From Sensation to Synaesthesia in Film and New Media

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Edited by

Rossella Catanese,
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INTRODUCTION

ROSSELLA CATANESE,
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One eye sees, the other feels.
—Paul Klee

The cinematic experience engages all our senses. Of course, we watch films, but films (and other visual media that extend similar audience enjoyment) stimulate our senses and our minds by creating an immersive environment which involves different levels of emotion and consciousness.

Cinema is devoted to a multi-sensory experience, a "'multisensory' event" (Marks 2000, 213). The moving image may get the wider definition of the work of art according to Gilles Deleuze and Felix Guattari, namely a "block of sensations": artworks generate sense-perception and thought, an autonomous "compound of percepts and affects", since "Sensations, percepts and affects, are beings whose validity lies in themselves and exceeds any lived. They could be said to exist in the absence of man because man, as he is captured in stone, on canvas, or through word, is himself a compound of percepts and affects. The work of art is a being of sensation and nothing else: it exists in itself" (Deleuze and Guattari 1994, 164). Human beings perceive the world and express their own creativity by employing all their senses and expressive tools, rather than relying just on one or two of such senses and tools. Furthermore, western culture has definitely privileged the sense of sight over the other senses, and accordingly the hegemony of 'ocularcentrism' has progressively shaped the human understanding of space.

The aesthetic fruition actually involves the cooperation of two or more senses, and evokes multiple sensations in the subject. This multiplicity of sense modalities is known as "synaesthesia", following the etymology from the Greek, i.e. to perceive together (σύν [*syn*], "together," and αἴσθησις [*aisthesis*], "sensation"). Synaesthesia is generally acknowledged as the experience of a sensation in one perceptual domain triggering a sensation in

another perceptual domain, when the senses commingle with the memory. In fact, human creativity often deals with the use of knowledge produced by the mnemonic traces by sensory experiences: the confluence of present sensations and past memories associated with different senses may generate synaesthetic opportunities, which cross-activate different emotions and feelings. To evoke cross-sensory impressions is one of the main goals of worldwide artistic expression, connected with many artists' tendency to metaphorize the world.

Synaesthesia is a concept that has been developed since the origin of art for aesthetical and communicative purposes, but it gathered a proper theoretical systematization since the 19th century, from the "correspondences" evoked by Charles Baudelaire to Richard Wagner's idea of *Gesamtkunstwerk*. It has aroused the interests of diverse critical thinkers, but afterwards it has gained further interest by scientists and neurologists.

In fact, actual synaesthesia refers to a neurological phenomenon. We have to distinguish between artistic synaesthesia and actual synaesthesia. The former is the poetic construction of cross-sensory effects as a deliberate choice by artists who employ this sensory blending as a creative gesture. Actual synaesthesia is a congenital brain anomaly, occurring when a stimulus in one sense modality stimulates another sense modality. In synaesthetic perception, a kind of "cross-talk" is created between regions of the brain which, in normal conditions, are not in direct communication. Some perceptual stimuli produce a simultaneous activation of different brain areas that allows the synaesthetes to perceive several sensation at the same time. Thus, it "is the involuntary physical experience of a cross-modal linkage - for example, hearing a tone (the inducing stimulus) evokes an additional sensation of seeing a colour (concurrent perception)" (Beeli et al. 2005, 38).

According to Lynn C. Robertson and Noam Sagiv, "unlike color generated from light waves or odors by chemical compounds, the color, smell, sound, taste, or touch that is experienced by synesthetes is generated by a physical stimulus that for most of us is entirely unconnected to its induced sensation (e.g., middle C invokes the sight of red; the shape of a ball invokes the taste of chocolate). For instance, while wavelength induces color perception in both synesthetes and nonsynesthetes alike, additional inducers such as particular shapes or sounds can also evoke color perception for synesthetes" (Robertson and Sagiv, p. vii). Then synaesthesia enters rightfully the field of Neuroscience, but we may remark that a certain mode of stimulation evokes mild sensory reactions of different modalities. This phenomenon makes evident how each component of our sensory apparatus

does not have complete independence, but works together with the others to trigger the whole percept.

