine the most extreme example, a person who did not possess the power of forgetting at all, who would be condemned to see everywhere a coming into being. Such a person no longer believes in himself, sees everything in moving points flowing out of each other, and loses himself in this stream of becoming. [...]. Forgetting belongs to all action, just as both light and darkness belong in the life of all organic things. (p. 4)

The momentary paralysis of history is linked to the hypertrophy of memory. Déjà vu becomes the phenomenon which mirrors our era, which has often been characterized as the “end of History”.

The importance of déjà vu is related to the excessive visibility of the duplicity of every moment in a perceived now and a remembered now. This excess appears to be strongly related to the experience of the virtual to which our age gives so much importance. The disclosure of “the experience of the possible” in every phase of our life (Virno, 1999, p. 41), transforms the phenomenon of déjà vu into one of the metaphors of our era. What Bergson writes about the individual phenomenon of the “lowering of the tension in psychical life” needs to be updated, because déjà vu has moved from the pathological and private intimacy of the malfunctioning memory and has become a public, or rather collective, symptom.

The paralysis of the vital psychological functions leading to the hegemony of a solipsistic hypertrophy of memory is clearly represented by Abel Ferrara in the previously analysed *New Rose Hotel*, which offers a quite surprising exemplification of Bergson’s (1920) ideas about how déjà vu has nothing to

teach us, being just a duplication of perception. He writes:

We feel that we are confronted with a recollection: a recollection it must be, for it bears the characteristic mark of states we usually call by this name and which only appear when their object has disappeared. And yet it does not present to us something which has been, but simply something which is; it advances *pari passu* with the perception it reproduces. It is a recollection of the present moment in that actual moment itself. It is of the past in its form and of the present in its matter. It is a memory of the present. (p. 136)

This paralysis of life, this syndrome of inaction, is at the core of the recent production of Gus Van Sant, the American filmmaker who recently changed his way of narrating, reflecting on the crisis contemporary filmmaking is going through. *Elephant* (2003) is a movie Van Sant dedicated to the Columbine High School massacre committed by two students. But *Elephant* is not a sociological enquiry into contemporary violence, nor is it a portrait of American society and its intrinsic nihilism. It is a movie that shows the difficulty for cinema of catching the intimate nature of images, the impossibility that cinema is experiencing in its effort to duplicate the emotional and conscious perception of the outside world. Van Sant clearly admits the strong influence of the Hungarian director Béla Tarr and especially his *Sátántangó* (1994), an influence evident in the way *Elephant* is conceived, in the mode chosen to depict the situation of stasis, of emotional and relational paralysis that the young characters experience.

The objective complexity of an extraordinary event such as the slaughter in the Colorado high school is depicted by Van Sant by means of a deep subtraction of cinematic suspense or dramatic construction. The time-frame of the event looks like an air bubble in which all the characters are trapped, without any possibility of an off-screen or any reasonable explicatory flash-back. Time is frozen, and we are forced to follow the students in their long and purposeless walks along the corridors, to hear their barren dialogues, always re-starting the chronological unrolling of the events from a hypothetical beginning. Van Sant, against all the common rules of film grammar, avoids the parallel montage in order to give the sensation of the immobility of time: rather, he chooses to replicate a few scenes, shooting them differently each time. This is a process that clearly involves the activity of memory that is internal to the process of spectatorship; as J.P. Garry III (2004) writes:

There are cinematic precedents for viewing an action from different points of view. *Citizen*

Kane (1941), *Rashomon* (1950) and *JFK* (1991) are among the most famous. [...] In these films characters relate their experience of a person or event and come to different conclusions, demonstrating the subjectivity of truth. But *Elephant* doesn't work that way. The action within each version of this unremarkable scene is scrupulously identical, while the visual differences derive from where the camera is, not the subjective interpretation of each character. Van Sant is addressing more purely cinematic questions. From whose point of view should dramatic action be viewed? Aren't characters in the background just as important as characters in the foreground?

Elephant keeps the viewer distant by offering a plurality of visions that never contribute to a better understanding of the depicted reality. The sense of déjà vu loses the uncanny mystery of its own innermost essence and becomes a purely optical intermission in the flow of a non-linear narrative. The same choice is also followed in *Last Days* (2005, about the final hours of the rock star Kurt Cobain's life) and especially in *Paranoid Park* (2007). Whereas in *Last Days* we watch a few fragments repeating twice (again, from different points of view, but never giving the impression of a step further towards the truth about the mystery of Kurt Cobain's suicide), in *Paranoid Park* Van Sant radicalizes his approach and chooses to build the entire movie like a traditionally structured pop song with its verses and its repeating chorus (here, images of young boys going around the park on their skateboards), a visual refrain that offers itself to the eyes of the viewer, provoking a sudden sensation of déjà vu. It means we immediately understand we have already been there, we have watched the same images, but we experience them as if they were in front of us for the first time because we filter them with the psychological impasse experienced by the mind we are visiting.

Paranoid Park could easily be read as a mental projection of the main character who, overwhelmed by the responsibility for the murder he committed, continues to watch and re-watch the same images, trying to obtain a clearer vision of what has just happened to him. But, as with *New Rose Hotel*, nothing becomes clearer. It is just a stream of images, a continuous déjà vu in which the character doubles himself, becoming both the viewer and the main player of the sequences. The character seems to be living while optically perceiving, but he is really paralyzed in a situation in which the only active move he can make is to rewatch the blurred images of a skateboard moving up and down the hills of Paranoid Park. Once again, the footage that is repeatedly shown is an apparently empty moment of the character's life: the meaningless repetition of pointless sequences does not tell us anything about the

violent event around which the movie spins. But these futile plans are the images that surface in his and our perception, not the fundamental moments describing the murder he involuntarily committed. It is the same choice adopted in *Elephant*: an ordinary occurrence, totally separated from the dramatic event that is supposed to be the turning point of the plot, identically repeated different times during the movie. The uncanny effect of *déjà vu* is obtained through the familiarity with already-seen images, and with the dramatic subtraction that these images contain. We are forced to inhabit this box of distilled time, always recognizing that we are building a form of recollection in the same moment that we are perceiving. Our voyage in Van Sant's cartography of consciousness follows the fleeting movements of the skateboard while we float between the two conditions that Benjamin foresaw in the future of the cinematic audience: shock and distraction. This is where the contemporary (again with Benjamin) "atrophy of experience" meets Bergson's intuition about the duplicity of the perceptual act and the collapse of action in the presence of a hypertrophic memory.

The complex relation between past and present returns in Deleuze's (1985/1989) words, according to a specific perspective that, following Bergson, insists on a coexistence of the two dimensions that transforms the *paramnesia* (that is, the illusion of *déjà vu*) in a sort of nonpathological and unexceptional condition of human perception:

What is actual is always a present. But then, precisely, the present changes or passes. We can always say that it becomes past when it no longer is, when a new present replaces it. But this is meaningless. It is clearly necessary for it to pass on for the new present to arrive, and it is clearly necessary for it to pass at the same time as it is present, at the moment that it is the present. Thus the image has to be present and past, still present and already past, at once and at the same time. If it was not already past at the same time as present, the present would never pass on. The past does not follow the present that it is no longer, it coexists with the present it was. (pp. 78-79)

Reconsidering some of Bergson's ideas, particularly those from his later production, John Mullarkey (2004) proposes an interesting subversion of Deleuze's perspective, arguing that:

It is not that there is one type of actual perception with the virtual existing beyond and around it (as a reservoir of differences), but rather that there are different forms of actualities that *virtualize* their mutual differences such that a lowest common denominator is abstracted or spatialized [...] whilst those differences are consigned to a halo surrounding that single actuality and called 'the virtual' or the 'memory of the past'. To provide a less exotic analogy in terms of visibility and invisibility, Virtualism thinks of the invisible as the ontological ground of the visible, while Actualism thinks of the

invisible as a psychological artefact of vision. For Actualism, things are always visible in and to themselves [...] and only invisible to certain points of view (pp. 474-475).

This radical shift is not simple a rethinking of nominal categories but insists on the specificity of our situated perspective that makes things visible or not, according to the active role of our psychological movement that (as Bergson clearly lays out in *The Creative Mind*) depends on a choice “determined by our power of acting” (p. 68).

3 Seeing Is Believing?

- *Sight diseases and the changing of cinematic point of view*

Scientific experiments have shown that if we take a person and hook their brains up to certain PET scans or computer technology and ask them to look at a certain object, and they watch, certain areas of the brain light up. And then they have asked them to close their eyes and imagine the same object, and when they imagine the same object the same areas of the brain to light up as if they were actually visually looking at it. So it caused scientists to back up and ask this question. So who sees then? Does the brain see? Or do the eyes see? And what is reality? Is reality what we're seeing with our brain or is reality what we're seeing with our eyes? And the truth is that the brain does not know the difference between what it sees in its environment and what it remembers because the same specific neural nets are then firing. So then it asks the question: What is reality?

(from the movie *What the Bleep Do We Know?*, 2004, produced and directed by William Arntz, Betsy Chasse, Mark Vicente)

The cinematic experience has always been marked by a particular visual approach towards images. Compared to other visual experiences, watching a movie is a totally different way of relating to images, and the key issue of the movement of the images is not just an additional element that algebraically enriches the result of the visual process. Sight has always been considered the *place* in which images happen, and the metaphor of the mechanical eye adopted in the description of the movie camera has always insisted on a similarity that maybe does not tell the whole truth.

The entire cinematographic experience, for instance, is rooted in an illusion: the spectator is never aware of the little gaps of darkness that separate one frame from another. The perception of an uninterrupted luminosity

can be explained thanks to the “critical frequency of fusion” or the “frequency of the stimulus, where the physical intermittence is no longer phenomenally present, even as the variation of the intensity of the source of light” (Romano 1965: 10). The cadence of twenty-four frames per second guarantees the end of the “flickering” (still present with the first projectors, with only eighteen frames per second) and completely eliminates the gap between light and darkness. (Casetti, 1993/1999, p. 95)

This appears to be one of the first and more fundamental strategies of deception that cinema carries out through its mechanical apparatus, an apparatus that at the same time guarantees the wholeness of a perfectly told lie and offers to human sight a series of mirrors in which reality is reshaped and re-experienced. Human sight is always kept under consideration, from the very beginning of the cinematic spectacle: a particular form of blindness is the one that allows the viewer not to perceive all the blanks existing between each frame of the film. The velocity of the film’s movement inside the projecting machine is calculated in order to obliterate this failing vision, this invisible darkness that we do not perceive. It emerges as an important element that forces theory to reflect upon the mechanisms that regulate the activity of sight and the construction of vision. There is a paradoxical difference between the mechanics of the human eye and the meaning formation that is activated at a more abstract level during the perceptual process. The paradox, according to Benjamin, insists upon the inexplicable nature of the cinematic medium itself. In his most famous essay, “The Work of Art in the Age of Its Technological Reproducibility” (1936/2008), he reflects on sight and visual perception and writes: “Clearly, it is another nature which speaks to the camera as compared to the eye. ‘Other’ above all in the sense that a space informed by human consciousness gives way to a space informed by the unconscious” (p. 37). What Benjamin affirms is that a direct and unmediated perception of reality is simply impossible, given the enormous mental and unconscious activity that surrounds, precedes and follows the mere physical reception of visual data.

What cinema is teaching us nowadays is a radical rethinking of the profound organization of the medium itself that, following decisive innovations in the field of digital images and visual special effects, is undergoing a radical re-conceptualization involving both its communicative level and its inner structure. The revolution experienced by cinema in recent years is the logical continuation of a

discourse that was born together with the origins of photography and cinema, a discourse that leads directly towards an isomorphism between visual operations and mental representations as an unavoidable touchstone in contemporary reflections about visual communication.

If direct and unmediated vision is an impossible task in an increasingly technological and digital world, systems of visual communication are somehow invested with the curious task of both representing the altered world that human sight cannot contain and showing, through images, the exteriorization of certain human cognitive processes in digital machines, computers and, through those tools, cinematic systems of communication.

Furthermore, recent discoveries in the medical field have led scientists to analyse, in great visual detail, the inner workings of the body and the reactions of the brain during visual processes, dramatically altering theories of human mental faculties connected to the eye and the perceptual apparatus as a whole. A long series of studies centered on the activity of the eye led medicine and science to the conceptually subversive conclusion, reached long after philosophy, that the eyes do not actually see; just as vision is a complex process that involves several areas of the brain, so too are there many parts of the brain active in the registration and elaboration of the raw data obtained by the visual apparatus. Contemporary tendencies in neurobiology differ from the traditional understanding of the brain's functioning. In the past, it was believed that only one area was responsible for vision while another area was linked to the intellectual capacity of comprehension. Of course, these older theories were formulated without the essential aid of the technological supports that nowadays make sharper and more accurate imaging inside the brain areas possible.

Indeed, vision is one of the processes that has undergone the most reconsideration in contemporary theories. As Samir Zeki (2000) points out in his study of the relations between the arts and the brain, what has changed is the way we now understand vision as a complex and modular process

in which the brain, in its quest for knowledge about the visual world, discards, selects and, by comparing the selected information to its stored record, generates the visual image in the brain, a process remarkably similar to what an artist does. This view emerged from one major finding, namely that there are many other visual areas surrounding the primary visual cortex (area V1) and that their participation is essential for a normal vision. [...] This proliferation of newly discovered visual areas,

many of which are specialised to process different aspects of the visual scene such as form, colour and motion, raised important questions about why the brain needs to proceed different attributes in different compartments. And it is this discovery, and the train of thought precipitated by it, that was instrumental, if not unique, in ushering in the view that vision is an essentially active search for essentials. (p. 21)

These more recent theories, made possible by technological improvements in the medical field, also explain that there are not specific areas devoted exclusively to the reception of perceptual data arriving from the outside because each section is involved both in the reception and transmission of these signals. The process, as mentioned above, is modular precisely because different parts of the brain both receive and send data and information, and there is no apparent or substantial hierarchy among them. Their modularity can be more easily understood by looking at studies which focus on pathologies of aesthetic experience. Achromatopsia (colour blindness), prosopagnosia (inability to recognize faces) and akinetopsia (visual motion blindness) are severe pathological conditions caused by lesions in specific brain areas, each specializing in particular activities. Each specific pathology indicates how, for every single aspect of visual perception, a specific area of the brain is involved, a conclusion which would have been completely unpredictable for researchers active thirty years ago. Moreover, pathologies of visual perception provide a stimulating topic (or, perhaps, simply a different vantage point) from which to better examine the complex nature of these topics.

An image is a construction. It does not exist by itself, and it is the final product of the process that starts with the opening of an eye. Scientists and medical experts, supported by such machines as the fMRI or the CAT scan, have affirmed this complex nature of images. The long path which started from Platonic theories about ideal forms existing in a separate world is arriving at its final turn. But there are other, perhaps more relevant elements that are involved in this radical revolution. Digital images are a sort of involuntary fruit of developments in medical technology because they are part of a bigger and theoretically more devastating process that involves the production of images, not only their reception or perception.

Instead of considering images as extractions from the real, as visual reflections of the defined shape of

things, contemporary theoretical problematizations of digital visual technologies push us towards a different position in the spatial relationship between the self, its context and the visual domain. Historically, we have experienced a slow but gradual dissolution of this concept of “representation”, thanks to the dissolution of the humanistic perspective. The notion of sameness, the logic of resemblance – the transcendent values of artistic codes – have relentlessly lost their prominence in correspondence with the significant developments in visual technology that have empowered and enhanced the virtual capacities of the medium and, consequently, have pushed physiological boundaries to unthinkable limits. The traditional concept of *mimesis* has slowly disappeared from the cultural horizon throughout the twentieth century, even though there has been a sort of cryptic reappearance linked to digital graphics and the cultural implications of hyper-realism. Thus, digital images reaffirm the principle of the “constructed image” that analogical photography had partially hidden.

