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**INTERSENSORIALITY & SYNAESTHESIA IN
BLADE RUNNER (1982), *MINORITY REPORT* (2002),
A SCANNER DARKLY (2006) & *TOTAL RECALL* (1990)**



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Introduction:

“All those moments will be lost in time, like tears in rain.”

- *Blade Runner*.

The most famous line in the science fiction movie *Blade Runner* was improvised by Dutch actor Rutger Hauer. His character Roy Batty is the last of the Replicants to be retired (a synonym for killed) and ends up on a roof-top with Rick Deckard (Harrison Ford). Batty has the upper hand after a long struggle, but decides nonetheless to spare Deckard's life and accept the end of his own. We assume that both characters are weeping – but it becomes hard to distinguish their tears due to the heavy rain that falls down during most of the film. This scene, which was written for the film and thus does not originate in the work of novelist Philip K. Dick (who wrote the novel upon which *Blade Runner* is loosely based on), has become emblematic of the film itself. It presents one of the most striking iterations of what I will call the blurring of the senses.

These *tears* blending into the *rain* remind us of what Dick tried to achieve during his prolific career as a writer. Indeed, with his forty-four novels and many short stories, the American writer attempted to give a blurry account of reality, so as to distort its boundaries and make the audience ponder over various issues and problems. His extensive imagination, enhanced by many psychological troubles (such as schizophrenia) and the use of drugs and amphetamines in particular, has allowed its wide audience to journey through dystopian universes, where machines become “more human than human”, where it is possible to prevent crimes that have not happened yet, or even where one can easily buy fake memories in order to have lived a different life. His French readership was particularly active during the 1950s and 1960s, which might explain why so many works on his life and novels have been written by French critics. In the 1970s and 1980s, Dick gained international popularity, notably after the release of *Blade Runner*, which was the first attempt at adapting one of his stories. Many other films and TV series followed, through the 1990s, 2000s and even 2010s. A TV show based on Dick's most acclaimed novel *The Man in the High Castle* is even being broadcasted this year. Dick's stories continue to fascinate, more than 65 years after his first novel was published. It is interesting to see how different script writers and directors choose to use various devices to reproduce Dick's attempt at a blurring of reality. In order to try and compare the strategies adopted in *Blade Runner*, this thesis will focus on three other adaptations of Dick's novels and shorts stories: *The Minority Report*, directed by Steven Spielberg, *Total Recall*, directed by Paul Verhoven, as well as Richard Linklater's *A Scanner Darkly*. In *A Theory of Adaptation*, Linda Hutcheon states

that “to show a story, as in movies, ballets, radio and stage plays, musicals and operas, involves a direct aural and usually visual performance experienced in real time.”¹ Therefore, the viewer (contrary to the reader) has to experience the blurring of the senses in a different way. To be able to evoke different sensations through the use of the film implies the existence of cinematic synaesthesia. The word synaesthesia has been mostly used in literary studies, as well as in scientific research. Many critics have carefully studied the concept of literary synaesthesia and tried to give a definition of the notion. *Professor Jean Heiderscheidt* wrote an essay about the issue and started wondering about the nature of synaesthesia. He explains that Vassili Kandinsky was able to “hear” visual, gustatory, olfactory and tactile sensations. Furthermore, Vincent Van Gogh thought music and painting were closely related and asked an old organ player to teach him how to play, so as to improve on his painting skills.²

It thus appears that the concept of synaesthesia could only be perceived as a very subjective process, which would render any further analysis moot. Indeed, if the whole process depends largely on personal response and interpretation, one can only discuss one’s personal feelings towards synaesthesia. Nevertheless, the process has been studied by scientists and does appear to be a real and tangible phenomenon. Jean-Pierre Ternaux wrote that: “Synesthesia is an unusual phenomenon that was first considered in neurology as a pathological behaviour related to difficulties in sense perception. In such a pathology, the subject is able, for one unique stimulation involving a definite sensitive area, to feel two sensations, one from the stimulated region and the other from a distant area not submitted to any excitation.”³ It also appears that the phenomenon has been studied for a very long time and was given its present name in Ancient Greece.⁴ Heiderscheidt explains that: “Il est peut-être préférable de parler de « métaphore synesthésique » que de « synesthésie » puisque celle-ci n’est que l’expérience qui s’exprime par celle-là. L’usage du terme « synesthésie » au sens de « métaphore synesthésique » s’est toutefois généralisé et j’emploierai indifféremment l’un et l’autre.”⁵

If synaesthesia falls under the semiotic and semantic systems of metaphors, it may become possible to understand and explain how it works in film. The first obvious question is therefore whether the film adaptations have taken into account Dick’s obsession with human perception and the senses in general. However, my aim is not to show how these movies managed to

¹ Hutcheon, Linda. *A Theory of Adaptation*. New York: Routledge, 2006.