The neural networks underpinning synaesthetic perception enable cognitive and emotional processes of the aesthetic fruition. The recent discovery of mirror neurons (Rizzolatti and Sinigaglia, 2008) dramatically proved the main role of the empathy and of the intersubjective experience. This discovery has triggered new perspectives on the brain mechanisms at the basis of action understanding, and in our case help us rethink spectatorship and the relationship between the spectator's brain and the moving pictures. Mirror neurons are neuronal cells that fire both when the subject acts and when the subject observes the same action performed by another. Therefore, these neurons "mirror" the behaviour of the other, just as though the subject were himself acting. The viewer's perception implies a cognitive event based on the aesthetic stimuli. Of course, the way the brain perceives and understands sensory inputs through artistic expression depends both on brain function and cultural influence; there is a mutual relationship, in which neural functions and symbolic processes create meaning by shaping our cultural constructions.

These elements can be easily connected to how the past and current media landscape work. The complex elaboration of all the elements connected to the audience experience engages the sensorial stimuli towards a conscious theoretical and practical discourse: the perception of a fictional world and the spectator's imagination. Some neuroscientists, such as Francisco J. Varela and Vittorio Gallese, have developed a fruitful dialogue between phenomenology and neurosciences perspectives; this dialogue definitely keeps alive the debate on naturalizing the aesthetic experience on the basis of cognitive sciences.

The so-called "convergence culture", where old and new media cohexist (Jenkins 2006), deeply modified the media landscape by using new technologies and new ways of production. The introduction of visual media in the sphere of domestic habit has arranged a different relationship between viewer and images, and has produced new practices and new ways to perceive moving images. The spread and multiplication of the digital technologies that shape new formats, genres and content, extend the cinematic experience within the wider realm of media arts, more and more accessible in our daily life, overcoming long-established media boundaries and medium specificities.

Both cinema and new media practices aim at intensifying visual, auditory and tactile stimuli. They create audiovisual works of art joining moving-images, sounds and environment in order to evoke synaesthetic mechanisms. This approach overcomes the figurative paradigm grounded

on the visual and auditory predominance. In Film Studies the ocularcentric paradigm has long prevailed; it means that cinema theory has been focused on the priority of the visual experience. Instead, now the sensory event generated by the moving images is currently on the spotlight of the contemporary theoretical paradigm.

Therefore, the role of a corporeal experience becomes crucial in the artistic enjoyment; not just the spectator's gaze, but all the elements that belongs to the viewing act, are connected also to gender and sexuality as the result of societal constructions. It is useful to emphasize the development of a wide set of research concerned with the reception, transmission and consumption of the moving image. Such research deals with the relativity of the interpretive processes based on sexuality or ethnicity, towards a pluralism of receiving subjects, and opens to a richer possibility of fruition.

According to Steven Shaviro, the "antinomy of cinematic perception is the following: film viewing offers an immediacy and violence of sensation that powerfully engages the eye and body of the spectator; at the same time, however, it is predicated on a radical dematerialization of appearances." (Shaviro 1993, 24-25). The cinematic experience becomes embodied because of the continuity between the physiologic and affective reactions of the body, even though the "film is composed only of flickering lights, evanescent noises, and insubstantial figures" (Shaviro 1993, 25). This paradoxical relationship between physicality of the body and the insubstantial flicker of the moving pictures viscerally affects the spectator's perception.

Moreover, Laura U. Marks has acknowledged the relevance of the act of viewing through a "haptic" gaze, which reduces the distance between spectator and screened image by an embodied experience. Marks defines haptic vision as a tactile and kinesthetic mode of perception in which our eyes experience a tactile experience, both on the surface of and inside our bodies.

Vivian Sobchack introduced the "cinesthetic subject", arguing that cinematic spectatorship is a somatic and synaesthetic experience, in reversible relations between screen and spectators, as viewing subjects and viewable objects, that "commingl[e] flesh and consciousness, reversing the human and technological sensorium" (Sobchack 2004, 67). According to Sobchack, vision cannot be abstracted from its embodied movement, in a constant exchange with the other senses. Hence, the material condition of humankind provides us a proper embodiment within cognitive and emotional experiences, and the viewer uses a "cross-modality" of senses in order to activate identification processes with the screened images.

Both Marks and Sobchack were inspired by Jacques Lacan's psychoanalysis theories and Maurice Merleau Ponty's phenomenological philosophy. Lacan described the "mirror stage", a moment in the life of the infant which formed part of the main structure of subjectivity; it is a phenomenon that marks a turning-point in the mental development of the child. Through this epiphanic recognition, the gaze draws a relationship between visibility, identity and the body-image. Instead, Merleau Ponty stated that vision is always an embodied act, by interpreting the body as a means of communication with the world. Merleau Ponty's outlook affirmed that an object depends on how it is perceived by a viewer, however erroneously, defining perception as entangled from the reality of embodiment. Therefore, phenomenology focused on the corporeal dimension of human existence, neglected by philosophy, which has acknowledged the body merely as an instrument or vehicle subject to the mind. Sobchack quotes Henri Lefebvre, who stated that "western philosophy has betrayed the body" (Lefebvre 1974, 57), by participating in the denial of the physicality of the body in favour of metaphysical processes. The corporeal character of perception is also borne out by works distinguished by a marked sense-blending with cross-perceptual potentialities: thus, cinema and moving images are a privileged territory for reflecting on sensations.