The construction of the image implies a different geography of perception for our physical apparatus. The different condition and position determined by technological innovations is a transformed visual environment, a landscape which still contemplates the human perceiving subject but which posits this subject as utterly dispossessed of its previous centrality. As Régis Debray (1992) acutely notes in his analysis of what he calls the “videosphere”:

we were *in front of* images, now we are *inside* the visual. The flux-form is not to be contemplated anymore, it is but a parasite: a distraction for the eyes. The entire paradox of our third era [the videosphere] lies in the fact that it gives supremacy to the auditory and *transforms sight into a modality of listening*. Once, the term “landscape” referred to the eye and “ambient” to sound. Now, the visual has become an almost resonant atmosphere, and the former “landscape” has evolved into an enveloping synaesthetic environment. [...] Seeing means withdrawing from the seen, cutting oneself off from it, going back to a pre-visual condition. The eye is situated off-screen, while the ear is immersed in the field of sounds, music or noises. We watch from a distance, but we hear from very close. Sonic space absorbs, drinks in, penetrates; we are possessed by it, whereas we can possess beings and things through vision that are as “clear and distinct” as an idea. [...] Visual perception is distanced, while sonic perception is a merging, if not tactile, experience. (p. 229)

The physical position of the body in the visual experience is also the metaphorical presence and position of the subject in the contemporary mediascape. The location of the body profoundly alters our perceptual relations, and the “where” affects the “how”. Kathryn Bigelow’s *Strange Days* (1995) is

perhaps the most relevant example (especially for its prophetic intuitions) of a certain cinema that tries to reflect upon this renewed condition of the characters and the viewer.

The film begins with an eye, open, and a voice saying, “boot it”. The eye closes, the image blurs into a crowd of confused pixels and dissolves. A new sequence starts. It is a long shot involving a few criminals, their entrance into a restaurant, their violent behaviour (they have stocking masks on, they have guns, they want money) and the police chasing them. The point of view of the entire shot belongs to one of the criminals, and the sequence becomes nerve-rattling while they try to escape. They reach the roof. They try to jump from one building to the next, but the character whose sight we are borrowing fails in his jump and falls down to the street. We see this fall through a subjective shot, as happens throughout the whole sequence. After he crashes to the ground, we see a distorted image followed by a man who pulls off a headset and throws out the disc, complaining about the fact that he does not want to deal with snuff images, that he does not like the moment “when they die”.

At this point, the nature of the image has changed: we have passed from a rough and gyrating point-of-view perspective to a more professional cinematography and the perspective of an omniscient narrator. The shift is from an internal and convulsive viewpoint to a more relaxed and narratively canonical third person perspective. Our position has been brutally shifted from the subjective to the objective. We have also experienced and explored the unconscious conventions implied in this particular point-of-view structure. Only at the end of the shot, when we go back to Lenny shouting at his friend about the content of the sequence, can we understand what we have seen: although during the long take we might catch a glimpse of the invisible character whose eyes are “shooting” the scene when he looks at himself in the mirror, it is not until after the lethal jump that we understand that Lenny’s eyes were filtering our vision. In brief, during a single take, we have shared the points of view of two different characters. So this conceptual movement lets us pass from a position of an absolute lack of knowledge (we do not know anything about the first shot) to a double awareness. We have inhabited two different points of view, the first one linked to the eyes of the robber, the second transmitted through the brain of Lenny Nero.

In *Strange Days*, our position continuously shifts, and we often share our vision with a doubled subject. The concept itself of the subjective shot is taken to its extreme, with an uninterrupted superimposition between different and variable points of view. This is due to a sort of enhancement of what, in 1995, was “virtual reality”. The futuristic instrument imagined in the passage, set in the narrative between 1999 and 2000, is a superconducting quantum interference device, or SQUID, first experimented with for police surveillance and then become widespread as an illegal technology. The SQUID records and “playbacks” an experience: this means that the SQUID records what the wearer perceives through lived experience on a disk, so that later a customer may buy the disk and playback it in order to live the same experience in the first person, through its transmission to the brain. Lenny, who smuggles this banned technology, explains to a new user that “This is not ‘like TV only better’. This is life. Pieces of somebody’s life. Pure and uncut, straight from the cerebral cortex”.

By way of a device worn on the top of the head, all the physical sensations of anything the user desires are available to be perceived as real. The visual effect, the recording of cerebral cortex activity, becomes a wearable technology that allows another person to re-experience exactly the same event. In the recording phase, the eyes operate a camera and the storage of images is activated by the coalescence of brain and SQUID technology. When the SQUID works as a visual device, the subject can experience exactly the same perceptions lived by the recorder wearer, as if they were produced by an actual circumstance. SQUID is not a hallucinatory tool, but rather permits people to share experiences. There is a double implication that erases two fundamental issues usually involved in a visual experience: time and context. The chronological connotation of the re-lived experience is always the one belonging to the recorded event; the re-enactment of the stored episode absolutely removes the *now* of the SQUID user, allowing her/him to enter a time dimension that limits itself to the eternal present of the original event. Secondly, and more relevantly for the visual aspect of the device, the context of the second-hand experience is totally indifferent, given that Lenny recommends that his clients close their eyes during the SQUID experience in order to avoid unpleasant superimpositions of the two fields of vision. For a SQUID user, opening one’s eyes during playback would mean to merging the data arriving from

physical sight and that transmitted directly to the brain by the technological device into a single stream, obtaining a meaningless visual signal. Other visual superimpositions happen when some characters are exposed to signals which are too powerful: they do not actually die, but their sensory ability is enhanced to the point of catatonic overload. The visual representation of this mental death is shown through a subjective vision of an indistinct visual chaos, with electric stimuli taking geometrical and unreadable shapes that visually communicate the void of a disconnected brain.

So, what exactly is it that we are confronted with in a feature film like *Strange Days*? A device that bypasses sight as a cognitive sense and interfaces directly with the brain, bombing the cerebral cortex with recorded information. The brain reads this information by visualizing them, but the eyes must stay closed. What are the implications of this double erasure? What does it mean to live in a perpetual present which is always re-experienced? What happens when the body becomes a platform, available for any shareable experience, totally separated from the surrounding reality? In a challenging essay about Bigelow's movie and the philosophy of Georges Bataille, Karnicky (1998) writes:

The SQUID user is the picture of pure expenditure; Bigelow shows us a wired-in Lenny, eyes closed, groping at the air around him, moaning ecstatically in sexual abandon. These shots of Lenny are intercut with shots of his SQUID experience; the spectator can see and hear what Lenny is feeling, all from Lenny's point of view. We see Faith stripping off her sweaty clothes and we see them fucking from Lenny's perspective. The spectator becomes implicated in Lenny's voyeurism, but not by means of a simple one-to-one identification. It could be anybody jacked into the SQUID; memories have transgressed the limits of the self. Through SQUID, sensations move from body to body producing ecstasies that cannot be individualized. Privacy and individuality are forgotten in the pure experience of jacking in, an experience whose only product is bodily excitation. You no longer have to be yourself.

Bigelow shows other possible damage that SQUID may cause: for instance, the perversion of the killer who records himself while raping and killing and, simultaneously, transmits the signal to the "jacked in" brains of his victims. In the sequence that shows Lenny watching the murder of his friend Iris, apart from seeing all of Lenny's violent reactions while wearing the SQUID and "experiencing" the slaughter, we also witness the rape and killing from the assassin's point of view. Taking his sadism even further, the murderer decides to put the SQUID onto Iris's head, connecting it to the one he is wearing. The effect of this prolongation of mirrored perceptions is that the assassin allows her to experience his

brutal sensations while he is strangling her. Iris becomes the object and the subject of this experience, simultaneously being the victim and the witness of the event. Her double point of view is complicated by the presence of an additional spectator, Lenny, who is playbacking both of the recorded experiences straight to his brain.

Even if *Strange Days* inserts at this point a certain insistence about the ethics and morality of the act of seeing (Lenny refuses to deal with death experiences, but is later forced to playback Iris's death and other violent diskettes intentionally made for him by the killer), what is more than evident is that Bigelow and James Cameron (author of the screenplay) are showing us a complex and stratified metaphor of the cinematic audience's condition. Lenny and the other SQUID-addicts can virtually live any possible experience, escaping their bodily conditions and their physical and psychological circumstances, but they can never interact with the content of the disk. While the SQUID device allows them to really perceive things, what they miss in this delayed and postponed experience is the possibility of intervening in order to change the flow of the events. They can only close their eyes and playback. Moreover, there is a clear meta-cinematic reference in the rape sequence: during the violent act, the killer forms a frame with his hands, simulating the definition of a cinematic frame. This suggested frame becomes the actual frame of the sequence when the camera moves forwards until the two framing borders are fully superimposed. The killer is actually "directing" his brutal actions – the representation of the rape and murder does not come *after* the act but coincides with the act itself.

The main reference of this cinematic quotation is, quite obviously, Michael Powell and Emerich Pressburger's *Peeping Tom* (1959), in which a psychopathic character kills young women with a strange, long knife mounted to the structure of the camera he uses to capture the fear in his victims' eyes. Both movies begin with an extreme close-up of a human eye and with the main character "seeing" a filmed sequence. But in the first sequence of *Peeping Tom*, the eye we see is opening (whereas Lenny Nero's eye closes at the beginning of *Strange Days*), forming a sort of poetic declaration that associates these two great movies. And the sequence projected and watched by the protagonist is clearly marked by the visual signs of the apparatus involved in its shooting: there is a sort of internal *cadrage*, a frame that

communicates how what is being shown to our eyes is an image taken by a camera. In contrast, no visual frames or signs mark the opening subjective shot of *Strange Days*, apart from the pixelated blurring that opens and closes the long shot. Both movies tell the story of a murderous eye, construct a narrative world in which sight carries sexually connotations and vision walks hand-in-hand with perversion. While Bigelow complicates her movie with political and social implications, they never manage to erase the importance of its theoretical reflection about sight and its transformations. More importantly, whereas *Peeping Tom* is a vertiginous reflection featuring a technological apparatus reduced to the classical, traditional photographic cinematography, the visual experiences shared and worn by the characters of *Strange Days* tell us something more articulated about the complex and differentiated visualscape in which we live.

And it appears evident that it is exactly the connection between the human body and evolving technologies that offers the most accurate idea about perception in the age of electronic reproduction. The evocative coalescence of psycho-sensory mechanisms and technological apparatus (the shareable images, but also vision through closed eyes) depicted in *Strange Days* opens a field of discussion and establishes a cultural debate about the new boundaries of cinematographic spectatorship. This topic brings us back to Bergson (evoked through the adoption of the term “coalescence”) and his thesis about images and technology. In the first chapter of *Matter and Memory* (1939/1991), he analyses the relation between sight and image, affirming that neither of those theoretical poles exists autonomously, as an *a priori*. Bergson makes a pivotal distinction when he writes about the *present image* and the *represented image*, in which the latter is a *real* image determined by an activity of diminution, making the representation of an image “less than its presence; for it would then suffice that the images present should be compelled to abandon something of themselves in order that their mere presence should convert them into representations” (p. 27).

The simultaneity and convergent movement of image and sight are barely relevant in our analysis: without technology, we would have what Bergson defines as a “present image”, and without human perception, sight would be considered a purely mechanical and retinal activity. The relevant and

determinant presence of technology *behind* the image leads us directly into the realm of the aforementioned represented image, derived from a diminutive movement. But where does this diminution take place? Through which apparatus does the image lose a part of itself and abandon something that is a fragment of its unity? As Fabio Denunzio (2004) points out:

this activity of abandonment occurs through the specific treatment that cinematographic technology operates upon images. In these terms, a represented image cannot be seen by a purely retinal, optical sight, by a mere function of a sensory organ, but by a perception that begins to be produced when we create a distance, when we hesitate, delay, take our time upon the induced response. (pp. 130-131)

Strange Days tells us a lot about the uncertain and revolutionary nature of contemporary images, but – pointing its camera towards us, looking at us and our way of seeing – it also explains the indefinite position of spectatorial activity. Bergson explained that the cinematographic experience is a sort of liberation from the obligation of the biological reaction that transforms our perception into an active movement thanks to the defined combination of a manifest technology and our living consciousness. If the display of the technological apparatus is powerful and evident, if the metaphorical screen created by the manifestation of the technological frame becomes thicker, then the consideration we take of sight and its power is better framed and intended. The liberation from the dictatorial and merely biological consideration of perception helps us in rethinking the position of the eye, and a metaphorical blindness is not a condition transformed allegorically but a biological reconsideration that acquires its importance in a cultural transformation like the one we are experiencing.

The long decline of the dominance of the eye and sight in western culture has ancient roots, and Bergson must be at the centre of our analysis because his theories about perception and memory are strongly related to a re-reading of the body's position. In his book *Downcast Eye*, Martin Jay (1993) identifies Bergson as one of the key thinkers that helped philosophical analysis move toward a broader investigation of the redefinition of sight and the mechanisms of vision in the twentieth century. According to Jay, this happened because:

Bergson helped redirect philosophical inquiry back toward the body as intertwined with consciousness before the separation of mind from matter. In *Matter and Memory* [...] he challenged the positivist image of the body as an object to be analysed from the outside, as merely one of the innumerable “things” in the material world. Instead, he claimed that it was the ground of all our perceptions. (pp. 192-194)

The centrality of the body marks the great *comeback* of Bergson at the centre of contemporary film theory. After the Eighties and their long aesthetic persistence, in recent years the body has changed position in the structure of spectatorial experience. In films from the Eighties, the body is obsessively used as the pivotal object conveying the spectatorial gaze. The passive nature of the body is reflected in its objectified nature, and, throughout the decade of Ronald Reagan and John Rambo, the body reaches the point of absolute centrality for the decisive model of spectatorial construction defined by a certain brand of Hollywood cinema. Nowadays, after a long and articulated shift that seems to have incubated during the Nineties, a new representation of the human body has emerged that is linked to a redefined subjectivity, to the disappearance of the extremely affirmative power of the self smuggled in during the Eighties. The body has become the critical place of a subject who lives and perceives, and who *reads* the surrounding reality through a perceptual apparatus that appears fallible. The subject is exposed to all the risks of an uncertain and unverifiable relationship with the outside world, a relationship that is always mutable:

“As my body moves in space, all the other images vary, while that image, my body, remains invariable. I must, therefore, make it a center, to which I refer all the other images... *My body* is that which stands out as the center of these perceptions” (pp. 46-47).

Rather than constructing the body as an object of contemplation, we should understand it instead as the ground of our acting in the world: “Our body is an instrument of action, and of action only. In no degree, in no sense, under no aspect, does it serve to prepare, far less to explain, a representation”(p. 225). (Jay, 1993, pp. 192-193, citing Bergson, 1939/1991)

As Bergson wrote, the hegemonic privilege given to the activity of seeing has been central to the entirety of Western thought. The spatialization of time seems to be the rational result of the technical nature of this assumption, and the spatialization of time itself appears to be one of the main reasons for the crisis in the visual sense around which Western thought has revolved over the centuries.

Here we are confronted with a further actualization of Bergson's theories, namely the analysis conducted by Merleau-Ponty in *The Visible and the Invisible* (1964/1969) that leads to a redefinition of bodily boundaries. According to the major thinkers and scientists of the twentieth century, these bodily boundaries, rather than being indisputable evidence or a scientific assumption, are cultural and psychological constructions deriving from the "repetition of (culturally and historically) specific bodily performances" (Barad, 2007, p. 155).