² Heiderscheidt, Jean. *Synesthésie Et Rencontre Des Arts: Hommage Au Professeur Jean Heiderscheidt*. Bruxelles: Facultés Universitaires St. Louis, 2011.

³ Ternaux, Jean-Pierre. *Synesthesia : A Multimodal Combination of Senses*.

⁴ Berman, Greta. "Synesthesia and the Arts." *Leonardo* (1999): 15-22.

⁵ Heiderscheidt, 86.

faithfully transpose these issues and tropes to the screen, but rather to show how the films rely heavily on the senses to alter our perception and the characters' perception. The films will, thus, be analysed for their sake, though I will of course take into account Dick's works as source texts. It is nevertheless an honest assumption to say that different media might not achieve the same effect on the readership/viewership and that directors will have to resort to other forms of intersensoriality to convey this blurring of the senses. I will argue that it is very often music that helps us feel and perceive other senses in the films. Although the audience is not able to perceive smell, taste or touch in a film and can only see images and hear sounds and music, I will try to show how these films use several devices to suggest these smells, tastes and textures, thereby largely contributing to the world-building that is a necessary feature of science fiction. In order to evoke other senses, or even try and activate other senses in the audience, directors are going to have to resort to sight and hearing, the only senses we use (so far) when watching a film. It is thus possible to argue that films achieve synaesthesia through the use of sound and image, and manage to evoke other senses such as touch, taste or even smell. Story analyst Christopher Vogler states that "good stories [affect] the organs in my body in various ways, and the really good ones were stimulating more than one organ."⁶

The fiction of American author Philip K. Dick has been very influential on contemporary science fiction, notably in films. Dick was a very prolific author in the 1950s, 1960s and 1970s; one of his central concerns was our perception of reality. His fiction always presents dystopian societies in which characters indulge in drugs or other forms of addiction. He was even inspired and influenced by the use of many drugs such as amphetamines which he used constantly to keep awake at night and be able to write productively. This drug overuse led him to experience increased and heightened human senses. For instance, after taking LSD, he wrote that he felt he had journeyed through a thousand yearlong nightmare which drove him to revert to religion later in his life. Dick's fiction is often devoted to how characters and especially human characters perceive others and what surrounds them.

Dick's most famous novel is undoubtedly *Do Androids Dream of Electric Sheep?*⁷ which was released in 1968 and presents a dystopian vision of San Francisco where humans have created very advanced robots known as *replicants*. In the 1982 adaptation, Ridley Scott decided to focus on one of the main plots present in the books. The film displays a vast network of intersemiotic signs and codes. The relationship between colour and music, for instance, is of

⁶ Christopher Vogler, *The Writer's Journey: Mythic Structure for Writers*. Studio City: Michael Wiese Productions (2007) : x.

⁷ Philip K. Dick, *Do Androids Dream of Electric Sheep?*. London: Millennium, 1968.

the utmost interest. In his books entitled *La Musique au Cinéma*⁸ and *Audio-Vision*⁹, Michel Chion wrote at length on the film's soundtrack. Other critics such as David B. Clarke and Marcus A. Doel¹⁰ have also focused on the trope of the eye and the theme of vision. Touch and other senses are also present both in the novella and in its adaptation: significantly, Deckard is first presented buying food in the rain.

His 1956 short story entitled "The Minority Report"¹¹ deals with the themes of authoritarianism and free will. It was adapted in 2002 by Steven Spielberg and *Minority Report* features Tom Cruise as John Anderton, a police officer working for the Precrime Department whose job is to prevent murders from taking place and locking up future murderers. Spielberg and the screenwriters decided to emphasize the theme of sight and created (among other things) a subplot about Anderton's eyes.

Dick's 1966 short story "We Can Remember It for You Wholesale"¹² was adapted into two films, in 1990 and again in 2012 under the title *Total Recall*. As a matter of fact, the second film is a remake of Paul Verhoeven's adaptation, which is why I will focus exclusively on the 1990 film. In addition to the colour code and the score to *Total Recall*, attention will also be paid to how touch is used and presented, and how other senses are called upon to suggest touch. Finally, Richard Linklater's *A Scanner Darkly* came out in 2006 and was based on Dick's novel of the same title¹³. Set in an alternate version of 1950s Los Angeles, this film depicts the life of several drug addicts who use the most powerful drug known to man called Substance D. Protagonist Bob Arctor is both a junkie and an undercover police officer assigned to the surveillance of Arctor's house. The movie deals with the theme of paranoia and schizophrenia since Arctor's personality slowly becomes split into two. The film is especially interesting because of its use of rotoscope imagery: even though it was shot with real actors, the film underwent a severe change in post-production and resembles more a cartoon than an actual film. Thus, our perception of reality is altered, as in most of Dick's works. I have chosen to focus exclusively on these four films since they have been critically acclaimed as well as deemed significant for scholars, and for the most part commercially successful.

⁸ Michel Chion. *La Musique Au Cinéma*. Paris : Fayard, 1995.