The creation of synaesthetic effects within the moving images is not just an issue of contemporary media and cultural products. In fact, since its birth cinema has engaged an unpredictable relation between stimulus and sensation. Cinema amplifies the representational power of the traditional visual arts or drama, through the precision of its technical equipment. By gaining precision in the representation, the border between art and science becomes thinner until there is a mutual interpenetration. This means that both a technical and aesthetic revolution have occurred: the perceptual system has been fragmented towards a new form of knowledge and experience responding to the specifics of modernity and urban life.

During its earliest age, cinema was based on a presentational style devoted to pure spectacle, that privileged immediate shock and sensation over narrative continuity: the "cinema of attractions" presented displays of the exotic, astonishing, or grotesque, even physical freaks, with tricks, fast motion, special effects, spectacular costumes or set design, with many features in common with the aesthetics of vaudeville. The dynamic language of body movement and gestures impacted the practices of cinema during its first era: the bodies on the seats of a fairground movie theatre constructed a public sphere of spectatorship through the physical sensations generated by the bodies moving on the screen. Early cinema and Avant-garde have both worked on the audience involvement through live music

and sound, applied colour and cutting techniques, engaging spectators by showing catalogues of images-events. Some postmodern forms of cinema applied these techniques too, through the massive use of digital effects. Both imply the transition from the scopic drive to the immersive experience of the sensation-image that involves the whole body. In the contemporary age, the proliferation of screens brings a new form of perceptive-cognitive knowledge, which opens up the perceptual faculties of vision to include the other senses and the lived experience of the body. The demise of certitudes related to the disillusion with grand narratives, as explained by Jean-François Lyotard, in the realm of media arts is inherently linked to the entrance of the sensory experience into the narrative and representation paradigms. So it might have been a shift in scopic regimes, in which the postmodern has lead towards a more and more synaesthetic experience of the sight. The gaze of the postmodern and the post-cinematic age is embodied, multi-modal, and becomes a means of sensory understanding.

This book comes from the proceedings of a workshop held in Sapienza University of Rome in 2015, but then the project has grown becoming a wider edited collection, which involves some of the main scholars and thinkers in the field of Film Studies who had focused on these themes. We aim at clarifying how cinema and new media artefacts can be considered synaesthetic machines, so we encouraged the authors to share a study in depth on the relationship between media and the synaesthetic engagement, and discourses on Philosophy, Neurosciences and Neuroaesthetic of the cinematic experience.

We launched a call for papers that supported a close analysis of the moving images from a variety of viewpoints, challenging the current methodologies about Aesthetics and perception through the audiovisual media; Neuroscience and cinema: sensations, emotions and human brain; spectator's engagement: brain and body in film and new media; hybrid media and hybrid perception; Media Archaeology and immersive synaesthesia; digital technologies and the "expanded" experience.

The book is divided into five main sections.

The first section, *Perception,* focuses on the synaesthetic mechanism underpinning film perception. The chapters of this section deal with the connection among affect, cognition, emotions and synaesthetic perception of the moving image. Such a connection has both a bodily sensory dimension, which neuroscience has been demonstrating in recent decades and one dimension related to experience, dream, time, which brings about a fascinating aspect.

The first chapter is entitled *Affect in Perception: Cinematic Fascination and Enactive Emotions*: in his essay, Enrico Carocci provides a deepening of fascination and cinematic emotion theories, that focused on the cinematic sensorium as charged with an affective tone and meaning. For this reason, it has recovered the analogy between film and dream: both the dream and the filmmaker construct images for emotional purposes, and the classic dream metaphor reminds us about the fundamental affective/emotional quality of the cinematic sensory experience. The film's machinery designs a sensory-affective experience that the spectator complements with his own affective-sensory activity. Carocci draws a neuroaffective explanation for the spectator's instinctive exploratory and anticipatory fascination, since a movie plays not only with the spectator's reactions, but also with his instinctual expectations.