Sight does not coincide with the exclusivity of the self. As Merleau-Ponty (1964/1969) writes:

it is not *I* who sees, not *he* who sees, because an anonymous visibility inhabits both of us, a vision in general, in virtue of that primordial property that belongs to the flesh, being here and now, of radiating everywhere and forever, being an individual, of being also a dimension and a universal. (p. 142)

Moreover, sight does not depend exclusively upon the specific functionality of the optics of the eye or the neurological sites devoted to the processing of visual data. As shown by numerous studies, our visual activity does not depend only upon the eyes, and, furthermore, the mind is neither a mirror nor a camera. In an extremely interesting essay about the intuitions of Paul Cézanne, Jonah Lehrer (2007) explains how Cézanne's almost abstract canvases comprise the most advanced depiction of the "actual" functioning of visual experience. The merely visual sensation absolutely needs the integration of the brain functions in order to give a sense to the raw material that arrives through sight with a lot of details that have to be added. Lehrer continues:

if the mind didn't impose itself on the eye, then our vision would be full of voids. For example, because there are no light-sensitive cones where the optic nerve connects to the retina, we each have a literal blind spot in the center of the visual field. But we are blind to our own blind spot: our brain unfailingly registers a seamless world. This ability to make sense of our incomplete senses is a result of human cortical anatomy. The visual cortex is divided into distinct areas, neatly numbered 1 through 5. If you trace the echoes of light from the V1, the neural area where information from the retina first appears as a collection of lines, to the V5, you can watch the visual scene acquire its unconscious creativity. Reality is continually refined, until the original sensation – that incomplete canvas – is swallowed by our subjectivity. (p. 117)

Lehrer analyses the recent discoveries of neuroscience from a cultural point of view, and bases his writing upon these discoveries. But, at the same time, we are somehow reading a sort of scientifically updated repetition of what Deleuze reads in Bergson when, discussing the interrelations between sight and the mind, between perception and its dynamics, he writes:

As Bergson says, we do not perceive the thing or the image in its entirety, we always perceive less of it, we perceive only what we are interested in perceiving, or rather what is in our interest to perceive, by virtue of our economic interests, ideological beliefs and psychological demands. We therefore normally perceive only *clichés*. [...] Sometimes it is necessary to restore the lost parts, to rediscover everything that cannot be seen in the image, everything that has been removed to make it “interesting”. (pp. 20-21)

While it evidently insists on mechanisms of vision that are constituted by deceptive and illusory perceptions, that are framed by the gigantic misunderstanding of our incomplete act of vision, cinema could instead work in a paradoxically divergent way, trying to highlight the complex nature of vision and begin a scientifically-aware reflection on these issues.

Well before the advent of the digital image, a few filmmakers worked on the concept of the physical and psychological position of the image. An image, so to say, caught in its double relation with the viewer and the viewed. Two astonishing examples of this approach can be identified in Stanley Kubrick's *The Shining* (1980) and Cronenberg's *Videodrome* (1983). In both movies, the narrative strategies obey a main conceptual frame that can be synthesized in the question: “Are the images real, or are we watching a hallucination/dream?” Deleuze (1985/1989), in a brief reference to Kubrick's masterpiece, asks, “And, in *The Shining*, how can we decide what comes from the inside and what comes from the outside, the extra-sensory perceptions or hallucinatory projections?” (p. 206).

What becomes decisive are the relations that we can identify between human and biological vision and

the functioning of cinema (and other vision substitutes). The extreme implementation of contemporary visual technologies dramatically increases the quantitative possibilities of the visible but, at the same time, questions the actual persistence and cultural transformation of sight as a human sense. From the eyes disseminated throughout our cities in order to control our societies and keep them under close surveillance to the eyes of the web-cameras that are practically everywhere, all these visual instruments are profoundly transforming the visualscape and the epistemology of vision:

Vision, once substantial, becomes accidental. Despite the elaborate debate surrounding the problem of the objectivity of mental or instrumental images, this revolutionary change in the regime of vision was not clearly perceived and the fusion-confusion of eye and camera lens, the passage from vision to visualisation, settled easily into accepted norms. While the human gaze became more and more fixed, losing some of its natural speed and sensitivity, photographic shots, on the contrary, became even faster. (Virilio, 1988/1994, p. 13)

The ultimate goal of these transformations seems to be a radical rethinking of our concept of reality. As Franco La Polla (1997) acutely noted, one of the untold missions accomplished by cinema during its more than one century of life has been the obliteration of reality: the constant pursuit of a technology allowing the most perfect and faithful representation of reality could be impressive evidence of the sense of inquietude that, throughout the twentieth century, collided with our notion of reality. It seems that, with a subterranean but superficial strategy, cinema has worked as a complex mechanism able to both destroy and reconstruct the way in which reality is perceived and experienced. Developed as a vicarious element of our perceptual system, cinema has developed into an autonomous and multisensory apparatus that, at the same time, within the space of any edited single frame shot, has simultaneously eradicated the sense of a solid and reliable perception of reality in order to substitute a structured and one-dimensional sensory relation with a protean simulation. A simulation in which the virtual has overlapped the actual in a confused structure in which nothing is clearly recognizable and our cognition of reality lies on the same surface as its simulation.

The subjectless reality that contemporary cinema relentlessly offers our bemused senses is built upon the paradoxical condition of an excess of reality itself. The final effect of this double movement of erasure and simulation passes through the eye. The eye is experiencing a continuous loss of importance and relevance within the visual system, and that profound transformation is necessarily linked to a more

general and complex redefinition of the systemic relationship between the subject and the surrounding world.

If reality and virtual reality substantially coincide, the conceptually devastating consequence is the impossibility for our sight to work as it once did. Sight is the measurement of the distance between us and the world; an image, as Serge Daney (1991) wonderfully said, needs “the Other” to exist as such, and sight – if the distance between the subject and reality is substantially eliminated, and if the Other is no longer offered to vision – finds itself completely lost in this uncertain status. Sight worked as a reliable instrument that offered a distance, detecting a presence in the world which passed through the awareness of alterity. Now sight’s function has been downgraded by the significant superimposition between the eye and the world that inevitably leads to a reconsideration of the status of sight. If there is no more physical and metaphorical distance between the two poles of vision, then vision itself brutally discovers the disappearance of a codified visual space. The visual besiege experienced by sight is the final result of this obliteration of the distance between the eye and the world. Curiously, the disappearance of vision as we have known it has happened in conjunction with the appearance of a more defined level of realism in the images created and represented. It is like a switching of roles: when the eye finds itself in the surprising position of being a malfunctioning tool, cinema bypasses it and completes its long journey towards the substitution of reality with itself.

So what remains? As Marco Dinoi (2008) notes, cinema is confronted with a double option: on one side, the possibility of seeing more, of abandoning vision to the overflow of images, almost surrendering to the excessive and disruptive power of a total visibility that does not consider the hypothesis of something obscure or unseen. On the other side, there is the second option of:

seeing less, interposing an interference between ourselves and the world in order to dilate the time of cognition, of the gaze, and by doing so, reappropriating it and snatching it from clichés and the iconic proliferation of a “civilization of images”. [...] In both cases, we have to question the concepts of objectivity and subjectivity, continuing a path that cinema has explored since its early years: we have to subjectivize vision, unmasking every assumed transparent objectification (the so called “global village”), or, on the contrary, we have to objectify it, unhooking it from a gaze [...] atomized throughout the world or localized in one of the many prosthetic apparatuses of vision such as cinema. (p. 93)

- *With closed eyes: blindness as hallucination in the era of digital cinema*

A long dispute regarding the always increasing importance and presence of digital images in contemporary cinema concerns the effects of this situation. An extremely vigorous tendency in the approach to digital images and their substantial hegemony leads to a partial judgement that puts the increase of digital visual effects on the same level as the lack of *aesthesis*: the centrality of new technologies and their broad application in the process of image production leads, according to a conservative branch of scholars, to an impoverishment of the senses. The denial of the external world as a reference point automatically leads, following this equation, to a petrified and immobile *mimesis*. This account considers digital images as part of a merely self-referential representation (Montani, 2007), failing to understand that the digital realm has transported images from a Platonic, specular *mimesis* to an Aristotelian one, more linked to a processual nature in the mimetic effort. The antithesis between *icon* and *simulacrum*, between a referential link to the “other” and a sensorial self-reflexivity that re-modulates the relationship with the external world and its imaginary footprint, needs to be updated. But, perhaps, there is more.

Photodynamic, analogical images, derived from the imprinting of something made of matter onto a material support (something that once existed, that was *present*, that has been captured and stored in time by the tool utilized) are fading into disuse. At the same time, the materiality of the image itself is losing its status. The stigmata of the real, etched into the film, witnesses of an ontology of the tool, are now fading or changing form. Although this is an accepted and relevant fact, it is interesting to note that most of the synthetic images created for cinema are struggling – in a continuous and paradoxical rush – to recreate a photodynamic and sensible world. This is a repetition of a different process, a recreation of the perceivable world, defined on a finer scale, with incredible sharpness and attention to detail, to the small details that human eyes often do not see and that the human brain rarely codifies as visual messages. Consequently, the unbelievable definition of these re-creations, though not entirely perceived by the viewers' eyes, contribute to the “reality effects” that the completeness of the images themselves confer.

The digital image seems to be used only as an enhanced version of the analogical one, a sort of updated process of capturing moving elements for the screen. The sensible world gets re-imaged by a different instrument, but always for the same purpose: the representation of *a real*. Naturally, in narrative schemes in which dragons fly, men transform themselves into strange machines, and superheroes, extinct animals, aliens and time-travel technology exist, *real* means everything that can be logically connected to such characters and situations, even if it belongs to something that does not exist in our ordinary daily reality.

There has been a long debate about the so-called *cyber movie*, by which we mean the infinite series of technological innovations that brought synthetic images to an unthinkable degree of perfection. But if we ask ourselves what we mean when we define this perfection of the digital image, we find ourselves judging its resolution, considering this wonderful realm of representation only in relation to sensible reality, to the visible world. Thus people consider all the movies in which digital images copy the perceivable world with perfect adherence as innovative and ultramodern. Our jaws drop while watching the tyrannosaurus running in *Jurassic Park* (1993), the digital reconstruction of the *Titanic* (1997), the

wonderful sharpness of King Kong's hair, and so on. Obviously, some of these images could never have been created without the incredible skills obtained by their creators working with CGI. Similarly, movie critics and film historians tend to consider only films in which we watch robots, replicants, cyborgs and other variations of the human canon as *cyber movies*. But maybe this is not entirely the point.

Perhaps we should use the label "cyber" for the movies in which the very substance of the image is caught in its evolution towards a new form of being, for a cinema that, as the Italian critic Gianni Canova (1996) pointed out, "becomes the place of hybridization, which merges real and virtual, natural and artificial". Are "cyber" movies those in which the immateriality of the virtual image is used only to replicate the materiality of an ontological world (even if we face robots and cyborgs)? One of the main discoveries that Cyberpunk has brought to us has been the awareness of this cultural transition from a material and real world to a virtual reality in which the subject (whoever or whatever he/she/it is) disappears in front of a mechanical eye that records their state of being. With the virtuality and immateriality of the digital realm, we enter into a situation in which images are self-generated and only refer to themselves and not to the outside world (as was the case with the analogical system of capturing images from material objects). In this way, this new kind of image makes clear how the being of the virtual entails the disappearance of the actual. As Enrico Livraghi (2006) writes:

There is a radical, ontological dissonance between the analogical and the digital image. The latter is the product of an imaginative abstraction that *realizes itself* in vision, that somehow exposes its immaterial body *from the inside*. The analogical image, on the contrary, offers the vision of a body that has left its real-material imprint on the image *from the outside*. (p. 53; but see also Jullier, 1997, p. 50)

Technology in contemporary cinema seems to be more interesting not as a set of devices, but as a place of theoretical conflict, a tight spot where conceptual issues related to (moving) images come together and create problems that need to be discussed. Technology becomes problematic when it ceases to be a representational instrument, necessarily linked to an "other" that has to be represented, to the "off-screen" to which it refers as a *conditio sine qua non*. Technology reveals itself when it offers another perspective on the mechanisms of vision, on the transformations that our points of view undergo, and

on the revolutions that deeply change the cognitive value of our sense of sight.

In this way we can think of the technological enhancement of image-production in reference to its superfluous relation to the “real”, three-dimensional world of images.

Digital, self-generating images lose their need to work as representations and become, to our conscience, very similar to hallucinations as the space-time relation between the subjects involved in the process no longer exists.

Hallucination:

1: **false sense perception:** the perception of somebody or something that is not really there, which is often a symptom of a psychiatric disorder or a response to some drugs;

2: **something imagined:** something that somebody imagines seeing, hearing, or otherwise sensing when it is not present or actually occurring at the time

Hallucination, *encarta.msn.com*, Retrieved August 20, 2007, from http://encarta.msn.com/dictionary_1861616279/hallucination.html

What if we consider the hallucination as a perfect metaphor for digital cinema? As a matter of fact, the strongest consequence of the explosion of digital images is the possibility of *creating* images without the necessity of an external stimulus. Digital images are created *ex novo*, without originating from an exteriority. The creation of a non-referential cinema replicates the experience of the hallucination or the perceptual experience of images (in the case of visual hallucination) that we see even if they are not before our eyes. These images are created by a dysfunction in the brain. Our relation with this particular kind of hallucination is quite similar to our understanding of the digital images we see each time we happen to watch a movie that contains digitally generated images, digital special effects, and so on.

Our body works according to a bizarre relationship with the external world. The belief in the reliability of our sensory apparatus is metaphorized in the complex connection we establish between our gaze and the object of our vision in the digital era. In a hypothetical (and, actually, unpurposeful) contest between the effectiveness of the eye and the functionality of the brain, it is certainly the latter that achieves the more effective result in the process of relating to the external world. As Maturana (1978)

notes:

In the absence of an adequate environmental perturbation, the observer claims that the observed conduct is a result of an illusion or a hallucination. Yet, for the operation of the nervous system (and organism), there cannot be a distinction between illusions, hallucinations, or perceptions, because a closed neuronal network cannot discriminate between internally and externally triggered changes in relative neuronal activity. This distinction pertains exclusively to the domain of description in which the observer defines an inside and an outside for the nervous system and the organism. (p. 46)

During certain hallucinations (hypnagogic ones, for instance), the subject is usually aware of the false nature of the images, but at the same time he/she enters into a perceptual experience built upon images. If we look at the dinosaurs fighting in Peter Jackson's *King Kong* (2005), we obviously understand that these images are created with software that generates particular moving shapes; nevertheless, at the same time, we enter into a perceptual realm in which the distinction between analogical and digital images becomes meaningless. As cinema viewers, we necessarily rely on the camera whose eye has never actually "seen" what we see. Therefore, something is missing in our perceptual experience.

Our approach to digital images in motion pictures appears to be similar to a visual hallucination. But the transformation of the gaze is not only and exclusively related to digital images and their process of generation. Cinema itself, as a language, has undergone significant transformations in recent decades. Starting with Michael Snow's 1971 experimental film, *La Région Centrale* (in which a robotized camera mounted on a mechanical arm moves in all directions without the need of a human to operate it), there has been an ever-increasing dissociation between the eye and sight. The invention of new tools such as the Louma camera crane and the Steadicam makes the lack of vision in contemporary cinema a sort of original sin which transforms the horizon of cinema into a space in which the physical act of seeing becomes more and more redundant. The camera is no longer the object that filters the director's vision, and this important shift affects the metamorphosis of the very concept of "point of view". This is a concept that undergoes a deeper crisis if we analyse, for example, the radical innovations of Dayton Taylor and his Time Track (invented in 1994 but known worldwide thanks to the fight sequences in the Wachowski Brothers' *The Matrix*), a virtual camera movement that freezes objects in time while creating

an illusion of movement that exists only in the virtual act of seeing. Our process of vision appears to be intensely corrupted by a movement and an intention that do not belong to us. The virtual movement of cinematic images (while the images are in fact still, set in motion by a mechanical support) has been augmented by the virtual movement of point of view.