⁹ Michel Chion, Claudia Gorbman, and Walter Murch. *Audio-vision: Sound on Screen*. New York: Columbia UP, 1994.

¹⁰ David B Clarke. *The Cinematic City*. London: Routledge, 1997.

¹¹ Philip K. Dick, *The Minority Report*. New York: Pantheon Books, 2002.

¹² Philip K. Dick, *We Can Remember It for You Wholesale and Other Classic Stories*. New York: Citadel Press, 2002.

¹³ Philip K. Dick, *A Scanner Darkly*. Garden City: Doubleday, 1977.

In order to investigate Synaesthesia and the senses, I will rely upon numerous works in various fields including neuroscience, psychology, optics, sociology, etc., and try to determine what current scientific theories claim about the senses. This paper is obviously not focused on hard sciences and my knowledge in those fields is limited. However, shedding a light on the history of the senses and synaesthesia will help us work on the films under study.

Critics have written at length on *Blade Runner* and its soundtrack has been carefully studied, notably through the course of Michel Chion's career. His outlook on the film's score will be discussed in this thesis, obviously. In spite of the numerous essays written on the topic of synaesthesia, whether it is a global phenomenon or in the arts, the concept of synaesthesia related to cinema has not been thoroughly investigated. I will try to build upon the works of Laura Marks¹⁴ and Michel Chion in particular. The French critic wrote that:

Le son peut être considéré comme bi-sensoriel - donc avec un impact accru - par effet de redoublement sensoriel, à chaque fois qu'il s'adresse à la fenêtre d'écoute en même temps qu'il touche le corps par co-vibration, ce qui est le cas de très nombreux phénomènes audibles: les sons vocaux (éveillant des micro-réactions nerveuses au niveau du larynx de l'auditeur), les sons puissants avec de fortes basses, etc... Il nous semble que cette formulation de la bi-sensorialité du son (de certains sons en tout cas) permet de lever des malentendus et des débats sans issue du genre: "entend-on ou n'entend-on pas avec "tout le corps."¹⁵

Sound thus seems to call upon more than one sense. Chion argues that bi-sensory phenomena have a greater impact.¹⁶ It is possible to envisage this last comment as a larger and more general statement. Bi-sensory phenomena can, in effect, refer to, for instance, devices that call upon sight and hearing, much like films usually do. They can even sometimes create a link between other senses.

Although works on synaesthesia and multisensory relationships in films are not numerous, I will try and use previous works on the topic as a starting point. The works of Laura Marks, among others, will serve as a basis for my argument. In her book *The Skin of the Film*, Marks explains that "I concentrate in this and the next chapter on the ways cinema can appeal to the senses that it cannot technically represent: the senses of touch, smell and taste. This focus is not some intellectual game but an extension of my concern throughout this work to show how and why cinema might express the inexpressible."¹⁷ Even though Marks' work is dedicated to intercultural cinema, I will try and use her arguments to deal with commercial cinema, and transfer her ideas to mainstream films. She also argues that "All of us hold knowledge in our

¹⁴ Laura U Marks. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP, 2000.

¹⁵ Glossaire par Michel Chion, visited 18 November 2015, <http://www.lampe-tempete.fr/ChionGlossaire.html>

¹⁶ Chion, Michel. *La Musique Au Cinéma*. Paris : Fayard, 1995.

¹⁷ Marks, 129.

bodies and memory in our senses. Experimental and mainstream narrative cinema are increasingly interested in representing these kinds of knowledge and memory.”¹⁸ *Blade Runner* and *Total Recall*, in particular, deal with the complex topic of memory and how it can be falsified. To a certain extent, *The Minority Report* also plays with this idea when presenting memories of the precog, that is to say murders that have not happened yet but will take place in the future. Moreover, Marks adds that:

Words suture the works together in the absence of a stable, informative image or a linear storyline. Not only experimental works, but also dramatic narratives [...] often use dialogue pedagogically, to coax out the memories suggested in image and sound. Voices, not only informative witnessing or testimony, but also casual conversation, the texture of talk, and the simple presence of a clear or incoherent voice in counterpoint to the image, activate cultural memories. In some cases the words become more poetic, less an explanation of what cannot be imaged than an evocative layer of their own. [...] I find that many artists have been gradually shifting away from this emphasis on language, as they grow impatient with the word and begin to trust the sound and image to work on their own.¹⁹

It does indeed seem that films such as *Blade Runner* mostly rely on the unspoken. The *film noir* atmosphere and the scarcity of the dialogues make way for a different way of communicating ideas, which participate in the complexity of the movie and make it “hard to read.” Even today, critics argue about the fate of the main character, and whether or not he is a Replicant. In the absence of words, the viewer has to rely on images and sound to try and decipher the film. The emphasis on the senses is thus already foregrounded. I will try and build upon her argument to demonstrate that these films do, in effect, appeal to more than two senses and try to represent smell, taste and touch through the use of sight and hearing. I wish to show that it is often images combined with sounds that create this particular effect. However, I will dedicate a chapter of my thesis to what Marks refers to as haptic visuality. She argues that:

The difference between these two ways of seeing is startling. I realize that the tape has been using my vision as though it were a sense of touch; I have been brushing the (image of the) fabric with the skin of my eyes, rather than looking at it. [...] The switch between what I will term haptic and optical vision describes the movement between a relationship of touch and a visual one. This experience of looking, together with Beharry’s compelling words, makes us reflect that memory may be encoded in touch, sound, perhaps smell, more than in vision. The disparity between the searching movements of the camera and her wistful voice on the sound track, between visual and audio, creates poignant awareness of the missing sense of touch.²⁰

Marks point out the limits of seeing and hints at a different way of looking at a film. She therefore implies a mixing of the senses. Her definition of haptic visuality is particularly interesting in the films I have chosen to analyse. It seems that the viewer is often invited to touch with his eyes, in a manner of speaking (that I will try to elucidate later in this work) and partake in the experience of “kinaesthetic sight.” She adds that “Haptic *perception* is usually

¹⁸ Marks, xiii.

¹⁹ Marks, xv.

²⁰ Marks, 127-129.

defined by psychologists as the combination of tactile, kinaesthetic, and proprioceptive functions, the way we experience touch both on the surface of and inside our bodies. [...] In haptic *visuality*, the eyes themselves function like organs of touch.”²¹ There would therefore be a direct link between sound and space, between hearing and touch.

This thesis will be dedicated to the role and the importance of the senses in the four adaptations of Dick. I will try to demonstrate how smell, touch and taste are evoked through the use of images and sound and, from the viewer’s perspective, through the senses of sight and hearing. I will show that, to a certain extent, sound effect and music create space and participate in the world-building of these science fiction films. I would like to explain how synaesthesia functions in those movies, and show that a confusion of the senses occurs throughout the course of those films. Even though the phenomenon of synaesthesia appears quintessentially paradoxical, I will analyse how it comes into play in cinema and argue that science fiction relies heavily on the mixing of the senses.

The first chapter of this thesis will focus on Synaesthesia and Intersensoriality and I will try to define those terms and deal with the senses, explain what they are and how they function scientifically and, then, on a reception level. Starting with general comments about the senses and their history, I will move on to the mixing of the senses and start dealing with Synaesthesia. Finally, we will be able to determine how those senses come into play in literature, science fiction, and Philip K. Dick’s writings before moving on to how they are interwoven with films and the spectator’s response.

The second chapter of this thesis will be dedicated to the emphasis on the senses featured in the films, which play a major role both in terms of narration and spectatorial response. I will deal with the dichotomy between real and artificial eyes, and deal with the notion of the Eye and the I, especially in *Blade Runner*. Then, this work will be focused on the spectator’s eye, that is to say the gaze of the audience, which is essential to the film’s synesthetic experience. Moreover, I will offer a focus on texture in the films, starting with the rotoscope imagery in *A Scanner Darkly*. The *Film Noir Aesthetics of Blade Runner* will also be taken into account, and I will finally elaborate on Laura Marks’ argument of *The Skin of the Film*. Then, the relationship between senses and memory in the movies will be dealt with, starting with how memories are used in *Total Recall* as well as the concept of implanted memories in *Blade Runner* and discuss the need for a genealogy in the latter.

²¹ Marks, 162.

The third chapter will be dedicated to multisensory phenomena. The issue of kinesthetics and touch will be a major point as well, using technology in *The Minority Report* as a starting point. I will try to analyse the loss of balance and the vertigo effect created in the films and explain how revelations are made through the use of touch. I will then start applying Marks' definition of Haptic Visuality to the films, and the concept of touching with one's eye and the mimetic effect. I will try to show that the sensory experience that the films offer goes further than simple mimesis. Then, my paper will focus on the world-building of science fiction that is made possible through the use of sound effect and music, starting with Vangelis' work in *Blade Runner* and moving on to the score in *The Minority Report* and *A Scanner Darkly*. I will then try to explain the building of three-dimensional space through the use of sound.

I) Synaesthesia and Intersensoriality

A) The Senses

1) Definitions

The Oxford English Dictionary defines sense as a “faculty of perception or sensation.”²² In a different entry, the dictionary states that “Each of the special faculties, connected with a bodily organ, by which man and other animals perceive external objects and changes in the condition of their own bodies. Usually reckoned as five – sight, hearing, smell, taste, touch.”²³ Interestingly enough, the first entry found in the dictionary is not related to the meaning of “sense” as “meaning”. We might have assumed that intellectual sense could be placed before sensations in a dictionary, as it seems to be more important than the senses in the collective unconscious of human beings. However, it seems that lexicologists have decided to present those two different entries in that specific order, already putting an emphasis on the importance of the senses. Sense is also defined as “the meaning or signification of a word or phrase; also, any one of the different meanings of a word, or that which it bears in a particular collocation or context.”²⁴ We can therefore already assume that our understanding of the world is going to depend first on our sensory perception of it, before we can even start to intellectualize it. We can already hypothesize that sensory perceptions are going to be very useful in filmmaking and film-receiving, and perhaps even more important than our intellectual understanding of the film. In other words, is a spectator able to use his senses to decipher a film? Except from the obvious examples of sight and hearing, which are necessary to properly *watch* a movie, is it possible to *touch* a film?