In her *The Magic of Cinema: Perception, Cognition and Empathy in the Cinematic Vision*, Chiara Castelli gives some insight into the relationship between film reception and up-to-date theories about the functioning of our brain and mind, suggesting an analysis on the processes of perception, cognition and empathy during the cinematic vision, which shares a common aesthetic root with the experience of reality. In a very original outlook, this chapter draws a parallel between cinematic vision and the so-called "magical thinking" (Subbotsky 2010), a perspective that film and media studies in general have not seriously considered, despite the work dedicated to the anthropological meaning of cinema by Edgar Morin, who acknowledges cinema as able to resurrect an archaic vision of the world by practical and magical experience in a syncretic conjunction.

Jennifer M. Barker's chapter *Color Outside the Lines: Animating a Model of Synaesthesia* considers two animated films that chart a movement from childhood to adulthood, by focusing on the "impoverishment" given by the passage to objective language. The films *Inside Out* (Docter, 2015) and *World of Tomorrow* (Hertzfeldt, 2015) do model relations between senses and memory and emotion in a child's life, drawing on research into neonatal and childhood synaesthesia. Both films posit a strong link between the body and mind, thought and sensation, and both depict memory and emotion in synaesthetic ways, but with key differences.

The Sublime Spittle of the Opera Singer, by André Gaudreault and Philippe Marion, which questions the transmissions of opera performances in movie theatres, and specifically the ways the body of the opera singer-actor resist the capturing-restoring of the shooting, particularly relevant in the case of a live transmission. The performance is captured in an unvarying wide-angle shot (in which case the profilmic-performance matches what would be seen by the average spectator in the opera hall) but the main issues

regard the *choice of monstration*. This chapter examines the "noises" that this shooting – or rather the *filming* – introduces into the singer's physical performance, for instance the effects of showing live close-ups on screen of the performing actors' faces, not in the opera hall but in that other cultural environment the movie theatre, which affects opera singers' aura.

In *The theatricality of Alain Resnais' 'Mèlo',* Valentina Valente deals with Alain Resnais' choice of imprinting a theatrical effect on this film by using the cinematic language. In *Mèlo*, the first monologue is sublimated by infrequent camera movements and a light's changing. Thus, the viewer is supposed to live a theatrical experience, because the director manages to reproduce the natural field of view of the human eye in theatre, and to preserve a viewing distance by the fourth wall.

The next section, *Movement,* is divided into three chapters that call into question the role of gesture and movement within the synaesthetic properties of film.

Linda Bertelli's *Mechanical sensations. Étienne-Jules Marey, Charles Frémont and the issue of automatism* investigates the relationship between automatic and involuntary movements and moving images: psychophysical automatism emerged within a scientific framework that deeply marked the Nineteenth century, within a debate that questioned the theoretical foundations and advancements of neurophysiology, psychophysiology and experimental psychology. The methods employed for the scientific recording of the automatism represent both a development and a consequence; Bertelli explores this issue from an epistemological and historical-scientific point of view, and sketches the outlines of this new field focusing on its relationship with snapshot photography.

Then Irina Schulzki's chapter, *'The Underlying Gesture': Towards the Notion of Gesture in Jean d'Udine and Sergei Eisenstein*, focuses on Jean d'Udine's *L'art et le geste* (1911), in order to pursue the origins of Eisenstein's notion of gesture and its role in his theory of film montage, along side his theoretical reflections on synaesthesia. The essay starts from Giorgio Agamben's call for the "liberation of the image into gesture" in the realm of cinema (which reintroduces the notion of gesture into theoretical discourse), and analyzes the interest in gestural expression within the Russian avant-garde, predominantly inspired by the concept of synaesthesia. Synaesthesia and haptic perception were assumed by d'Udine as the basis for his research, which fascinated Sergei Eisenstein and provoked him to theorize on the key of synaesthetic unity between image and sound in the context of film.

Francesca Scotto Lavina's chapter, *Film as synaesthetic object: the affective sensorimotor coupling of cinematic image,* argues that the cinematic text may be considered an affective machine organizing its stimuli by triggering spectators' synaesthesia from movement perception. Scotto Lavina follows Murray Smith's proposal of interpolating data from phenomenological, psychological and neuroscientific approach to clarify the affective nature of cinematic text, and her work triangulates the enactive and neurophenomenological approach with the concept of 'synaesthetic perception' argued by cinema scholars, such as Eisenstein. The perception of movement, that is peculiar of cinema since its origins, is responsible for a sensory-motor coupling between the cinematic text and the spectator, and triggers a cross-modal perception in other perceptual domains. This cross-modal mechanism may be considered similar to the mechanism of clinical synaesthesia.