As many movies suggest nowadays, we can observe a continuous defeat of so-called objectivity and also, at the same time, of any form of solid and reliable subjectivity. It seems as if we have all turned into the character of Thomas, the photographer in Michelangelo Antonioni's *Blow Up* (1966),

having taken a roll of photographs of a couple in the park, blowing up the images and, realizing that one of the photographs reveals a dead body in the background, attemptin to figure out what happened. The more he blows up the image, the more diffuse and hard to read it becomes. The film pivots around the impossibility of attaining the truth in the indexical, analogue image: the particular kind of grainy diffuseness of the blown up photograph is, of course, a function of its analogue nature. *Blow Up* is about chasing down the truth with the photographic apparatus, and within the photographic image. While Thomas seems to believe that infinite zooming in will somehow gain him access into the depths of the image, into its 'truth', he finds instead that it reveals the diffusion of truth into surface. (Jones, 2008, p. 186)

We give great importance to the act of seeing and to the billions of images that mediate every single relation we have with reality. But in fact, we are slowly obliterating importance of our sight, mainly because we do not rely on it anymore. The metaphor of a photographer watching a mimed tennis match fits perfectly with the function of the spectator in the era of non-optical, non-referential images. After an initial hesitation, during which the photographer does not understand what is happening as he observes the mimes playing without rackets or a ball and pretending to play in a correct and ordinary way, he is asked to pick up the invisible ball that flew over the fence surrounding the court. In those few seconds of indecision, while he asks himself if he should enter the unique version of reality that he has just seen – right in the middle of this suspension – lies the metaphor of our actual condition. After a short pause, Thomas decides to pick up the ball and to throw it back to the mimes. He chooses to enter the particular reality inhabited by those who do not necessarily need eyes to see what they *want* to see. After having discovered that what he actually saw in the photos he took was beyond the realm of optical truth (the dead person and his investigation of this apparent murder), Thomas accepts the fact

that his sense of sight is not as reliable as it was before. And this loss of reliability determines the lack of any certainty about a subjectivity that could work as a Cartesian basis for other certainties related to the outside world. The presence of the surrounding world becomes problematized by a blind use of sight that disempowers the cognitive sense *par excellence*.

Here we face a radical limit of the Kantian assumption about human beings, one which ceases to consider the world as a system ruled by the laws of optics and starts to consider the reception of external stimuli through different senses as the first moment of a knowledge process that builds

an image of the world requiring the participation of the whole being. The eye, then, is not an optical device that transmits already existing external images to the brain. Indeed, it is a codification/decodification device transmitting information that always needs to be interpreted and whose interpretation will totally change according to the kind of received signals and internal dispositions of the receiving being. (Milner, 1982, p. 69)

If the aforementioned SQUID device is a contemporary extension of the assumption contained in *Blow Up*, we can also make reference to another device that annihilates the function of the eyes as image-recording machines, the one created by the scientist played by Max von Sydow in Wim Wenders's *Bis and Ende der Welt (Until the End of the World, 1991)*. This special camera records the neurological event of seeing rather than optical images. It is used to give a form of partial sight to an old blind woman, but it also happens to cause an addiction that leads people to record and obsessively watch images from their nocturnal dreams. It becomes a terrible drug that, literally, glues the eyes to the unseen images that become visible. What was initially invented to impart sight to a blind person becomes a device that actually causes people to close their eyes in order to compulsively watch and re-watch images related to their inner dimension. Wenders holds out for an unmediated representation of reality, which often leads him to condemn the use of many of the vision machines developed in modern times. While it is difficult to completely agree with his out-of-date, nostalgic view of representation, if we consider the advertising campaign for a recent Sony digital video camera whose tagline was "Don't think, shoot", it becomes hard not to question the derailment of the photographic shooting of images in the contemporary mediascape.

In his typical apocalyptic tone, Paul Virilio (1988/1994) questions the ultimate sense of this crucial

shifting that is leading us towards a sightless vision:

In two hundred years the philosophical and scientific debate itself has thus similarly shifted from the question of the *objectivity* of mental images to the question of their *reality*. The problem, therefore, no longer has much to do with the mental images of the consciousness alone. It is now essentially concerned with the instrumental virtual images of science and their paradoxical facticity. To my mind, this is one of the most crucial aspects of the development of the new technologies of digital imagery and of the synthetic vision offered by electronic optics: the relative fusion/confusion of the factual (or operational, if you prefer) and the virtual; the ascendancy of the “reality effect” over a reality principle already largely contested elsewhere, particularly in physics. (p. 60)

This brings us directly to our starting point: there is a similarity between our increasing use of *sightless vision* and the enormous importance of digitally created images in cinema. Exactly in the same way, it is not necessary for something to happen in front of our eyes or in front of the camera in order to obtain visible images. The reality effect is still obtained, and the illusion of presence is produced by a significant erasing of the screen. Obviously, there is a clear difference from hallucinations: just like the viewer of the SQUID diskettes, the audience of contemporary DGIs is aware that they are watching something that has not been taken from reality. It is a projection, a kind of “consensual hallucination”, empowered by the will of image-creators driven to reach effects that are as real as possible with images that are in fact unreal, created with the aid of a computer. Therefore blindness appears not only as a metaphor of but also as an effective relational model for debating the discursive and rhetorical practices of contemporary cinema. The eye of the camera, the same eye represented by Vertov and cut by Buñuel, is now reduced to a “celibate machine”, forced to surrender its now bypassed role. The camera, just like the closed eyes of SQUID viewers in *Strange Days*, is forced to transform the internal part of the eyelid into the screen on which images move and evolve.

The real core of this transformation seems to be the crisis of the visible. Contemporary cinema needs to question the boundaries of what is intended as visible, given that the line that once separated the two fields of “the filmable” and “the unfilmable” has shifted tremendously. And this is certainly not a moral distinction (as it was for Bazin (1958/1967) and his idea of love and death as unrepresentable) but a strictly technical one: it strongly relates to the innovations that have led viewers’ eyes to an unpredictable land where, literally, everything is possible, because every image can be virtually created.

But the “unfilmable” has little to do with resurrected dinosaurs, enormous gorillas, supernatural tricks realized by child magicians, and so on. The real limit appears to be the involvement of the other senses to support or integrate the senses of sight and hearing in a new hierarchy in which sight itself is still predominant but does not have absolute power anymore. The condition of blindness (not necessarily intended as a clinical disease or an innate condition) is the extreme and paradoxical starting point because it represents the ultimate limit of any form of visibility. Therefore, the next conceptual boundary for the “filmable” as a perceptual and aesthetic category is perhaps the visual representation of the crisis of sight itself; its new position and power in the visualscape where the Aristotelian conception of sight and hearing as privileged cognitive senses needs to be re-evaluated.

- The paradox of digital realism How human sight pretends to see

The photorealistic credibility of images generated with the aid of digital special effects is certainly one of the factors contributing to the increasing success of such an artistic practice, but it is also a crucial point that involves more theoretical reflections on the updated and redefined boundaries of human sight and perception. Of course, there are “invisible visual effects” that bypass the productive difficulties in many situations, digitally replicating and simulating circumstances, phenomena and actions that happen in our actual world. The flight of some birds, the rain pouring with a specific intensity, the explosion of a car: these are just a few examples of many cinematic sequences in which the adoption of digital special effects is a short-cut used in order to minimize costs and quicken the work rate of the production. These effects are made in such a way as to not be noticed by the audience; often however, if they are poorly made, film spectators will notice that something is wrong with a specific shot, a particular sequence which lacks credibility because of the inadequate outcome of the digital creation. It means that the audience is used to judging the result of such effects according to their adherence to the actual referent that is visible outside the screen.

These reactions happen because of the significant cultural and aesthetic turn identified by Andrew Darley in his *Visual Digital Culture* (2000). His close analysis of the development of computer imaging

technologies shows how, until the Seventies, the conjunction between visual artists and computer scientists reached its peak, allowing the achievement of an entirely redefined imagery and the creation of images that had a lot in common with the experimentalism of a certain visual abstraction that characterized some avant-garde movements. This was a propulsive and stimulating phase that “seems congruent with theories that reason from the numeric grounds of the digital to the separation of image from concrete physical reality” (Rosen, 2001, pp. 309-310). This period reached its visionary pinnacle with Gene Youngblood (1970), the Expanded Cinema and his theories about “a Mythic age of electronic realities that exist only on a metaphysical plane” (p. 206). During the same decade, another tendency – dominated by such key-concepts as verisimilitude, accuracy, realism, depiction – took on an increasing importance and subsequently became enormously preponderant in the Eighties. This was a decisive passage in which the increasing adoption of the term “simulation” meant that all the transformations happened inside this specific, fundamental artistic and communicative plan. If the digital is connected with simulation, then, as Rosen (2001) points out, it “had to mime previously known instruments that functioned as reliable imprints of the world. Of course, the camera-produced image, which is to say the indexical image, would be a leading candidate” (p. 310). Darley tries to explain the reasons for such a radical and apparently irreversible inversion:

Beyond the ultimate goal of producing “photographic” imagery by other means, the motives for such a fixation with realism are diverse and appear to depend upon imperatives that are active within the particular domain in which they develop. If the factors shaping the representational and “realist” thrust in practical and scientific domains tended to have a functional basis, in the sphere of mass visual culture – the domain of entertainment cinema – the support for realism was part of a more general ideal, indeed, it comprised the predominant aesthetic regime. Clearly, computer imaging only really becomes interesting to the producers and distributors of Hollywood cinema when it can operate effectively within the parameters of its own established commercial aesthetic. (p. 17)

The final result of this inversion is a profound transformation in the practices and processes of determining and moulding the imagery of cinema spectators, accompanied by a significant statistic claiming that almost 90% of digital visual effects are “invisible”. It is an extraordinary phenomenon, suggesting that, nowadays, the almost infinite imagery virtually offered by the digital generation of images has been reduced to the status of a mere replica of work previously done by the analogical

camera. This strategy of vision and recognition exists in a paradoxical form when spectators are confronted with the so called visible special effects:

Visible special effects, on the other hand, simulate events that are impossible in the actual world (but which are possible in an alternative world), such as the dinosaurs in *Jurassic Park* and *The Lost World*. The crucial aesthetic point in relation to the digital special effects in these two films in particular is that, while clearly visible, these effects attempt to hide behind an iconic appearance (or photographic credibility); that is, they are visible special effects masquerading as invisible effects. What we mean is that the digital images in *Jurassic Park* and *The Lost World* combine the aesthetics of both visible and invisible special effects, since they have the potential to replicate the realism and illusionism of the photographic image by conferring photographic credibility upon objects that do not exist in the actual world. What this implies is that, while the digital images of the dinosaurs are not produced optically, which means they are not real, observable events in the real world, they nonetheless create the impression that they are produced optically and that, therefore, the dinosaurs are pre-existing referents simply being photographed. (Elsaesser-Buckland, 2002, p. 210)

We are shifting from an adherence to the referent, from the “being there” theorized by Barthes (1980), to its polar opposite. If, according to Barthes, the essence of photography is not the resemblance between the image-trace and the original referent but rather the actual existence of something that has been in front of the camera while its trace was impressed, then authenticity does not lie in the recognition of a simile or a likeness but in the specific connection between the past and the present that links the two poles of a photographic representation. Nowadays the dictatorship of reference in the age of digital image-production leads to the absolute preponderance of resemblance issues over unverifiable aspects related to the actual being of the photographic referent. Thanks to digital special effects, we are confronted with the theoretical paradox of something that is visible even though it does not exist (and it never existed in front of any mechanical eye of the camera) – an image that *is* only for the senses. It seems quite evident that the estrangement from Bazinian ontology or Peircian indexicality is leading to a “perceptual realism” that is linked to a multifaceted apparatus of connections that is implied in the experience of cinema, an experience that needs to be unhooked from its similarities to the visual and perceptual experience of the everyday world and that is increasingly becoming an autonomous circumstance.

Stephen Prince’s (1996) pivotal essay about digital and perceptual realism starts from the great visual

innovations of Hollywood cinema of the Nineties and interprets the perceptual tendencies occurring in contemporary Hollywood. Moving from the equivocal nature of a monolithic notion of realism, Prince tries to enhance the value of the concept, adapting it not only to the laws of reference but also to the perceptual realm. In the era of digital imagery, the absolute difference between the elasticity of computer generated images and the solid rigidity of analogical ones leads to the necessity of a new modulation of traditional categories. Bypassing the essentializing nature of both Formalism and Realism, Prince proposes to shift the analysis of referentiality from the realm of images to that of experience, trying to identify the correspondences between the extra-cinematographic experience of the audience and the specific display of the audiovisual apparatus. He writes:

Unreal images are those which are referentially fictional. *The Terminator* is a represented fictional character that lacks reference to any category of being existing outside the fiction. Spielberg's dinosaurs obviously refer to creatures that once existed, but as moving photographic images they are referentially fictional. No dinosaurs now live which could be filmed doing things the fictionalized creatures do in *Jurassic Park*. By contrast, referentially realistic images bear indexical and iconic homologies with their referents. They resemble the referent, which, in turn, stands in a causal, existential relationship to the image. A perceptually realistic image is one which structurally corresponds to the viewer's audiovisual experience of three-dimensional space. Perceptually realistic images correspond to this experience because film-makers build them to do so. Such images display a nested hierarchy of cues which organize the display of light, color, texture, movement, and sound in ways that correspond with the viewer's own understanding of these phenomena in daily life. Perceptual realism, therefore, designates a relationship between the image or film and the spectator, and it can encompass both unreal images and those which are referentially realistic. Because of this, unreal images may be referentially fictional but perceptually realistic. (p. 32)

Perceptual realism, as intended by Prince, implies a stronger responsibility of the viewer who is called on to play an active role in image decryption. What is changing is the relationship with images; images must obey the principle of credibility, not the law of absolute, indexical realism. Audience acceptance depends on the visual system of details that confirm an existing idea of movement, light, shapes and spatial relations. The reference to reality of such a character as the T-1000 of *Terminator 2* (1991) obeys only specific criteria of cinematic perception and, obviously, is not determined by the visual equivalence of this creature with all the other T-1000s we have met before. The effort made in order to obtain a perfect reflection on its body, the fluidity of every shape change he undergoes – everything is involved

in a paradoxical, but actual, form of realism.

Realism moves from the images towards perception, somehow endorsing the cultural and metaphorical transformation we are discussing in this chapter. Such movies as *The Matrix* or *eXistenZ* (David Cronenberg, 1999) are built entirely according to a principle of the complete substitution of the real which is achieved through the decisive aid of digital simulations that can supplant the miseries of our world, in a metaphorization of the condition of cinema that is witnessing the impoverishment of the analogical and the increasing success of the digital.

What David Rodowick (2007) identifies as the paradox of perceptual realism is one of the most significant cornerstones in the complex process our culture is undergoing in its nearly complete understanding of digital imaging. In his interesting essay *The Virtual Life of Film*, he discusses the peculiarities that need to be considered in any reflection on filmic processes and digital capture or synthesis. One of the main issues raised by Rodowick relates to the apparently paradoxical effort behind most of the digital creations in the last thirty years:

Since the early 1980s, if not before, technological and creative innovations in digital image synthesis have been driven by a single, though somewhat paradoxical, goal: the achievement of “photographic realism”, or what Lev Manovich has called “perfect photographic credibility”. Game design as well, though in less singular way, has been driven by the desire to attain degrees of involvement and identification in game worlds commensurate with those of cinematic narrative, especially through manipulating subjective point of view as movement in space through time-delimited actions. Curiously, for an industry driven by innovation and market differentiation, the qualities of the “photographic” and the “cinematic” remain resolutely the touchstones for creative achievement in digital imaging entertainment. The “new” has not been sought in digital imaging as much as fresh means for producing familiar effects with a long cultural history, though often in very novel contexts. (p. 131)

Rodowick certainly is among the theorists that have begun to think about the emergence of the “cinematic” as a visual and cultural issue that can be separated from cinema and its changing apparatus. The cinematic is a transversal concept that applies to all contemporary media that deal with a radically transformed image, an image that in any case needs to be looked at through entirely different lenses due to the constant updating of the frame in which images are produced and experienced. The fact that most contemporary analysts still adopt such concepts as screen, space, movement and time as related to

images indicates that classical film theory pervades the theory of the image. According to Rodowick the historical permanence of these concepts is principally connected with the “perceptual realism” that still shapes the visual and cultural experience of digitally generated images. Digital processing profoundly alters the concepts of “representation” and “image”, but the audience and theorists still insist on discussing those images according to categories that have overrun the enclosure of cinema and spilled out to other genres, becoming necessary for dealing with videogames, 3D animations, TV and advertising.

But what connections need to be identified between the fictionalized reality and the transformed patterns of our reality (already modified, transformed in its social and cultural – visual – basis through the influence of previous visual events or products)? The question that is raised is: is the stratification of cinema, videogames, TV products, media transformations affecting our consciousness and transforming our relationship with fictional images that we perceive as “real” even if they are only realistic in respect to an unperceivable world?