The sense of touch, in particular, is going to be of the utmost interest when dealing with film. According to the same dictionary, touch is defined as “the action or an act of touching (with the hand, finger, or other part of the body); exercise of the faculty or feeling upon a material object.”²⁵ Obviously, we are still watching movies on flat screens, even though three-dimensional technologies are, once again, becoming more and more fashionable.²⁶ However, we will try to elucidate the question of touch in the viewer’s response to film. How does one

²² Oxford English Dictionary, visited 7 July 2016, <https://www-oed-com.nomade.univ-tlse2.fr/>

²³ *Ibid.*

²⁴ *Ibid.*

²⁵ *Ibid.*

²⁶ Through the course of film-making history, there have been several attempts at making “3D movies”, and those trends usually disappear and reappear over time.

touch a movie? To what extent does a spectator use his sense of touch to better understand a film?

After going through the definitions of the senses, we can notice that those definitions always refer to sensory organs as a means of explaining what senses are. However, senses are not strictly speaking sensory organs, but rather the use we make of the latter. It seems that senses are still a complicated matter to define. Sight is said to be “the perception or apprehension of something by means of the eyes; the presentation of a thing to the sense of vision.”²⁷ Definitions such as those ones seem to be built on tautology instead of actual explanations. Senses are, therefore, still a shady area of scientific research. Many researchers disagree on their very nature, or even their number. In his article entitled “The Significance of the Senses”, Matthew Nudds states that:

It is surprising, given the obviousness of the fact that we have five senses, that there should be so little agreement as to what account should be given of them. It's not just that there is disagreement over details; the disagreement concerns the fundamental nature of the senses. With a few notable exceptions,¹ discussions of the senses have attempted to answer what might be called the counting question: that is, why do we count five senses? In order to answer that question, some account must be given of the difference in virtue of which different particular perceptions (by perceptions I mean events of perceiving something) count as of different senses, and of what different particular perceptions have in common, in virtue of which they are perceptions of a single sense. By explaining in virtue of what perceptions are perceptions of a particular sense, an adequate answer to the counting question can claim to have given an account of the nature of the senses-of what constitutes each of the different senses.²⁸

Scientists are still not able to determine what makes up a sense, let alone decide how many senses there should be. Nudds adds that there are many parts of the human body that are sensitive but not directly linked to one particular sense, according to scientists: “there are lots of distinguishable parts of the body - there are hands, and feet, and legs, and torsos, and so on- which are (or, at least, can be) involved in perceiving which we don't take to produce perceptions of distinct senses.”²⁹ This argument will come into play when dealing with, for instance, haptic visuality in a further chapter. Eyes, for instance, do possess sensory captors and we would be likely to frown if someone were to put their finger in our eyes. Thus, eyes have to be related to the sense of touch in one way or another. Nudds also claims that the sensory organs that we know may relate to more than one sense, just like eyes might be able to deliver information about other senses than sight. He notes that the human skin, usually the only organ said to be related to the sense of touch, contains not one but several captors that can lead us to think that human skin fulfils more than one purpose: “the skin, however, does not contain a

²⁷ Oxford English Dictionary, visited 7 July 2016, <https://www-oed-com.nomade.univ-tlse2.fr/>

²⁸ Matthew Nudds, “The Significance of the Senses”. *Proceedings of the Aristotelian Society, New Series*, Vol. 104 (2004): 31.

²⁹ Nudds, 34.

single sensory mechanism, but several: “There are at least 15 functionally and morphologically distinct kinds,” including those which detect temperature and various mechanically sensitive receptors.”³⁰ We might wonder what those other captors could lead us to feel.

In his book entitled *Prenez Le Temps D'E-Penser*, French youtuber and populariser of science Bruce Benamran discusses the senses and debunks the myth of the five senses that is still taught in school throughout the world today. Indeed, most children will have been taught that we see through our eyes, hear through our ears, touch with our hands, smell with our nose and taste with our tongue. Collectively, this idea is still globally spread across the globe. Beginning with a remark on Aristotle’s *Traité de l’Âme*, Benamran ironizes the fact that Aristotle arbitrarily decided that there were and would only be five senses known to men. Aristotle’s tautological argument is still applicable today in the collective unconscious, but the Greek philosopher has been proven wrong by neuroscientists and other researchers. The five senses, or quintessence (literally quinte essence), refer to the five elements known to the Greeks: air, earth, water and fire that compose matter and give way to the fifth element, ether. Plato decided that there were only five elements based on the fact that he could only fit five polyhedrons in a sphere. He named those five geometric shapes Platonic Solids and those shapes therefore led to the invention of the five senses.³¹