In the section *Senses*, the authors reflect on the connection between the stimulation of senses and synaesthesia as the very origin of embodiment of film experience.

The olfactory experience is the core of the chapter by Malgorzata Bugaj, *Olfactory Experience and the Exploration of Space in Cinema: Alexander Sokurov's 'Alexandra' and Jan Jakub Kolski's 'Jasminum*'. In this essay, the author provides research about how smell can inform cinematic experience, through knowledge and imagination, by focusing on two films that evoke odours in a variety of ways: by showing the characters smelling, by naming different smells (often by the employment of figurative language), by revealing how the smells are produced and by presenting fragrant objects in close-ups. Thus, Bugaj demonstrates how smells enhance the experience and understanding of a place, bringing to mind the concept of smellscapes, revealed as repositories of memories.

The chapter by Laura Jacob, *Jonathan Glazer's 'Under the Skin'. Cinematic Clash of Affection and Surface* uses the case study of Jonathan Glazer's 2013 film, stating that the skin functions as a symptomatic, vulnerable barrier between the inside and the outside. *Under the Skin* leads the viewer in a diegetic world where language and the spoken word remain in a rudimentary state: the audience is reliant on the picture itself, which moves exclusively along surfaces and shapes, and gives up its audiovisual borders in favour of an outside. It is this outside which results in a cinematic collision of flatness of the screen and affection. The arbitrary structure of language dissolves in a topological transformation and transmission of an inside and outside. The inversion of internal and external, visible and

invisible demands an affective, outstanding moment, as an enhancement of all senses – which can be experienced as synaesthesia.

The Electricity of Blue Roses: Shorting the Senses and Sensing Film Mood in 'Twin Peaks: Fire Walk with Me' by Saige Walton argues that David Lynch develops a synaesthetic blurring of the senses that cannot be grasped through language or psychology. Walton reflects on the multiple worlds of Lynch innate by deepening the cross-modal transfer that occurs in human perception, and then identifying an amodal aesthetic at work in this film. Lynch's amodal aesthetic is attuned to inter-sensory movement and flow, while also being clearly independent any singular body/subject. Such a movement brings with it a synaesthetic blurring of the senses.

Mariagrazia Costantino's *Dust gets in your eyes: representations of dust and debris in documentary film and video from Mainland China* deals with an original perspective relying on the idea that pollution, as a cultural marker, may have synaesthetic implications by deeply affecting viewers. The author focuses on Chinese documentary films, such as *Behemot*, by the filmmaker from Mainland Zhao Liang, *Under the Dome*, a documentary by the former CCTV journalist Chai Jin and Liu Chuang's 2015 *BBR1,* a promo video for the BR1, a plant hormone developed by landscape scientists to inhibit the growth of blossom buds in poplars in the outskirts of Beijing.

The section *Abstractions* explores the way Avant-garde, abstract cinema and other theoretical reflections tried to elicit synaesthetic reaction in the viewers, focusing in the first half of the last century.

The spectator's physical presence is discussed by *"The Murmur of Existence": Siegfried Kracauer Between Aural and Visual Noise*, by Tommaso Isabella. The viewer's involvement is the core of Kracauer's film aesthetics: his idea of material reality is deeply bound to a phenomenology of spectatorship, with its manifold impressions and raw sensory inputs, considered as an intensely physical experience, where the whole sensorium is involved. The aural metaphor «the murmur of existence» describes the visual experience of film as a form of de-centering of the subject into a flow of perceptions, that contends against the "primacy of the optical". Isabella explores Kracauer's theory, focusing on some examples taken from German avant-garde early experiments (Walter Ruttmann, Oskar Fischinger) as well as contemporary "slow cinema", whose minimalist observational approach could be profitably envisioned as a form of "visual listening".

The Avant-garde is also the core of the chapter entitled *The Poly-expressive Symphony: Futurism and the Moving Image* by Rossella Catanese, which focuses on Italian Futurism, the movement founded by Filippo Tommaso Marinetti, which shaped new boundaries among the arts.

By reading the manifestos and the few surviving materials, this chapter analyzes the specific relation between the Futurist Avant-garde and cinema as mixed medium. Futurism explored manifold aesthetic fields, and focused on cinema due to its interest in the social construction of technology. At the same time, the cinema was another opportunity to make new connections between the senses, by looking for correspondences within the realm of sensorial perception. Cinema allows the audience to experience intense emotions through a 'unifying' sense, which responds to a stimulus of one sense modality with sensations which belong to another sense modality.