This extremely evident transformation involves all the active elements involved in cinematic production. As digital imaging definitively transforms our awareness and interpretation of the filmic event, all the moments of filmmaking need to be redefined. And film theory should adapt itself to this radically renewed cultural frame.

The difficulties encountered by film theory in dealing with these aspects are connected to the complex rethinking of the traditional categories of film studies regarding the boundaries of the production of cinematic experience. The objective reality that stands behind the camera does not transform into what Baudry (1975) defines as the “site of inscription” without the selection or redefinition of shapes and intrinsic relations among bodies, objects and space. So this movement is not neutral or autonomous, but rather refers to a work of transformation. In the age of digital imaging and image-creation, the alteration of objective reality is a given, but what is becoming more important, and in more than just a symbolic way, is the capacity of contemporary cinema to intervene in the second moment, the passage from the recording to the projection of images. The thickness of these metaphorical margins is

becoming more and more evident, given that nowadays movies are mostly created during the post-production phase. Baudry describes the camera as “equally distant from ‘objective reality’ and the finished product”, and he claims that it “occupies an intermediate position in the work process which leads from raw material to finished product”. Perhaps it is necessary to update this position, to rethink the nature of the camera itself. What must be profoundly rethought is the metaphorical and mechanical function of the camera, as well as its physical position in the context of filmmaking.

The point of arrival represented by the radical evolution of shooting techniques (if it is still possible to discuss “shooting”) that increasingly dissociates the eye of the camera and the eye that stands before it is evidently the substantial (and almost unnoticed) disappearance of the camera from the cognitive frame of movie-making.

This progressive dissociation of the camera and human sight leads to an impressive result: the camera becomes a sort of disembodied eye. This requires a total rethinking of the spatial relations experienced by the perceiving eye as it relates itself to a totally new kind of visual act. Vision loses its directness and becomes a thick boundary that imposes a distance between the two poles of the process. This distance can be intended both as physical and metaphorical, as the eye freely moves among levels of perception that the materiality of the body had avoided in the classical, analogical era.

The use of different technologies of image-creation has led to the total virtualization of the camera, in a process of distinct separation between the eye and the camera as the latter is becoming more and more irrelevant. There are two visual experiences that are perhaps the most extreme examples of this dissolution of the mechanism of vision. One can be found in the extra features of the *Polar Express* (2004) DVD. The entire movie directed by Zemeckis is shot using Motion capture technology, widely used nowadays in both the film industry and in the creation of videogames. The virtuality of the actors’ movements and their visual transformation into animated forms which replicate the actors’ performances is less important, here, than the presence of a virtual camera. A virtual camera is an actual camera, controlled by a real operator that moves in a virtual environment provided by the creation of a three-dimensional space. The effect pursued by Zemeckis and his collaborators is the

same one that is obtainable with the traditional, realistic cinema, but the possibilities offered by this innovation are very important. The point of view becomes a virtual and mobile point of view, with the camera starting to perform as a character alongside the others.

On the other hand, in *The Matrix*, the astonishing Bullet Time effect subverts the dynamics contained in movies such as *Polar Express*. Here we move from the virtual set towards an actual (even if somehow modified) one, but the camera undergoes a process of incredible dematerialization or, incredibly enough, of total disappearance. The animated simulation created by the computer functions as model for the definition of the actual set. The movement of the simulated characters determines the construction of the complex structure that is needed to achieve the “suspended time” images in which the movements of bodies (the first sequence with Trinity’s prolonged jump) and objects (bullets, for instance) occur in a sort of temporal void. The configuration of the set is centered upon the composition of the shape of the rigging made up of dozens of photographic cameras. The geometrical structure of the rig is totally free and depends upon the simulation and the desired movement of the camera. But, actually, there is no cinematic camera moving around characters who are falling or jumping or shooting. At the centre of the stage, the movement is captured by the surrounding photographic cameras in single shots, each of them synchronized with an exact time lapse. These individual static shots become the raw material for the subsequent step. Interpolation, the digital creation of frames that are the byproduct of actual frames, is the necessary further element that creates a complete sequence. This process creates new frames that fill the gap between the real frames captured by the cameras. In this way the shot material and the digitally created frames are merged in a unique visual element upon which it is possible to compress or decompress time. The final result of this effect is that the movement off the camera is virtual because the camera does not exist as such. The camera is virtually recreated through a movement of single shots taken by photographic cameras, then these that are put in motion through a digital process that bypasses a significant amount of digitally generated images.

These two examples show how the disappearance of the camera does not imply the vanishing of

cinema, especially in the sense of the experience we have of it. But it remains a fact that the implications between the human eye and the new perimeters of images require new strategies of perception, new dynamics in the relationship between the subject and object of the visual process.

Images are created without any external referent; the eye of the camera is a closed one; the camera itself sometimes disappears while still allowing the audience the possibility of “seeing” images. At a metaphorical level, we are moving through territories that are very close to constructionism because we have moved from the perceivability of an external world that does not exist as such and have arrived at an entirely constructed reality. Maturana’s experiment with frogs and other animals led to the radical discovery that animal (including humans) perceptual systems construct a reality rather than register reality according to the schemata of representation. As Katherine Hayles (1999) point out:

The break came with his work on color vision in other animals, including birds and primates. He and his coauthors [...] found they could not map the visible world of color onto the activity of the nervous system. There was no one-to-one correlation between perception and the world. They could, however, correlate activity in an animal’s retina with its *experience* of color. If we think of sense receptors as constituting a boundary between outside and inside, this implies that organizationally, the retina matches up with the inside, not the outside. From this and other studies, Maturana concluded that perception is not constitutionally representational. He argued that to speak of an objectively existing world is misleading, for the very idea of a world implies a realm that preexists its construction by an observer. Certainly there is something “out there”, which for lack of a better term we can call “reality”. But it comes into existence for us, and for all living creatures, only *through interactive processes determined solely by the organism’s own organization*. “No description of an absolute reality is possible,” he and Varela wrote in *Autopoiesis and Cognition*, for such a description “would require an interaction with the absolute to be described, but the representation that would arise from such an interaction would necessarily be determined by the autopoietic organization of the observer... hence, the cognitive reality that it would generate would unavoidably be relative to the observer” (p. 121). Thus he was led to a premise fundamental to his theory: living systems operate within the boundaries of an organization that closes in on itself and leaves the world on the outside. (pp. 135-136)

The transformation of the concept of point of view itself is of course empowered and accelerated by all the visual revolutions that have followed the advent of virtual reality. If philosophers such as Jean Baudrillard (1995/1996) can write that “the virtual camera is in our heads” (p. 26), it means that it is so-called “real life” that suffers the contagion spread by television and other media. It is the mediated environment that surrounds the mechanical functions of the eye that alters the nature of vision, redefining the functions of the eye as an organ, the implications determined in the consciousness, the

same existence of the point of view. Derrick De Kerckhove (1995) wrote about shifting from the point of view to the point of being (from the place where we are to wherever our sensorial apparatus, thanks to the extensions technology, allows us to reach), somehow anticipating the radical subversion created by virtual reality. It is cyberspace, even in its more primitive and unrefined version, that represents one of the decisive turning points in the long process of the

technological construction of vision. Instead of an embodied consciousness looking through the window at a scene, consciousness moves *through* the screen to become the pov [point of view], leaving behind the body as an unoccupied shell. In cyberspace point of view does not emanate from the character; rather, the pov literally *is* the character. If a pov is annihilated, the character disappears with it, ceasing to exist as a consciousness in and out of cyberspace. (Hayles, 1999, p. 38)

Laurent Jullier (1997), analyzing postmodern cinema, highlights how the most radical innovation of this is the erasure of point of view and how this absence forces the seeing subject to ask a question such as “where am I?” (p. 71), which often becomes a more dramatic “Who am I?”. The rhetoric of sight as the superior sense that is the only one able to certify the truth is completely subverted, and, moreover, the image seems no longer able to imagine the real – because it has ended up coinciding with it.

- Is digital cinema a blind cinema?

In the history of film theory, cognitivist studies have structured a perspective upon cinematic spectators that seems to be only partially linked to the activity of sight, asking how a spectator is able to generate a hybrid space that merges the mind and the eye and which is spatially bigger than the actual size of the screen that hosts the projected image. Hochberg and Brooks (1978), the two scholars that opened this field of studies, discuss the cognitive maps that help viewers make sense of images. As Casetti (1995/1999) explains,

the stimuli coming from the screen are interpreted according to a certain hypothesis, which will or will not be confirmed by the rest of the film, viewed through a well-structured process of adjustment and comparison of the elements at play. Thus, it is thanks to these “mental schemes” that the spectator decodes the situation before him, expectations, etc.

Also, thanks to these schemes, he “reconstructs” in his own mind what the film tells him, albeit little by little or only in part. (pp. 105-106)

But the hypothesis we are discussing here is trying to metaphorically get rid of the eye and its theoretical implications. There are dozens of movies that are dedicated to blind characters, and of course, the history of literature has included many blind characters, from Oedipus to Samuel Beckett’s Pozzo (*Waiting for Godot*) or Hamm (*Endgame*). But in the era of images that have entered the realm of exclusive simulation, blindness assumes a metaphorical value that needs to be explored.

Blink (1994), directed by Michael Apter, depicts a character whose blindness is cured with a cornea transplant; after the surgery, the young woman (played by Madeleine Stowe) is affected by a confused form of vision. She is always uncertain about what she sees because her brain reads and decodes what her eyes perceive with a significant delay. There is always a temporal gap between the actual event and her perception of it. The two moments are separated by time, and the mental construction of the viewed event always comes with a delay that prevents the woman from having any ability to intervene in, or interact with, what she, somehow, sees. As Canova (2000) acutely highlights:

Blink raises the problem of the function of *time* in the processes of visual perception. It forces us to wonder about the lapse that always insinuates itself between the moment of vision and the time in which what is seen is conceptualized. [*Blink*] puts time to work within the sense of sight and hypothesizes about the effects caused by a prolonged asynchronism between the eyes and the mind. Deferred vision, as everybody knows, is typical of cinema. Only at the cinema do we see *now* (in a movie theater) what has happened *before* (on the set). (p. 43)

Returning to the example of *Strange Days* and the visual delay that is inextricably connected to the SQUID, Lenny Nero’s clients actually can see with their eyes closed, but only if someone has recorded images *before* the act of neural vision.

Gin gwai (*The Eye*, 2002), directed by Oxide and Danny Pang, is a Chinese movie that tells the story of another cornea transplant; here Mun, a young woman blind since the age of two, becomes affected by a sort of visual haunting. After the operation, she can finally see again, but she also begins to have frightening visions. It turns out that the donor of her new cornea was a girl who was actually able to

foresee death, and this biological transfer makes Mun a sort of visual receptor for ghostly bodies and invisible souls. A mechanical dislocation of an extraordinary cornea transforms Mun into a woman who can extend her sight into places and times which are totally forbidden to other human beings in a sort of parallelism with the possibilities of a cinema that redefines its own rules and boundaries, extending the perimeter of what is visible for our empowered eyes.

Blindness is rapidly becoming a broadly exploited metaphor for a cinema that is experiencing a crisis regarding the visible and the credibility of the unique image. The passage from analogical to digital contains this crisis too, as cinema must deal with a totally new paradigm of images that have ceased to reproduce anything and that, instead, can create everything. We are deliberately leaving aside the great debate about the ontological differences between analogical and digital because the difference between them is not ontological but delimited by the use we make of those images. Images can be ghosts, like the supernatural glimpses experienced by Mun in *Gin gmai*; they can be witnesses to the disappearance of the external reference that determines their shape. But they can also be the product of a technological subjectivity that takes advantage of the creative freedom unleashed by this separation from reality. Images can inhabit the metaphorical lapse determined by the illness experienced by the main character of *Blink*, adopting the digital not only as a technique that can allow manipulation, but as a prolonged moment that alters the space/time relationship of our enhanced sensibility.

Once again we are confronted with the complex and constantly changing connection between vision and the decoding of images, between the mechanical act of seeing and the bodily, neuronal event of vision. And this happens because of the specific function of the camera that, independently of digital or analogical support, works as a consciousness, according to a theoretical link that combines Spinoza and his “spiritual automaton”, Bergson and, more recently, Stiegler:

Deleuze asserts that the camera is able to act “like a consciousness”. Of course, it is set up and moved by human agency, but ultimately, its technological apparatus passively records the object before it in a way that exceeds human ocular capacity. Deleuze disregards the role of the operative and argues that the distinct technological properties of the camera-consciousness are “inhuman or superhuman” rather than human. The camera’s inhuman automatism, then, free from idealism, perceives matter more directly than the human vision that it challenges. (Powell, 2007, p. 71)

Blindness should not necessarily be limited to its sense as a physical condition, as an illness that diminishes the effectiveness of a bodily organ. Blindness is also the choice of keeping the eyes closed, even if they work perfectly; it is a rethinking of the process of seeing, a movement that originates in the retina and that is defined and implemented by the brain. Another form of blindness, again metaphorically intended, is the one caused by the awareness that we sometimes we feel before watching, or, better, that we feel when we are not watching at all, as happens in M. Night Shyamalan’s *The Village* (2004).

- *The Village: Metaphors of blindness in non-digitally recreated reality*

It is 1897, in a quiet village in Pennsylvania. A small community lives near a forest inhabited by mysterious and unnameable creatures (people refer to them as “those we don’t speak of”). Nobody ever leaves or enters the village, because the very idea of traversing the forest is literally unthinkable given the extreme danger presented by the invisible creatures. When young Lucius decides to go to the city and asks permission from the elders of the village, the mysterious creatures warn the villagers through cruel and brutal actions. The village fool, Noah, is jealous because Lucius and the beautiful – and blind – Ivy are in love, so he stabs Lucius, who needs some medicine in order to be saved. Ivy asks permission from her father, who tells her that the ferocious creatures that besiege the village do not really exist and that they are a creation of the elders who want to preserve their way of life apart from the brutal violence of city life. She overcomes a number of dangers and then finds herself faced with a wall to climb. She cannot see her goal, but she understands that her mission is close to being accomplished. But outside the wall she does not find the end of the nineteenth century waiting for her: she leaves the protected zone and enters the present of the year 2004. The village in which she was

born and raised is a creation of the elders who decided to leave the violent cities of the end of the twentieth century and start an experiment: the construction of a village separated from the rest of the world, without a single airplane flying over, without any contact with the everyday life of contemporary society, a village protected from the violence that dominates the world. The audience sees cars, clothes and newspapers which reveal the narrative truth, but Ivy is blind and misses this encounter with the unveiling of the fictitious nature of the life she has lived. So she takes the medicines and goes back to her 1897 reality.

After having dealt with the partially visible persistence of the dead in *The Sixth Sense* (1999), foreseeing the future in *Unbreakable* (2000), and the paradoxical visualization of aliens in *Signs* (2002), here Shyamalan reflects upon blindness on a double level. The character of Ivy is blind, and the entire community living in the village is also somehow affected by a blindness stemming from the lie told by the originators of the experiment. *The Village* is also a movie about our blindness, about our spectatorial habits. If, in *The Sixth Sense*, Shyamalan builds towards the final surprise by dispersing visual signs throughout the movie that anticipate the narrative twist regarding the true nature of the character played by Bruce Willis, in *The Village*, the audience's perspective is superimposed onto that experienced by the uninformed young inhabitants. *They don't know*, so we follow in their state of unawareness, substantially seeing through their eyes. The paradox is disarticulated at the end, when the solution to the enigma passes through the experience of the blind girl who allows us to see while she cannot share our discovery and our reconstituted knowledge. In the movie, there are very few traces of the real situation covered up by the elders; there is, rather, a slowly increasing but unstoppable presence of the colour red. Firstly we see small red flowers frenetically eradicated and hidden by two women. Then, apparition by apparition, we understand that in the depicted community, red is the colour of what is forbidden, The colour of fear, the colour of fear of the unknown.