Even though most scientists agree on the fact that Aristotle and Plato were wrong about the five senses, no one has yet been able to come up with a clear definition of the senses. The consensus does mention that senses feature three different things: sensitive cells or receptors, neural influx (called sensation), and interpretation (called perception). A sense may therefore be defined as an entity that feature those three elements. Obviously, this thesis will focus more on the interpretation of the signals sent to the brain than in the process of receiving information using sensory captors and transmitting it to the brain. From now on, I will refer to the perception phase and the interpretation of those influx as “the senses”, using a metonymical term that will make this study of senses in cinema easier. However, before we can start dealing with the use representation of the senses in film, we need to better understand what senses are and how they have been defined over the course of history. It does indeed seem that senses have not always been defined in the same way, and the history of the senses was, in itself, a long process. We might then wonder what other senses have been discovered since Aristotle’s time.

³⁰ Nudds, 34.

³¹ Bruce Benamran, *Prenez Le Temps D'e-Penser*. Paris: Marabout (2015): 81.

1) A Sixth Sense?

Following his critique of Aristotle's model for the five senses, Benamran offers a summary of current scientific theories and presents the nine senses consensus. Most scientists agree that there are actually more than five senses, and a considerable amount of those argue that there are, in effect, nine different senses (whereas some other researchers argue that there could in fact be more than twenty different senses). Adding to the five "original" senses, Benamran describes what scientists call equilibration.³² These senses allow us to determine the position of our head in relation to our environment. In other words, it enables us to understand up and down. This sense will be particularly useful when dealing with pans, tilts, and crane shots, for instance. The feeling of sea-sickness originates from this particular sense. Filmmakers like Alfred Hitchcock had obviously understood the importance of balance in spectator response. Movies such as *Vertigo* (1958) are a perfect example of directors using the frame and sound design to disturb the human senses.

Two other senses derive from touch: the first one, called thermoception, is the ability to perceive heat and coldness (which is actually a lack of heat). Previous to recent discovery, scientists thought that this sense was only an extension of the sense of touch. We now know that it has its own captors and nervous influx. This sense will come into play when dealing with colour grading in movies. *Blade Runner* displays, for instance, a very important dichotomy between "hot" and "cold" colours. The scene where Deckard uses the Voight Kampff machine on Rachel is bathed in blue and golden light.

The same idea can be applied to nociception, the ability to feel pain. This sense will be useful when dealing with the pain expressed or felt by characters from the movies under study. Roy Batty's Christ-like stigmata at the end of *Blade Runner* triggers a wave of empathy among the audiences due to the sound effects used in the scene, as we will get to see later on.

Finally, Benamran describes what is called proprioception or kinesthetics, the ability to know at all times where our limbs are located. He then argues that some scientists tend to admit that there could be more than nine senses. Hunger, chronoception (the feeling of time passing), mnemoception (memories), etc. might be considered actual senses, and paradigm shifts are likely to change in the next few years. As for now, we can decide to settle on the nine senses that were listed above to start our analysis of the films under study and how those senses come

³² Benamran, Bruce. *Prenez Le Temps D'e-Penser*. Paris: Marabout (2015): 84.

into play in the diegesis as well as the reception of those movies. Barbara Montero adds on the topic of importance of other senses and proprioception in particular and claims that:

The aesthetic senses are the senses by which we experience beauty, grace, and other aesthetic properties. Vision and hearing are commonly recognized as aesthetic senses, while smell, taste, and touch are not. Proprioception is the sense by which we acquire information about the positions and movements of our own bodies, via receptors in the joints, tendons, ligaments, muscles, and skin. My claim is that proprioception is an aesthetic sense and that one can make aesthetic judgments based on proprioceptive experience. I will argue that, just as one can deem a painting beautiful based on one's visual experience of the painting, one can deem a certain movement beautiful based on one's proprioceptive experience of the movement. In addition, I posit that in a certain sense an observer can proprioceive the beauty of another's movement.³³

Montero is obviously referring to the art of dancing and her paper derives from a personal analysis of ballet movements. However, we can use her argument to wonder about the importance of that particular sense in the viewer's response to film. Again, this sense will be particularly interesting when being exposed to POV shots, but will also come into play when watching characters' bodies in motion. Indeed, I will later argue that character identification in film depends, among other things, on sensory perception and proprioception. Montero adds that:

Traditionally, the only two senses that are thought of as aesthetic are vision and hearing. As Francis Hutcheson points out, "the ancients observe a peculiar dignity of the senses of seeing and hearing that in their objects we discern the kalon [beautiful], which we do not ascribe to the objects of the other senses." According to Hegel, "art is related only to the two theoretical senses of sight and hearing, while smell, taste and touch remain excluded from the enjoyment of art." However, in questioning the privileged status of the visual and the aural, I am not alone. As others have argued, many of the features that supposedly give vision and hearing their privileged status are features of other senses as well. The ability vision and hearing afford us to distance ourselves, both physically and psychologically, from the object of awareness is a good example. The light waves that bounce off a painting must come in contact with one's eyes no less than the molecules wafting away from the perfume bottle must come in contact with one's nose. Moreover, while one must eat to survive, once the edge of appetite is taken off, one can distance oneself from one's needs and dine without the practical purpose of fending off hunger.³⁴

Again, it appears that sight and hearing have obtained a privileged position in Western culture. However, that position now seems to be called into question by a lot of different fields of research. Montero is foregrounding the idea of touching with one's eye, which is an interesting example given that one of our later chapters will be dedicated to Laura Marks' idea of haptic visuality, that is to say the ability to touch with one's eye, which she borrows from Deleuze and other critics.

Some critics not only argue that the five senses model is obsolete, but even go a step further when claiming that there are not several senses, but one unified sense that features many sensory subdivisions. Crétien Van Campen states that:

³³ Barbara Montero, "Proprioception as an Aesthetic Sense". *The Journal of Aesthetics and Art Criticism*, Vol. 64, No. 2 (Spring, 2006): 232.

³⁴ *Ibid.*

Synesthesia has played an important role in a recent neuropsychological debate on the organization of the senses. Two positions can be distinguished. The oldest, most accepted and common-sense view (the modularity thesis) holds that humans possess five independently functioning senses. The other view (the unitary thesis) holds that human beings have one integrated sensory organ with five suborgans. The history of the arts shows a comparable debate. Are the visual and musical arts distinguished disciplines that work with separately perceived stimuli? Or are these disciplines part of a larger organ that unites the different arts in the ideal of the *Gesamtkunstwerk* (Total Work of Art)? Since the nineteenth century, the *Gesamtkunstwerk* has been an important motivation for numerous artistic experiments with synesthesia. In recent times, new digital technologies of image and sound production have brought theoretical issues concerning the unity of the arts to the foreground once again.³⁵

The idea of a *Total Work of Art* that calls upon all senses is particularly interesting in the case of film. We already know that cinema calls upon sight and hearing, which is more than most media do. Van Campen elaborates and claims that “for instance, the sensations of brightness, warmth and roughness supposedly originated from more than one sense modality and was logically perceived by the common sense. Hornbostel assumed brightness to be the central dimension that appeared in each sense modality (light/dark, hard/soft, sharp/blunt, light-/heavy, cold/warm).”³⁶ These dichotomies already foregrounds the concept of synesthetic metaphor.

³⁵ Van Campen, Crétien. “Artistic and Psychological Experiments with Synesthesia”. *Leonardo*, Vol. 32, No. 1 (1999): 12.

³⁶ *Ibid.*

2) Sensory History

In his essay entitled “Producing Sense, Consuming Sense, Making Sense: Perils and Prospects for Sensory History,” Mark M. Smith explains that sensory history (also known as the history of the senses) stresses the role of the senses including sight and vision in “shaping people’s experience of the past” and shows that senses help us understand the world and why we should be careful not to assume that the senses are a “natural endowment, unchangeable and constant.” He then goes on to demonstrate that historians need to put senses into perspective when dealing with particular accounts of past sensations. He uses the example of a witness who described a smell as “intolerable” from his or her own perspective in the past, and therefore shows that senses and sensations can be perceived differently over time.³⁷ It is particularly interesting to underline this phenomenon when dealing with films made over three decades. Discrepancies in sense perception might play a role in the study of synaesthesia in the films chosen for this thesis. Much like people from several centuries before experienced senses in a different way, characters from a book or a film, however fictional, are represented experiencing senses or using their senses to understand the reality they are written in. A parallel can therefore be drawn between Smith’s idea and the way characters experience sensations: in order to better apprehend movies, the audience needs to be able to share the characters’ sensations. However, the spectators are not often able to see through characters’ eyes (at the exception of POV shots), let alone experience what they smell, taste and touch. This is where cinematic synaesthesia can come into play. Interestingly enough, Smith’s remarks about museums trying to make people “sense” the past and make it come alive raise a major issue concerning science fiction films: how does one model the senses and the sensations of the future? Even though most of Philip K. Dick’s writings take place in a dystopian 1950s or 1960s version of Los Angeles or San Francisco, we can argue that he was, in effect, trying to anticipate future societies, and imagine how senses are going to be seen, used and represented in the future. Science fiction films shape our experience of the future, to use Smith’s term, and have sometimes an influence on the technologies we choose to develop. Arguably, Japanese eye detectors that allow high-tech cameras in supermarkets to offer personalized advertisement to customers may have been inspired by *The Minority Report*. At the very least, we can always argue that Dick anticipated those abuses of technology.