Marie Rebecchi, in her *Abstract Cinema and Synaesthesia*, argues that the concept of synaesthesia – a simultaneous mix of sensations, usually experienced in separate ways – is at the roots of the genealogy of abstract cinema. Abstract film, especially its early developments in the 1920s, offers a significant chance to develop a new, deeper understanding of the various experiments in synaesthetic abstract art. Abstract films blended painting, music, movement, images, sounds, forms, and colours in order to create a unique work of art, which was no longer aiming at a single perceptual level (vision), but rather pointed towards a fusion of vision and hearing. The products of experimental abstract cinema can be seen as the results of a decisive reorientation of models of perception, where sound, image, rhythm, colour, and movement would be condensed in a single work. The films by Hans Richter, Vicking Eggeling and Oskar Fischinger attest the evolution of the experimental art from their initial pictorial form to the abstract dynamic and musical plasticism proper to the pure cinematic form.

The section *New Media and Media Art* explores the deep involvement of the human body by new media and its synaesthetic implications according to different theoretical perspectives.

A return to the techniques of the body. On the reenactments of Zoe Beloff is a chapter by Christa Blümlinger that starts from the multimedia installation *The infernal dreal of Mutt and Jeff* (2011), by the New York artist Zoe Beloff, to discuss its epistemological and aesthetic explorations. These explorations focus on the problems of movement as a fundamental act of the cinema machine, and of the moving image as an instrument for the psychosocial control of the human body. For Beloff, cinema is the place where, through mechanical, mimetic movement and through the moving images of bodies and things, we regain access to the forgotten "powers of magic." By interfering, for example, on the relationship between body and voice, and by combining the original film and her reenactment/remake, Beloff reveals the conditions of a *dispositif* of visibility in Foucault's sense of the term: that is, as a system of value distribution.

Karol Jóźwiak's *Inventing the senses. Polish New Media Art and Synaesthesia in '60s-'80s* is a chapter dedicated to a compelling synthesis of the relationship between media art and synaesthesia in Poland, with a specific focus on videoart and its specificity, which affect devices' impact to the viewer's sensory system. Jóźwiak also analyzes digitality as a synaesthetic device, starting from a quote by McLuhan's *Understanding Media* (1964). The synaesthetic role of unifying different senses is played by media art in an utterly opposite way to the one most commonly used in the history of art – namely the Romanticism's theory of the synthesis of art, or "correspondance des arts". The chapter's methodology combines Media Archaeology and Art History, while insisting on the intersemiotic and intertextual perspective applied by the performers-directors who have explored synaesthesia as visual artists, cameramen, musicians, etc.

Calvin Fagan's chapter, *The sensory experience of drone piloting in Omer Fast's* Five Thousand Feet is the Best, focuses on Omer Fast's 2011 film, highlighting the potential paradigm shift inaugurated by drones' relocation of the military 'pilot' to a base that may be thousands of miles from the war zone in which he/she is simultaneously active. Mainstream media coverage has tended to invoke comparisons with gaming to argue that drone mediation effects an unprecedented degree of virtualising distance. Such assumptions have, however, been challenged by recent studies of the subjective experience of the drone operator which posit an unparalleled degree of sensuous and immersive engagement. This radical reinterpretation of the technology finds its cinematic analogue in *5,000ft*, a highly distinctive portrait of drone optics as sensuous, intimate, and profoundly disruptive of both subjectivity and spatio-temporal continuity.

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FIRST SECTION:

PERCEPTION

CHAPTER ONE

AFFECT IN PERCEPTION: CINEMATIC FASCINATION AND ENACTIVE EMOTIONS

ENRICO CAROCCI

Introduction: "Just one of the curious"

Right after the prologue in David Lynch's *The Elephant Man* (1980), we see Doctor Treves wandering around a kind of fairground. The place is full of people and attractions: the broad shots display a crowd of curious bourgeois moving in every direction, flares, rotating spirals, and the tunnel of the freak show. The euphoric atmosphere is sharpened by the noises (clamours, bursts, whistles) and by the joyful music of a barrel organ. Treves rapturously looks around, and his attention seems to be driven by the visual and auditory attractions.