While many film reviewers have seen in it a powerful allegory of the post-9/11 United States (with the fear of the Other, the obsessive closing in on themselves), *The Village* remains a stimulating work that deals with the transformation of vision. Everybody in the village is afraid of "those they don't speak

of”, even if nobody has actually seen them, and their visual lack of knowledge seems to be affecting the language too, reaching the point of the unnameability of these nameless creatures. When Lucius asks permission to leave the village, he insistently refers to the visual and sensual abilities of the mysterious creatures living in the woods, and he is sure that they will let him pass because “creatures can *sense* emotion and fear. They will *see* I am pure of intention, and not afraid”. The extraordinary awareness of the wicked people of the city that even the young inhabitants have is a notable paradox for people who have never *seen* someplace outside the village. And then there is Ivy, the sensitive, delicate girl whose sight is limited to the faint perception of colourful forces surrounding people. She is blind, but she tells Lucius, showing a complete awareness of who she is talking to, “You wonder how I recognized you? Some people – just a handful, mind you – give off the tiniest colour. It’s faint, like a haze. It’s the only thing I ever see in darkness”. Hers is a different way of seeing the world, as she tells Lucius when he asks her if she is angry about not being able to see. And it is Ivy who tells her father that she does not see Lucius’s colour anymore, given that he is going to die if nobody brings the necessary medicines from the town; and the father tells her “you see light where there’s only darkness”. The dynamics of vision centred upon Ivy’s blindness enter into a sort of truthful vertigo during the epiphany that comes in her journey in the woods. When she encounters one of the “creatures they don’t speak of”, she initially says to herself that the creature is not real; then we see that she is not recognizing that she is actually facing Noah (the village fool) wearing a terrifying costume of the brutal creatures. Thus, there is a complete reversal of perspective upon evil: the human desire to see only what is to be seen without any pain or difficulty is shown to be the real blindness. Ivy succeeds in her mission which, more than simply finding the necessary medicines, is to carry our awareness away from the closed boundaries of the village and the woods.

Unveiling the truth does not necessarily imply that the character has to regain her sight: Shyamalan shows how the cognitive value of sight loses its power when subjected to a will that does not want to see. On the contrary, all the villagers, indoctrinated by the founders, believe that they can see - and consequently know – what they actually do not see (or know). The consequence is that innocence, as

intended in the Manichean moral system structured by the elders of the village, is directly coupled with not knowing. It is no coincidence that, when one of inhabitants of the village begins a dangerous and risky journey through the woods, the Evil forces transgress the borders of the village and causes unexpected pain among the inhabitants. Murder, death and violence enter a place that was supposed to remain immune to these criminal contaminations. So if the borders can be transgressed, it is also possible to escape the village, to follow the path towards the outside.

The elders allow Ivy to traverse the woods and give her a glimpse of truth, telling her that the mysterious creatures do not really exist. They can concede this little awareness to Ivy because, even if she does not see with her eyes, she can see because of her knowledge. So she can easily meet one of these creatures (actually Noah in disguise) and somehow confirm her familiarity with what she continues to see with the paradoxical sight of her awareness. She can also start her journey towards the present of the 2004 world and not become aware of anything. Her return to the village will maybe save the life of her beloved and will surely continue to preserve the chronological void in which the village has been erected.

What happens in such a simultaneously simple and complex narrative as *The Village* is the demonstration of an assumption our culture needs to deal with: the substantial difference that exists between familiar images and the fear of images that force us to question our certainties. Images stand at the subtle crossing where desire, knowledge and optical data meet. Insisting on the multifaceted essence of what we continue to define as “reality”, Shyamalan’s narrative construction brings the audience’s attention to the complicated relations between constructed and actual reality, between simulated truth and sensory data. The fundamental twist of the blind main character works primarily as a tool for disturbing the audience, as an autonomous visual special effect that does not need explosions or synthetic images in order to create a manufactured reality. Movies such as *The Village* force us to pay attention to a redefinition and a rethinking of the negotiation actually happening between our vision and our metaphorical blindness and the subtler level upon which a visionary cinema tends to insist.

What we call (with a useful generalization) “synthetic images”, and, more generally, the virtual system we live in, place cinema in a permanent situation of crisis. Synthetic images create what we can call an iconic space in which our gaze is but one of our activated senses. In this space, the viewer becomes an interactive protagonist, reversing his/her passive position and thus changes status. The problem emerges in cinema, perhaps more so than other media, because if we notice that art everywhere asks for multisensory perception, it is not enough to think about contemporary cinema, as Laurent Jullier does in his *L'écran post-moderne*, as a sort of big swimming pool where the viewer floats and swims while getting covered with images and sounds. The aforementioned crisis derives directly from the eye's loss of hegemony and from the reduction of its possibilities of knowing. When digital technologies reach the point of total separation between *filmable* reality and *filmed* virtuality, cinema must come to terms with this small, incoming catastrophe. There are many possible ways to react to this condition, to measure its power in relation to these new kinds of images. One, of course, is blind faith in these new technologies; another is the complete negation of them. As long as there are those who worship the undisputed supremacy of digital visual effects, there will also be those who will condemn it in order to return to an ontology of the image that perhaps even André Bazin would consider differently today.

It is all too evident that we are experiencing a fundamental shift from the ontology of photosensitive images to virtual synthesis, but it is more interesting to shift our attention from the mode of production of these new forms of cinematic images to their mode of perception. Innovations in visual special effects, which always come in cycles, push the audience towards a redefinition of the self in relation to an *other* represented by a simulacrum of something that does not exist, or something that once existed and no longer exists (the creation of infographic simulations of dead actors or other famous people). Questioned about their work, special effects technicians explain that they film what doesn't exist. Obviously, this answer is not completely true, because what they film doesn't exist in “our” world but does in another world; it is something filmed, as Paul Virilio writes (1989), with a speed that doesn't exist and that is completely invented by cinematographic engines.

The aquatic pseudopod of *The Abyss* (1989) is the first entirely binary movie character, a character that functions as a mirror for the majority of its screen-time, reflecting the images standing in front of it. This seems to be the beginning of a new era of a peaceful sharing of the frame and of the field of an expanded set both for humans and computer-animated beings. The T-1000 of Cameron's *Terminator 2: Judgement Day* (1991), made of liquid nitrogen, works in a similar way, transforming itself into whatever it desires and creating a feeling of astonishment at the "never before seen", or its sheer novelty. The birth of the *morphing era* marked the dawn of a new age of viewing images, because if everything is possible and every creature is able to become something else, then nothing is real and everything is *possibly* a fake. This is what Philippe Quéau (1993) called "the open door for every kind of revisionism", or the possibility of erasing the category of truth as we have known it. Between the end of the Eighties and the beginning of the Nineties, a film crafted entirely with a computer, with no reference to an external "real" image, became a reality (and this is indeed an ironic use of this word). Baudrillard (1995/1996) writes about the definitive death of reality, but again the focus is rarely on the viewer: there are no analyses that deal with the changing relation with a reality that is surely more fictitious than the one we have become accustomed to calling "real".

If the increasing importance of visual special effects tends to enrich and exaggerate the capacities of narrative space, to create and penetrate new and unexplored dimensions (alien creatures, virtual worlds, space adventures), its ultimate goal is to modify what we call "the profilmic". This is a double movement: on the one hand, the profilmic is reduced and becomes an invisible point, a dimension very close to invisibility, since it can be forgotten, unused, unnecessary. On the other hand, profilmic space can be virtually infinite, because it becomes a place where everything is possible and where the usual perceptual approaches lose their functionality, expanding toward the infinite. *Titanic* and *The Matrix* are perhaps the most radical attempts to use the gigantic power of new technologies to re-create a real dimension, something that *was* real or that *could have been* real. *Titanic* finds its greatness in its classical style, in its tending toward a classic dimension in which each detail is recreated in order to live the illusion of *the erasure of time* (the time that passed between the sinking of the original ship and its

discovery in the depths of the ocean). *The Matrix* needs to use every set as a starting point that *has* to be abandoned, because here the will is *to erase the space* in order to live different lives in different places, all of them coexisting.

The motion capture technique, whose most relevant application we find in *Polar Express* and in *King Kong*, is the perfect expression of this rush toward the perfect illusion. Motion capture, in fact, is a technique of digitally recording movements of real humans, animals or things. It has become a fundamental source of motion data for computer animation, and is especially used for videogames and cinema. Mimesis has never been so accurate and close to the original image. But, again, and for the last time, does something change for the audience? We are still faced with the re-creation of an illusion. Digital special effects are only used to adopt the same relational approaches viewers have and have had with classic cinema, only this time shifting the focus from a reality that is re-created to an illusion of reality that exists only as a sequence of numbers on the hard disk of a computer. The much-praised interactivity, that is so difficult to apply to the cinematic medium, has nothing to do with it, and the only way to move toward this interactivity is to transform the spectatorial approach, to try to make the visual special effects happen *also* inside the head and the eye of the viewer, not only in front of his/her gaze.

I think that a certain tendency in contemporary cinema which brings together technologies of visual effects and the death of cinema, and which reacts nostalgically and violently to the increasing importance of technological applications, is only an apocalyptic reaction to a loss – the loss of contact with reality. Perhaps the Danish group Dogma 95, guided by the director Lars von Trier, is the most radical supporter of a cinema that is exclusively related to reality. This movement declares that cinema has to deny any use of what they call “cosmetics”, trying to avoid the creation of illusions covered by many veils of cinematic make-up. They declare their war against the technologies that have transformed cinema into a bourgeois, illusionistic art, and at the same time they claim the right to be happy about the “technological storm” that gives everybody the chance to create a film and to find “the truth” behind the wall of these mortal illusions. This is a very naïve provocation, and it may be simply a good

advertising strategy. But it is also true that blind faith in the power of these new cinematic tools hides the emptiness of an imagery that makes a great effort to find new myths and is always forced to recycle old stories, old characters, old tales.

In between these two opposite tendencies, there is a group of directors that is very interested in the virtual possibilities offered by new technologies. However they are only prepared to use them in a problematizing way. They refuse to use visual special effects as simply funny gadgets or amusing decorations that are only useful for putting trendy “make-up” on the face of the story they are telling. For them, the use of new technologies becomes more conscious and responsible if it is made considering the consequences that visual special effects have on the viewer’s perceptual system.

This is exactly what Brecht did in his theatre. As Dr. Future points out in his essay “Subject: New Media, Old Technology” (1998):

What is technically innovative about Brecht’s theater? It is not cinema, it is not radio, it is not mass media. But it does change the relationship with its audience, not by using film or broadcasting technology directly, but by adopting their “techniques”. The principle technique is montage, the ability of modern media to fragment perception and then recombine it. In Brecht’s theater this is absorbed in the form of “interruptions” to the dramatic action in order to create “conditions” presented to the spectator that require a “dialectical” response. In this way montage is employed as an “organizing Function” as opposed to a “modish technique” used merely to stimulate the viewer’s fascination. So we see that the actual works that Benjamin is interested in use new techniques at a variety of levels which can include different media, perceptual modes, “organizing functions” and aesthetic considerations.

Contrary to using the latest technological means, Brecht is described instead of returning to the ancient origins of theatre, turning the stage into a simple podium for exposing present behaviour and conditions. New technique does not mean new technology.

Another possible example of this constant negotiation that our sight is undergoing, besieged and surrounded by a completely artificial reality, could be the dramatic shift that Cronenberg made in his filmmaking stylistics in 1993, when he inaugurated a “realistic turn” by directing *M. Butterfly*. Before this movie, Cronenberg’s previous films continuously pushed the line of visual experimentation, partly due to the innovative technologies he used over the years, from the exploding heads in *Scanners* (1980) to the living monitors (or the curious fusion between video recorders and human bodies) in *Videodrome*, from the animalization of a man who becomes an insect in *The Fly* (1986) to the extraordinary twin-effect

achieved in *Dead Ringers* (1988), and of course to the nightmare visions of *Naked Lunch* (1991). He has always forced the viewer's gaze to recreate the perceptual horizon, building a metamorphic imagery, a narrative world full of new devices and tools, and mutant and hybrid bodies.

His dedication to visual effects turned out to be more intimate and less related to what are commonly defined as "special effects" after directing *M. Butterfly*. This is perhaps the most radical and subversive of Cronenberg's films, if only because it shows the consequences of special effects by telling the story of a misperception. The story is of René Gallimard, a French diplomat who falls in love with a Chinese woman, and who is happy when the latter tells him she's pregnant. He risks and ultimately loses both his career and his own life for his love and, in the end, just before dying, he discovers that the woman he has loved for all those years is a man. Cronenberg could have used many technological tools to hide the real gender of Gallimard's lover. But instead of using visual effects to transform a man into a woman, he decided to choose a well-known actor with a deep male voice, who plays the character of a Peking Opera singer (and it is relatively common knowledge that all Peking Opera singers are men) and makes very little effort to hide his masculinity. The audience understands perfectly well that Gallimard, who is represented as successful with women, sexually active and charming, is embarking on a relationship with a man. However, the core, of Cronenberg's story is that we make our own special and visual effects whenever we see what we want to see, whenever we look at what we want to look at. We always love the image of what we want to love. At the end, Gallimard admits: "What I loved is the lie [...] I'm a man who loved a woman created by a man".

The very filmmaker who plunged the credibility of cinematic images into a permanent crisis through an enormous deployment of visual effects is the same one who has also created a film exclusively about the effects of the *trompe l'oeil* that substantiate every vision. Gallimard loves the projection of his fantasy, he lives his sexuality as a fantastic creation that is completely separated from the *real* world he lives in. Is this any different, Cronenberg suggests, from other love stories? He remarks:

What made me decide to make the film is the idea that female sexuality is invented by men. The idea that everyone's sexuality is a mutual fantasy that is reciprocally created. This is something sweet and terrifying, because in a certain sense it means that true sexuality doesn't exist. (Rodley, 1992, p. 134)

Again we love the image of what we choose to love. This is the most extraordinary effect we can see, as we can create something that doesn't really exist out of nothing.

The line that links together such different movies as *Strange Days*, *The Village* and – going back in time – *M. Butterfly* is connected to different visual and perceptual phenomena that seem to happen inside our eyes, or, so to say, behind them. According to this visual and theoretical perspective, some of Philip K. Dick's words come to mind again. Reflecting upon what happened in the cinema of his day (a cinema that did not utilize today's digital innovations), he wrote of today's films:

Science fiction films have put one over on us. Like the veil of *maya*, your special effects department down there in Hollywood can now simulate anything the mind can imagine. . . and you thought it was all real. No, they really don't blow up planets. It's true; they make it up. And a great deal of skillful imagining is going on these days. Not content with destroying whole planets, inventive scriptwriters and directors will soon be bringing you peculiar new universes with inhabitants to match. Watch for it. What you thought an alien looked like. . . well, it is going to look a lot worse. What burst through Kane's shirt in *Alien* is not the end of the line of monsters but more the beginning. It takes megabucks to match the imaginations behind sci-fi films, and that money exists because the profits are there. Not for the story line of the film; that isn't what Hollywood goes for, now that Hitchcock has left us. Why do you need a story line if your special effects department can simulate anything? Graphic, visual impact has replaced story. Authors of science-fiction novels know this and grumble; what they wrote is not what you get when the film is finished. But this is as it should be. We are seeing a story, not being told it. (Dick, 1996, p. 78)

Questioning the hegemony of vision, by means of a dramatic turn in favour of other senses, is an effort that admits how the broadly discussed balance among the senses needs to be discussed in order to obtain a culturally and socially updated cartography that offers a structured image of our actual condition. As W. J. T. Mitchell (2002) points out,

Vision has played the role of the sovereign sense since God looked at his own creation and saw that it was good, or perhaps even earlier when he began the act of creation with the division of the light from the darkness. The notion of vision as hegemonic or non-hegemonic is simply too blunt an instrument to produce much in the way of historical or critical differentiation. The important task is to describe the specific relations of vision to the other senses, especially hearing and touch, as they are elaborated within particular cultural practices. (p. 175)

This relation, which needs to be delineated and described, is certainly the one between vision and the

other senses, but it is also complicated by the specific issues of the digital realm: perhaps all theories regarding cinema and ideology are forced to be updated. Digital cinema is rapidly redefining the perimeters of the old boundaries between ideology and cinema because it is reshaping the mutual borders between reality and representation thanks to a substantial deconstruction of any “reality principle”. This progressive demolition is achieved both through a set of narratives that question the uniqueness of reality and through a total transformation of the filmic space and image. A movie such as *Strange Days* is the perfect demonstration of how contemporary, post-postmodern cinema works when it tries to erect a “connecting space” (Pisters, 2003, p. 42) that endlessly opens the space of the screen. It is quite entirely a matter of how contemporary cinema communicates and how it shapes the impression of reality (or, better, *realities*) in the audience’s brains. As Casetti (1993/1999) notes,

a camera elaborates a representation of reality that is *its own*, although derived from the world. It depends on a code that both rules and shapes and that is only apparently “immediate” and “faithful”. If, therefore – as Althusser suggested – ideology has to do first of all with representations, cinema inevitably sides with ideology. It continues and relaunches the “specular vision” that Humanism, in the 1400s, had developed to support the emergent bourgeoisie. (p. 186)

Digital cinema, bypassing the dictatorship of the referent, of “derivation” from the world, perhaps offers a form of opposition to the perspective rule that, in a continuously mutating way, distinguished classical and post-classical cinema before the Eighties. The question that arises is about the potential of this re-ideologized cinema that is subverting exactly the root of a perspective norm: so, is it a counter-ideological cinema or, rather, is it just a cinema that contains another hegemonic ideology at the visible and cognitive level?

The choice adopted here regarding movies and their geographic and cultural provenience is maybe a signal of the awareness of the fact that contemporary Hollywood is reshaping the imagery of the entire planet and an attempt to offer a more problematizing approach. If what Jean-Paul Fargier (1969/1971) wrote about the political value of cinema is somehow still true, it is because, even though everything has changed in the social balances of Western societies since he wrote his most influential works, cinema is still capable of affecting how individuals structure their view of the world, their specific configuration of the sensible (see Rancière, 2001/2006). It is still possible to discuss cinema and its

ability to hide or reveal to its audience the structures of what happens outside the screen, but it is less easy to identify a cinema that “reproduces the existing ideologies” (Fargier, 1969/1971, p. 134) because the mechanisms of the multiplication and replication of ideological or post-ideological structures is more differentiated given the multiple layers of contemporary mediascape. Yet it is still current to consider that cinema “produces an ideology of its own, the impression of reality. In the screen there is nothing but reflection and shadow, and yet the spectator develops at once the idea that there is reality as it really is” (Fargier, 1969/1971, p. 134). According to these words, we have to analyse with a great attention the effect of a cinema that relentlessly tries to undermine the correspondence between the screen and reality, showing how complicated and fragile this symmetry can be.

- The filmscreen and its outside: Medical images, CCTV and software of non-human vision

If we think about the dramatically increasing use of medical instruments that are able to offer a vision inside the body, we have to consider that many of these devices involve a different way of seeing, something entirely different from X-rays and their penetrative power which first transported the human gaze beyond the limits of the skin and the body surface. If X-rays (which, as it has been broadly noted, were born contemporaneously with the cinematic device) are an enhancement enabling us to expand the boundaries of sight,

The simultaneous emergence of multiple optical techniques in the medical context has created an apparently monolithic new field in which only those with extensive training have access to medicine’s specialized visual knowledge. In other words, the meaning of the highly technical and abstract images of our bodies produced in Computed Tomography (CT) and Positron Emission Tomography (PET) scans, sonograms, and magnetic resonance images (MRIs) appear to be totally inaccessible to those of us who are lay users, precisely because they function within cultural codes far removed from everyday forms like the photographic, the televisual, or the cinematic. These images can easily be decoded as compositions that metaphorically represent in familiar conventions the ostensible future of genetic technologies. (Cartwright, 1995, p. 220)

Cinema is trying to make these highly coded images both more familiar and less abstract, and in this attempt, it is sharing with our gaze the possibility of adopting visual machines in order to bypass the intrinsic limitations of our biological sight. It seems that the constantly proliferating technologies of visualization are obliterating the necessity of sight and transporting the visual into the realm of the

disembodied eye that freely moves without obeying the necessities of the body, offering paradoxical forms of vision in which images are the result of a process that nothing has to do with the logics of the *skopein*.

The visualization of nonoptical images, that is, images produced through devices whose final result *is* an image even if nothing has been seen or watched, merits substantial attention and study. Ultrasound sonograms are the visible results of investigating machines whose purpose is the surveillance of the hidden parts of human bodies, but whose cultural relevance is clearly going beyond this limited, practical aim. If the possibility of seeing the unborn baby through prenatal ultrasound is changing the way contemporary culture deals with delicate topics such as fetal subjectivity or the psychological well-being of the mother, the focus put on the value of the images themselves pushes us to think about the “blind vision” that is evoked every time some acoustic waves are transformed into optical images. Cinema has widely adopted these forms of visualization, broadly showing on the cinematic screen the electronic images of ultrasound machines or biological vision (the most recent one is the “sonar effect” shown in *The Dark Knight*, directed by Christopher Nolan in 2008), but what seems to be more important is that the cultural and psychological shift spurred by these visual devices is also readable in other kinds of images.

One of the most important movies about watching something invisible – about the possibility offered by visual technology of seeing images which originate from other forms of communication – is Zemeckis’s *Contact* (1997). At the centre of the narrative is the chance of listening to the stars (instead of watching them, as is typical human practice) and decoding an audio signal, transforming it into a visual event. The main character of the movie is Allie, a young researcher who listens to the stars, waiting for a signal from outer space. She has to deal with the scepticism of her colleagues who ridicule her for the hope she has of making contact with other intelligence beings. But when a signal arrives from the distant star Vega, Ellie literally sees the radio message she is capturing: she is sitting calmly, listening through earphones, when the long-lasting silence is broken. Zemeckis moves the camera towards Ellie’s face, zooming in for an extreme close up of her opening eyes. She is listening, but what

she hears suddenly becomes something that she sees. Later, when the signal is almost deciphered into a series of prime numbers and its intensity is becoming stronger, the technicians become aware that there is a hidden video source in the signal. So they transcode the radio signal into a visual one and they discover that, from a star that is 26 light years away, someone is transmitting Adolf Hitler's speech from the opening ceremony of the 1936 Olympic Games. Zemeckis turns back the clock of technological evolution and orchestrates a shift from sound (represented as a collection of points) to video. But for Zemeckis, who is adapting a Carl Sagan novel, this is not enough. The signal also turns out to contain other messages, thousands of pages that seem to be unreadable to the specialists; but reading is not the correct means of decryption, given that the pages need to be viewed as a three-dimensional configuration that, after being visually "translated", discloses the secrets for constructing a spaceship that can allow one passenger to journey through space.

Ellie actually makes this journey, and somewhere in distant space meets her dead father and records the encounter with cameras that form part of her space suit. There are two stunning elements that transform Ellie's voyage into a perceptual experience that questions the reliability of sight and the certainty associated with visual recordings. The interstellar mission seems to fail when the spaceship collapses *sur place*; there is no movement, no journey, no shifting in space according to the traditional way of depicting science-fiction experiences of space travel. Ellie enters a sort of space tunnel that leads her through different visual elements that somehow remind the viewer of the hallucinatory trip made by the astronaut Bowman in *2001: A Space Odyssey* (1968): a long trip through space and time, shot by Zemeckis with a semi-subjective sequence that keeps Ellie and what she perceives within the limits of the frame. But Zemeckis does something more: while showing Ellie and her visual field throughout her journey, he also shows one monitor connected to the camera she wears on her helmet. But the monitor shows nothing but visual interference. What she sees, and what the camera sees and records, are not the same data.

In the eyes of the witnesses and technicians who follow the experiment from the central station, the spaceship does not move at all. But even though she remains inside the immobile craft, we can see that

Ellie is taken somewhere else, to an apparently synthetic and artificial beach where a translucent sea glitters under a shiny dark sky. It is clearly an artificial environment, whose simulated nature shines with a very thick materiality that pushes Ellie to touch it. So to Ellie, the sky, the sea, the sand appear to be a virtual wrapping that she can feel with her hands (as happens when she reaches her hand out to push the soft vortex that floats above her in the sky, the forest of palm trees that apparently is out of reach, the incredibly blue sea). There she meets her long-dead father, and her dubious and rational approach is dismantled by the certainties he communicates. The *other*, the alien being who is the source of the interstellar signal she heard, decides to appear in front of her, taking on the appearance of her father so that she can more easily deal with it. Once again, images need to be familiar, they have to confirm an assumed knowledge in order to have a more profound effect or a stronger emotional impact. So the natural environment, the face and voice of Ellie's father, the entire Vega experience features "a variety of computerized elements that create both existing and hypothetical realities – and that make those possibly different realities impossible to sort out reliably" (Craig, 2001, p. 162).

But, at the same time, these images escape the recording and reproduction systems. After regaining consciousness, Ellie insists that she has accomplished her mission, that she has reached the distant area of space from which the signals arrived, while the members of the NASA team assert the impossibility of her words, given that the spaceship only revolved around its axis and, more importantly, the cameras worn by Ellie recorded only a prolonged visual noise. Whereas her eyes had constructed a most impressive vision, the mechanized optical tools *saw* the void, nothing, the black and white blur that testifies to the failed recording. Without any visual support, lacking the images that can prove her journey actually happened, Ellie is not believed. When she asserts that the journey was several hours long, it turns out that the recorded event took only a few seconds to fail, so that space and time are the conceptual frame in which the eye and the recording machines mark their differences and the distortion of their relations. Everyone saw Ellie standing, every camera recorded a visual emptiness; the perceptual hole that absorbs all the characters except Ellie has its invisible side in the events that the heroine felt and saw.

Zemeckis, in this attempt at narrating the importance of “believing” (a theological rather than religious act), traces the possible strategies for a complex redefinition of sight. In *Contact*, space and time are the fundamental sites for the negotiation of meaning, from the opening sequence that is built around a long and unceasing journey that starts from a vision of planet Earth from space and then goes backward, transforming our planet into a distant object, the invisible point lost in the black abyss of the galaxies. It is a backward movement during which we see planets, stars and empty space on the screen, hearing voices and increasingly confused sounds. While nothing is seen and nothing is heard, the long journey back through space shows us its real nature: a journey back in time, given that the exit point of this continuous and vertiginous movement are the eyes of Ellie as a child, working on her instruments, always trying to listen (rather than see) the stars and cosmic space. Travelling through space, we have actually been reversing the time, and, moreover, we have admitted the possibility of a substantial reciprocal belonging together of Ellie’s body, her history and the body of the universe.

The betrayal of images, their unverifiable nature, crashes against the certainty of feelings, of memory, in a movie that posits the foundation for the profoundest reflections upon destiny and the cultural meaning of sight and the utopian necessity of other spaces and places. Zemeckis has always worked with the malleability of time and with the constant redefinition of the process of image-creation: but in *Contact*, he admits that cinema has reached its extreme boundaries and that images are simply not enough, because their exhaustion has led to their incapacity to restore the wholeness that surrounds our senses and perception. Sight is not enough, and other relational strategies need to be involved in order to momentarily contain the complexity that images fail to capture and record.

The sensorial displacement our culture is undergoing seems to carry us toward a realm in which the status of images needs to be reconsidered in order to readjust the balance with the prostheses that are currently functioning in the process of a programmed perception. Clearly several of the movies discussed above seem to invoke an updated consideration of the substantial irreducibility of mental objects to the strict constraints of images *per se*. The mechanized modes of observation permitted by

scientific instruments and industrialized visual tools lead to a radical rethinking of the connection that ties a fading reality principle to the more invasive and powerful reality effect.

The incapacity of our biological visual apparatus is strictly linked to the inadequacy of images and to the ascendance of technological tools that see (and foresee, Virilio would add) on our behalf, dismantling two basic limitations of our sensorial structure. These machines do not operate with a depth of focus that goes beyond that of the human eye, but they exploit the difficulties that the human eye has in moving into the time dimension (the impossibility of capturing extremely fast movements). They also inhabit the spatial dimension, allowing us to extend sight towards places otherwise invisible (the belly of a pregnant woman, the deepest depths of an ocean, the subatomic particles of matter) and offering an entire new field of vision and visibility. As Virilio continues in his argument:

Since the time-frequency of light has become the determining factor in relative apperception of phenomena and subsequently of the *reality principle*, the vision machine is well and truly an “absolute-speed machine”, further undermining traditional notions of geometric optics like observables and non-observables. Actually, if photo-cinematography is still inscribed in extensive time, promoting expectation and attention by means of *suspense*, real-time video computer graphics is already inscribed in intensive time, promoting the unexpected and a short concentration span by means of *surprise*. Blindness is thus very much at the heart of the coming “vision-machine”. The production of *sightless vision* is itself merely the reproduction of an intense blindness that will become the latest and last form of industrialization: *the industrialization of the non-gaze*. (pp. 72-73)

How is cinema dealing with these transformations of the visible and the observable? How are cinematic language and rhetoric redefining their limits and specificities according with these profound revolutions? The adjustments involve both stylistic and narrative implications which perhaps lead us to a new way of orienting the cinematic medium, its grammar and syntax, even the possibility of conceiving visual objects that challenge the possibility of communication and experience.

Conclusion

As this research has demonstrated, the recent trend in contemporary American cinema toward featuring perceptual disorders, particularly memory and sight afflictions, goes far beyond their use as metaphors of the human condition in the age of digital technology. Indeed, as Benjamin (1936/2008) argued long ago and McLuhan (1964) more recently reminded us, communication media are not only produced from within their contemporary environment but themselves participate in the production of this environment, as well as the audience's perceptual habits and abilities. The rise of digital media technology thus alters not only the possibilities for cinematic practice and innovation but the very ways people watch, process and interpret them. However, this transformation is not restricted simply to how people watch films or interact with various media, but reconfigures perceptual processes more generally due to the way it reconditions subjectivity and identity.

The reciprocal dynamic of the relations between media and consciousness means that changes in cinematic technology can bring about changes in the spectator's mind, but at the same time minds that develop under, and which are affected by, these new technologies are more adapted to understanding their full potential and can more easily exploit these possibilities in the making of films and other media products. Furthermore, this transformation of consciousness determines new forms of narration which are then incorporated into films as they explore new ways of telling stories to and for the contemporary audience.

One reason behind the contemporary interest in brain and sensory disorders and their representation in film is that the current generation of film-makers has grown up or spent a considerable portion of their lives under the influence of digital technology, and their imaginations are not constrained by the limitations and possibilities of the previous generation of technology. These directors and writers are able to not only envision new approaches to story-telling but to adapt them to—and play with—the audience's new perceptual processes, using cinema as a creative instrument to redefine the relationships among the senses, consciousness and the world of reality. Thus, directors are able to exploit

phenomena such as the audience's capacity to deal with fragmented and non-linear narratives, the participatory ethos of the digital age, and contemporary tolerance for ambiguity about the nature of "reality" in the creation of complex, immersive and participatory films which put the spectator directly into the subject position within the film narrative rather than relying on identification with the on-screen subject.

And what better way could there be to create this sense of direct involvement than to thwart the viewer's very ability to easily process sensory information? In fact, one of the most striking and effective tendencies of the period is the development of a performative dimension that places the spectator in the position of the afflicted subject, exploiting the sensory deprivation as a source of both participatory investment in the narrative (to make sense of the narrative despite the limitations imposed) and emotional and sensory impact. Moreover, it can also subsequently stimulate intellectual reflection upon the experience, pushing the spectator to consider their own cognitive processes in relation to those dramatized within and cultivated by the film. For example, a film like *Memento* not only thematizes the constructedness and retroactively determined nature of memory through the protagonist's struggles within the narrative, but it also forces the spectator to share the effects of his disorder, to create his/her own retroactive (re)construction of past events as the chronologically backwards sequencing of the scenes makes the viewer constantly revise and reconsider his/her interpretation of the events and their meanings.

From the earliest cinematic shocks as montage seemed a monstrous rending of the human body or even the very tissue of reality itself, to German Expressionism's deforming of naturalised expectations of cinematic realism, to Vertov's displacement of the human eye as the central locus of cinematic perception and Eisenstein's reconceptualisation of the role of the spectator, certain early cinematographic approaches sought to undermine the mimetic potential of cinema in favour of a more performative and metaphoric exploration of the dynamics and possibilities of human perception and meaning-making. Perhaps more than anything, what these experiments underlined was the way that the mechanical tools involved in producing motion pictures did not need to be used to (seemingly)

reproduce the visual experience of the human eye but rather could enhance and expand the perceptual possibilities of the spectator, moving him/her outside of the frame and thereby altering the possibilities of subjectivity.