Inside the freak show, the scenery changes, vaguely contradicting the previous euphoric mood: a policeman, an uncanny "fruit of the original sin", an afflicted woman, an increasingly windy sound effect and a group of bourgeois complaining about the monstrosity of the Elephant Man. Later in the film, Treves pays the "proprietor", Mr. Bytes, for a private spectacle. Their entrance into the tunnel is accompanied by disturbing stylistic clues: the corridor is dark and narrow, an oil lamp casts distorted shadows on the walls and the string sounds we hear become increasingly profound. After Bytes gives an introduction and the curtain opens, Treves seems eagerly curious, even if initially cautious; while the film's spectators only briefly glimpse the Elephant Man in the darkness, Treves moves closer to looking at the freak.

At a certain point, a string score emphasizes Treves's close-up: his mouth is half-closed, his eyes are wide open and wet and a tear flows down his cheek (Fig. 1.1.). Is he frightened, excited, or amazed? Does he pity the Elephant Man? Is he astonished by the vision of something unimaginable?

It is not easy to say definitively. Treves's facial expression is that of astonishment or surprise (Ekman 2007), and yet his tears do not seem to fit. The juxtaposition of different expressive features and emotions may evoke the moral opacity of the character. However, this expressive ambiguity is probably due to a narrative strategy that prevents Treves's emotions from being fully shared. The narration and style do not allow full identification or allegiance with Treves: he will not be the protagonist of the film, he is only bringing forth the narrative as well as the spectator's experience. The spectator is invited to share his will to look on but not his emotional reactions or their causes.

Fig. 1.1. Doctor Treve's ambiguous close-up. Courtesy of BrooksFilms.

Doctor Treves is fascinated. In a famous review of the film, Serge Daney wrote: "The spectator has entered the film like Treves, from the angle of voyeurism" (Daney 1981). Christian Metz viewed the spectator's voyeurism as a "passion for perceiving" (1982, 58); however, he emphasized the psychic and imaginary aspects of perception, relating them to a disembodied account of spectatorship. This chapter is focused on the curious "passion for perceiving" that I prefer to label "cinematic fascination". In what follows, I suggest an explanation for this aspect of the spectator's emotional engagement, drawing on insights from affective neuroscience and embracing an enactive view of emotions. At a theoretical level, this approach allows a partial overcoming of the split among analytic and continental accounts of spectatorship. References to *The Elephant Man* will be occasionally recalled in order to couple, when necessary, speculative arguments with more vivid experiential references.

Fascination and cinematic emotion theories

The notion of fascination plays a role in several theories of cinematic emotion and has been both emphasized and minimized depending on the aim or theoretical background. The following review should help clarify the meaning assigned to this notion in both cognitive and continental-inspired approaches to spectatorship.

First of all, among the cognitive studies of the 90s, we should mention Ed Tan's perspective. It is inspired by Nico Frijda's psychology of emotion, and it is focused on *interest* intended as the major "empathetic emotion", namely, "an emotion which is characterized by the fact that the situational meaning structure (…) for a character is part of the meaning for the viewer" (Tan 1996, 174). From this view, fascination differs from interest inasmuch as it refers to the appeal of the spectacle and not to the character's situation: "one is caught up in the spectacle; here the promise is represented by the continuing or intensified enjoyment of the spectacle (…); the action tendency is an urge to go on watching" (175). Even if fascination plays no major role in this basically disembodied account, we can extract the action tendency of 'go on watching' as a key feature to keep in mind.

Similarly, Carl Plantinga recently referred to fascination as a "direct emotion" that "stem[s] from the spectator's concerns about and interest in the content of the unfolding story" (2009, 72). Direct emotions include "anticipation, suspense, surprise, curiosity, interest, fascination, and excitement (…) in a wish to understand what has happened, to anticipate what will happen next, and to put new events into context" (87). Elsewhere in his book, fascination concerns film as a constructed artifact (it is an "artifact emotion"), with reference to the synaesthetic and visceral pleasures of the perceptual experience. However, Plantinga's consideration of the bodily pleasures does not lead to an alternative perspective since his "cognitive-perceptual theory" matches an embodied view of cinematic experience with a fundamentally disembodied view of cognition.

A more embodied view supports Torben Grodal's approach, in which fascination is regarded "as the mental-affective propensity to seek out information that is, or is felt to be, highly relevant to our lives, irrespective of whether we experience pain or pleasure in the process" (2009, 141). This is a crucial definition, as it introduces an involuntary and affective feature, even if it specifically concerns narrative processing. The reward of this process is inherent in the processing itself, and this is another key feature to emphasize: "even if coping in film as in real life is goal-oriented, part of the pleasure is derived from the process leading to the goal" (2009, 125). This can explain how, when confronted by fearful or sad films, we may

experience positive affects, since "goal-oriented coping releases dopamine (…) to support the coping effort" (125). Therefore, from this neurocognitive view, the experience of being fascinated relates to the spectator's submission and the experience of the sublime.

In doing so, Grodal assigns to fascination an aura of passivity that has been traditionally emphasized by continental-inspired film theories. For example, from Raymond Bellour's (2009) perspective, cinematic fascination implies a kind of passivity, again associated with terms like "submission" and "sublime". Obviously, this continental approach differs considerably from Grodal's, even if both frequently refer to contemporary psychology and neuroscience. In Bellour's embodied theory of cinematic emotion, fascination can be regarded as a kind of "middle term" between hypnoses and intensive emotion: the spectator is "willingly trapped by the apparatus", and he is defined as a "*spectateur pensif*", translated as "thoughtful" and "passive" or "active and passive at the same time" (2009, 179). Following a continental line of the French theory (from Epstein to Blanchot and Deleuze), Bellour assumes the autonomy of affect and sensation from narrative concerns, and he emphasizes the spectator's discrete loss of mastery in confronting the "body of the cinema". In sum, the spectator is regarded not as a master but rather is dominated by the film and caught by the dispositive in the experience of cinematic attendance (see Casetti 2009).

With reference to the French theory but also to the American gender studies, Steven Shaviro accentuates this passivity of cinematic fascination. From his perspective, fascination is the fundamental attitude within the frame of an embodied and affective spectatorship. Shaviro accentuates the interaction between excitement and passivity, with an emphasis on the spectator's affective-perceptual experience: "visual fascination is a passive, irresistible compulsion, and not an assertion of the active mastery of the gaze (…). I am drawn into a condition of excessive, undischargeable excitation. I am depositioned and dispossessed by the film's incessant modulations of visibility" (1993, 9). Here, fascination is related to the visual shock caused by the instability of cinematic appearances; the spectator is more or less constantly forced to redirect his gaze: "This new perception is multiple and anarchic, nonintentional and asubjective. (…) It is not the gaze that demands images, but images that solicit and sustain – while remaining indifferent to – the gaze" (1993, 31, 20). This masochistic view is focused on a paradoxically *unintentional passivity that is compulsively sought*.

As mentioned above, these perspectives are founded on different, and sometimes conflicting, theoretical frames. However, the notion of "fascination" that emerges from the comparison seems related to some

distinct, and apparently opposite, features. On the one hand, fascination is related to active anticipation, compulsive expectancy, and curious exploration. On the other hand, it is related to a kind of passivity, or helplessness, alongside the feeling of being overwhelmed by the spectacle's situational and sensory inputs. Moreover, fascination is part of our conscious experience, and yet it is not an entirely intentional experience. Finally, it is related to both narrative and perceptual processing. The explanation that follows will attempt to integrate these different key features with the aim of understanding them within a neuroaffective framework.

Cinematic fascination and the *seeking* impulse

Jaak Panksepp's affective neuroscience approach is based on animal brain research studies, and it is focused on the affective/emotional dynamics that take place in deep subcortical areas that are homologous in all mammals. The focus on these "primary-process emotions" is particularly relevant to our purposes for both its scientific and theoretical implications. It is important to clarify that, in Panksepp's taxonomy, the instinctual primary processes are distinct from secondary processes (connected to learning and memory) and from tertiary processes (i.e., thought and cognition). Primary processes are purely affective and independent of higher cognitive abilities; nevertheless, in our everyday experiences, the two are inevitably intertwined.

In this context, affects and cognitions are distinguished from each other only in that they reflect different features of brain organization: "Cognition involves the neocortical processing of information gleaned largely from environmental inputs via exteroceptive senses. Affects are not encoded as information. They are diffuse global states generated by deep subcortical brain structures, interacting with primitive viscerosomatic body (core self) representations" (Panksepp 2008, 48). A major philosophical implication of this view is the hypothesis of an affective, anoetic and trans-species "core self" located in deep brain areas. Even in humans, the foundation of the self may be at this very basic level of motor coherence, a seeming bodily and ego-centred action readiness and "affective consciousness" that precedes any sensory processing (Panksepp 2005).

Panksepp's most relevant empirical finding is the identification of seven fundamental emotional brain substrates, which evoke distinct behavioural patterns: SEEKING, RAGE, FEAR, PANIC, PLAY, LUST and CARE (the capitalization means that they are "emotional affects", i.e., primary-process impulses). These emotional systems are the most fundamental motivations in our mind, and they function as latent urges to act. Every system generates action tendencies and raw feelings, and we only have a non-conscious,