But if, as Benjamin argues, the rise of new technologies brings new possibilities for self-formation by altering the relations between the perceiving self and the objects of that perception, what happens when the status of those objects changes radically with the rise of digital technology? When the materiality of objects themselves—or at least the spectator’s faith in it—can no longer be taken for granted or guarantee their existence as concrete referents that are present in the material world of (extra-cinematic) reality, what happens to the experience of the spectator? Or, perhaps more to the point, what new possibilities of spectatorship are opened up by such changes in technology?

In recent decades, the film as cultural object has gone through a series of radical transformations with the appearance of various technologies (from VHS to online streaming) that have profoundly modified its nature and existence. For example, the DVD—itsself now approaching obsolescence—has radically altered the possibilities for both film producers and consumers. As Elsaesser (2009) affirms:

for a feature film to be not only recordable, storable, and playable as a DVD, but in some sense, particularly “DVD-enabled,” it would have to be a film that requires or repays multiple viewings; that rewards the attentive viewer with special or hidden clues; that is constructed as a spiral or loop; that benefits from back-stories (bonuses) or para-textual information; that can sustain a-chronological perusal or even thrives on it. All these conditions chart the type of textual organization which responds to the conditions of distribution, reception, consumption, cinephilia, connoisseurship, and spectatorship appropriate for the multi-platform film, which can seduce a theater-going public with its special effects and spectacle values, engage the volatile fan-communities on the internet by becoming a sort of “node” for the exchange of information and the trade in trivia and esoterica in social networking situations, as well as “work” as a DVD and possibly even as a game. (p. 38)

That such a seemingly simple digital storage device could so profoundly expand the horizons of cinema, encouraging narrative complexity and fragmentation as means of both artistically and economically capitalizing upon the capacities of the medium as well as inviting spectator involvement as participants in the reconstruction of these narratives, clearly attests to the key role played by

technological innovation in reconfiguring the relationship between film and audience.

As Barbara Klinger (2001) has noted, the fleeting, distant and inherently public experience of watching a film in the analog era has been transformed into a lasting, familiar and increasingly private one:

Today cinema can be contained in small boxes, placed on a shelf, left on the coffee table or thrown on the floor. Spectators can pause, fast-forward, rewind or mangle images through the VCR; they can program a laserdisc player so that it shows only the desired scenes. In these alternative formats, films can be viewed repeatedly at the spectator's whim and achieve an indelible place in everyday routines. This previously remote, transitory and public medium has thus attained the solidity and semi-permanent status of a household object, intimately and infinitely subject to manipulation in the private sphere. (pp. 133–134)

Moreover, the tendency toward a cinema of “immersion” as new sound and visual technologies permit a stronger experience of being bodily enveloped within the unfolding spectacle, of experiencing it first-hand, in the first person (rather than having the distance of the third-person observer from outside the frame), has redefined the process of cinematic identification, bypassing identification with a character who mediates the experience of the narrative for a more direct and immediate sense of being inside the narrative. At the same time, though, the sensory stimulation goes beyond the capacity of human sensory organs as various digital effects and manipulations serve to “augment” the senses: unnatural and inhuman camera movements and angles, manipulating the speed of time even to the point of stopping it, zooming in and out to resolutions beyond the limits of the human eye and other such techniques highlight the unreality of the experience which, all the same, “feels” very real.

Finally, and perhaps most crucially, at the very moment of being absorbed within the immersive cinematic narrative, drawn into and feeling a part of the reality presented, the privileged status of that reality itself is taken away. The ontological link taken for granted between the image and an external reality disappears with the advent of digital film technology, undermining or at least seriously questioning the possibility that film could provide us with some kind of image of an ontologically stable “reality”.

These issues are precisely what the contemporary cinematic emphasis on perceptual disorders engages with as it explores the experience of subjectivity in the digital age. At the very moment when cinema can no longer promise the spectator a perception of reality, cinema begins an intense and extended investigation of *misperceptions* of reality, of cognitive and sensory failures that require significant effort and investment on the part of both characters and spectators to sort out.

One of the most important thematic and structural influences of contemporary cinema is the radically changed concept of memory that has emerged in the last few decades. Moving far beyond classical concepts of memory as a sort of private property, a stable ground upon which identity is founded and grounded, the increasing realization that memories are not facts or data perfectly preserved, but rather mediated, subjective and ever-changing narrativizations of an ontologically dubious past, has generated new approaches to the cinematic representation of the relations between past and present and the link between memory and identity. This concept of memory as a dynamic, productive activity of selection and recomposition, influenced by various emotional, cognitive and material circumstances, has had great epistemological consequences for contemporary representations of the processes of remembering.

No longer does the classical cinematic device of the flashback suffice when the linear relation between memory, recollection and the representation of images linked to specific mental processes has changed. If the classical flashback (often coupled with voice-over) was tied to the stable subjectivity of a remembering character who functioned as a reliable point of reference for audience identification, many contemporary uses of the flashback, such as those analysed in Chapter 2, are not anchored within a stable, reliable subject but emanate from the unique, idiosyncratic mental wanderings of unreliable, unstable, or even “defective” subjects. Exploring the periphery of what would be considered “normal” functioning allows these directors to interrogate traditional ideas and representations of how memory works while at the same time drawing the audience into the experience of a different conception, confronting them with the instability, unreliability and subjective nature of memory in general.

The primary memory disorder used to explore these issues is amnesia, depriving the subject of his/her memories which were the traditional Lockean support for identity. These films engage head-on with the crisis of contemporary subjectivity, presenting characters without any pretense of stable foundations who must cobble together a sense of identity from the myriad fragments they gather together in what turns out to be an explicitly narrative construction. Directly dramatizing the condition of the subject in the digital age, these films show characters actively participating in the construction of their memories, making motivated selections based on their context, aims and needs to produce memory-narratives that can, to some degree, provide meaning to their actions and existence. Whether it be Joel in *Eternal Sunshine of the Spotless Mind*, trying to hold on to a memory that is really only a story he has told himself, Leonard Shelby in *Memento*, constantly supplementing his faulty memory with external supports that are far from reliable (including lies he intentionally tells himself) in order to follow the narrative path he has chosen for his life, or Spider, aimlessly transported from moment to moment, “remembering” things he has not even experienced as he attempts to string together disparate fragments of dubious reality, these films insist upon and emphasize the affective, emotional dimension of memory rather than a sense of accurate, mechanical recall. Memory is rendered as an active process of interpretation rather than factual recall, freed from any direct association with actual, verifiable objective events of the past.

At the same time, these films also manifest a performative dimension that engages the spectator within these very dynamics of the remembering subject, using the film’s narrative structure and various technical effects to place them in the same precarious situation as the character on screen, forcing them to engage in the same process of narrative construction from various unreliable fragments as does the protagonist while at the same time being aware of the artifice of this process.

Indeed, this inevitable and instantaneous falsification of reality that blurs even the possibility of making a distinction between fact and invention, between truth and fiction dovetails with the prevailing contemporary uncertainty regarding the status of “reality” itself and how the subject can possibly know it that arrives, at least in part, from technological advances in digital technology. The idea of the

imperfection and unreliability of memory has only been reinforced by modern digital data storage and the rise of computer technologies, with their promise of non-selective, perfect mechanical recordings of events which cannot be forgotten (though they can, or course, be intentionally erased). Such technical capacities make human memory seem all the more inferior, yet at the same time, they also offer prosthetic support to human memory, freeing us from concern regarding issues of factual accuracy to focus on what human memory really is all about: constructing meaning for the past in relation to the moment of remembering, retaining or re-invoking subjective traces of the lived, embodied experience.

Though mechanical memory prostheses and external storage capacities remain the stuff of science-fiction, their themes of invented, artificial and implanted memories clearly engage with contemporary concepts of, and anxieties regarding, the threatened or compromised autonomy of the subject and the increasing impossibility of maintaining distinctions between the authentic and the falsified in an age of media-generated memories. Indeed, cinema itself can be considered a sort of prosthetic (and possibly collective) memory as it furnishes its audience with felt recollections, all the more memory-like with the immersive style of film-making which involves the subject in the narrative with whole-body sensory stimulation, making it an experience that is capable of producing memories of it.

The second important trend in contemporary cinematic representations of perceptual deficits relates to issues of blindness and the problematic of visuality in the digital age, when the link between the image and the real becomes weakened or disappears altogether. One consequence of the realization that images are not extractions from the material world or reflections of actual things, but, rather, are constructed, is a transformation of the dynamics of perception. Vision loses its privileged place among the senses as it is no longer able to establish the basis for the sense of mimetic realism of an image or film. Without the stable and authoritative eye—and its correlate, the autonomous perceiving subject—to anchor the relation between the perceived and the real, the fallible perceiving subject, with an unreliable perceptual apparatus, is exposed to the uncertainty of the outside world; consequently, moving from a logic of correspondence to one of resemblance, the idea of referentiality passes from

the visual image to a more diffused sense of experience. As Prince (1996) puts it, images are now “referentially fictional but perceptually realistic” (p. 32); the image need only be credible to the overall perceptual experience of it, not in direct correspondence to a material original.

All this dramatically changes the dynamics of spectatorship which become increasingly like the experience of a hallucination in which the immaterial and virtual images of digital technology, freed from space and time and possibly from even a locatable point of view, create a certain reality effect, even as the spectator is keenly aware that what he/she is watching has no actual referent in the material world. The sense of reality of the cinematic image is rendered solely perceptual, not material, with the irony that the inventive capabilities of digital effects tend to be used to make images that look like analog images, only with much greater—even impossible—levels of visual detail as if to compensate for their fundamental lack of materiality.

In this ontologically unstable and epistemologically confusing relation between the spectator and the image, blindness becomes a central metaphor for this situation as representing the very limit of visibility itself. And while representations of blindness work as meditations on the crisis of visual representation and viewership, some go further to reflect more profoundly upon the nature of spectatorship in our altered visualscape. A film like *The Village* not only dramatizes the situation of the contemporary perceiving cinema spectator—moving through the virtual world of cinematic images, aware of certain unrealities on the screen while negotiating the narrative, yet also suffering from a double blindness to the fundamental reality of what the image itself truly is—but positions the spectator so that he/she follows the unawareness of the characters, seeing through their (unseeing and/or unperceiving) eyes. As in the films focused on memory disorders, visual disorders can also manifest in a performative dimension, forcing viewers to experience the same limitations as the characters in order to force them to reflect upon and perhaps come to grips with their unsettled and unsettling position as spectators experiencing reality effects rather than glimpsing traces of materiality.

The meditations on contemporary spectatorship found in films featuring perceptual and memory

disorders underline the active, dynamic and processual nature of sight and memory, calling attention to the subjective and contextual influences on how they select, organize and represent experiences in a fundamentally narrative structure. Such films encourage reflection not only upon the way our perceptual processes have been altered by the technological changes in visual media but some also position us squarely in the middle of the crisis of subjectivity and representation created by the disappearance of the real as a support to our identifications and perceptions, forcing us to work our way out of the precarious situation of the contemporary spectator. Perhaps in an ironic way, at precisely the moment when cinema, ontologically, can no longer provide the promise of traces or perceptions of reality, having the audience follow in the perceptual processes of characters who misperceive reality is perhaps the most “realistic” experience that cinema can offer.

Filmography

Birth of a Nation (David Wark Griffith, 1915)
Das Kabinett des Dr. Caligari (1920)
La Roue (Abel Gance, 1923)
Napoleon (Abel Gance, 1927)
La coquille et le clergyman (Germaine Dulac, 1928)
Un Chien Andalou (Luis Buñuel, 1929)
Citizen Kane (Orson Welles, 1941)
Double Indemnity (Billy Wilder, 1944)
Stagefright (Alfred Hitchcock, 1950)
Rashomon (Akira Kurosawa, 1950)
Nana (Christian Jacque, 1954)
Hiroshima Mon Amour (Alain Resnais, 1959)
Peeping Tom (Michael Powell and Emeric Pressburger, 1959)
L'année dernière à Marienbad (Alain Resnais, 1961)
La Jetée (Chris Marker, 1962)
Blow Up (Michelangelo Antonioni, 1966)
Je t'aime, je t'aime (Alain Resnais, 1968)
2001: A Space Odyssey (Stanley Kubrick, 1968)
La Région Centrale (Michael Snow, 1971)
Network (Sydney Lumet, 1976)
Alien (Ridley Scott, 1979)
Scanners (David Cronenberg, 1980)
The Shining (Stanley Kubrick, 1980)
Blade Runner (Ridley Scott, 1982)
Videodrome (David Cronenberg, 1983)
The Fly (David Cronenberg, 1986)
Dead Ringers (David Cronenberg, 1988)
Speaking Parts (Atom Egoyan, 1989)
The Abyss (James Cameron, 1989)
Total Recall (Paul Verhoeven, 1990)
Crimes and Misdemeanors (Woody Allen, 1990)
JFK (Oliver Stone, 1991)

Naked Lunch (David Cronenberg, 1991)

Terminator 2: Judgment Day (James Cameron, 1991)

Bis and Ende der Welt (Wim Wenders, 1991)
Groundhog Day (Harold Ramis, 1993)
Jurassic Park (Steven Spielberg, 1993)
M. Butterfly (David Cronenberg, 1993)
The Lost World: Jurassic Parc (Steven Spielberg, 1997)
Pulp Fiction (Quentin Tarantino, 1994)
Forrest Gump (Robert Zemeckis, 1994)
Sátántangó (Béla Tarr, 1994)
Blink (Michael Apted, 1994)
The Usual Suspects (Bryan Singer, 1995)
To Die For (Gus Van Sant, 1995)
Strange Days (Kathryn Bigelow, 1995)
Twelve Monkeys (Terry Gilliam, 1995)
Johnny Mnemonic (Robert Longo, 1995)
The Sixth Sense (M. Night Shyamalan, 1995)
The Blackout (Abel Ferrra, 1997)
Titanic (James Cameron, 1997)
Contact (Robert Zemeckis, 1997)
Sliding Doors (Peter Howitt, 1998)
Following (Christopher Nolan, 1998)
Lola Rennt (Tom Tykwer, 1998)
New Rose Hotel (Abel Ferrara, 1999)
eXistenZ (David Cronenberg, 1999)
Fight Club (David Fincher, 1999)
The Matrix (Larry and Andy Wachowski, 1999)
Memento (Christopher Nolan, 2000)
Unbreakable (M. Night Shyamalan, 2000)
Donnie Darko (Richard Kelly, 2001)
Amores Perros (Alejandro González Iñárritu, 2000)
Spider (David Cronenberg, 2002)
Signs (M. Night Shyamalan, 2002)
Gin gwai (*The Eye*, Oxide and Danny Pang, 2002)
Minority Report (Steven Spielberg, 2002)
The Bourne Identity (Doug Liman, 2002)
Femme fatale (Brian De Palma, 2002)

Finding Nemo (Andrew Stanton, 2003)
Paycheck (John Woo, 2003)
Elephant (Gus Van Sant, 2003)
Eternal Sunshine of the Spotless Mind (Michel Gondry, 2004)
50 First Dates (Peter Segal, 2004)
The Village (M. Night Shyamalan, 2004)
Polar Express (Robert Zemeckis, 2004)
King Kong (Peter Jackson, 2005)
Last Days (Gus Van Sant, 2005)
Batman Begins (Christopher Nolan, 2006)
Déjà vu (Tony Scott, 2006)
Paranoid Park (Gus Van Sant, 2007)
The Dark Knight (Christopher Nolan, 2008)
Avatar (James Cameron, 2009)

Tv Series

X-Files (Chris Carter, 1993-2002)
Lost (J.J.Abrams, Damon Lindelof, Jeffrey Lieber, 2004-2010)
Fringe (J.J. Abrams, Alex Kurtzman, Roberto Orci, 2008-2013)

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