³⁷ Mark M Smith, “Producing Sense, Consuming Sense, Making Sense: Perils and Prospects for Sensory History”. *Journal of Social History*, Vol. 40, No. 4 (Summer, 2007): 842.

Not only have scientists endeavoured to draw a history of the senses, but some researchers have even tried to use the senses to study different phenomena over the course of time. Anthropologist David Howes explains that researchers have been trying to study history through the scopes of the senses for quite some time:

The early anthropologists of the late nineteenth and early twentieth centuries were indeed interested in the sensory lives of the indigenous peoples they studied. However, their interest customarily went hand in hand with a firm belief that indigenous peoples' "primitive" nature would be manifested by their heightened attention to the "primitive" senses of smell, taste, and touch. Much of the sensory data anthropologists of that period collected was explicitly or implicitly used to associate the "lower" races with the "lower" senses and the "higher" races with the "higher" senses. Such integration of a social hierarchy with a sensory hierarchy appears in the work of a prominent nineteenth-century natural historian, who characterized Africans as "skin-men," Australians as "tongue-men," Native Americans as "nose-men," Asians as "ear-men," and Europeans as "eye-men."³⁸

Howes' comment about Europeans and people from the Western World might be one of the reasons why we choose to watch movies, and not hear them, for instance. It seems that sight has taken a most important place in our lives and the way we describes the world around us. It might also explain why some film theorists like Laura Marks have chosen to focus on intercultural cinema and intersensoriality. Using a corpus of African and diasporic films, Marks builds an argument based on film and touch. I will use Marks' ideas in a further chapter, as well.

In his article, Howes later states that sensory history went out of fashion at the turn of the twentieth century and became a minor field up until the 1970s and the 1980s:

The linguistic turn in the anthropology of the 1970s and 1980s made it fashionable to treat cultures as "texts" that could be "read" by a knowledgeable anthropologist. That turn further impeded the development of a sensory anthropology by promoting a purely visual and literary model of culture as well as one alien to the "oral-aural" cultures of ten studied by anthropologists. A similar paradigm shift swept over historiography in the same period and likewise contributed to the sleep of the senses, which it has taken the last two decades to begin to dispel.³⁹

A parallel between the way we perceive cultures and the way we perceive cinema might be drawn here. The structuralist revolution in the field of anthropology obviously had an enormous impact on the reception of literature, and later, film. It is still fashionable in certain circles to "read" a film, but films are rarely "heard" or "touched". Yet, inventions such as the Odorama (which allowed spectators to smell while watching a film, using scent dispensers) and three-dimensional technology tend to lead us to think that there is more to a cinematic sensory experience than we may know so far. It is important to bear in mind, however, that those experiments in the 1950s all failed. Howes later states that "the first step when undertaking an anthropology or a history of the senses is to set aside one's own sensory model, to the extent

³⁸ David Howes, "Can These Dry Bones Live? An Anthropological Approach to the History of the Sense". *The Journal of American History*, Vol. 95, No. 2 (2008): 444.

³⁹ *Ibid.*

possible, and to attend to the sensory dynamics of the culture under study.”⁴⁰ Once again, we can draw a parallel between the field of history and anthropology on the one hand, and cinema on the other. It is obviously very difficult for a Western audience to distance themselves from the senses of sight and hearing while watching a film.

This thesis, like all papers written by human beings, is already biased because it is seen through the eyes of its author. However, I will try to step back and consider all senses on the same level and determine whether they play a role in the reception of film. The rise of the importance of sight in the Western world can partially be explained:

The rise in the importance of visuality in modernity was due not simply to a greater consciousness of visual phenomena, but to a whole complex of scientific, technological, social, and economic processes that opened more and more of the world up to our eyes. The invention of optical instruments allowed visual access both to the distant face of the moon and the microscopic world of a nearby pond, the development of surgical practices made it possible to peer inside the previously hidden recesses of the human body, and the proliferation of exhibitions and shows transformed the world into a visual spectacle.⁴¹

This idea already echoes various scenes and themes of *Blade Runner* as well as *Minority Report*, in which the emphasis on the eye is striking, as we will discover in a later chapter. The history of cinema itself supports the idea of the importance of the eye in viewer response, given that the first movies used to be silent and could therefore only be seen. However, due to the evolution of technologies and the way we consume film, I will argue that more than two senses are now summoned to understand film. Howes states that “Exploring the cultural role of one sense while leaving out the others similarly ruptures the complex web of relationships among the senses. I have elsewhere referred to this web of sensory relations as ‘intersensoriality’ and advocated exploration of the interplay of the senses.”⁴² It seems that leaving out all the senses but sight and hearing when considering film is now outmoded. It is necessary to reconsider the way audiences experience cinema and determine whether this interplay of the senses plays an important role. Anne-Marie Laurian states that “in the case of the Renaissance art, a major theme was (of course) *I Cinque Sensi*, the ‘Five Senses,’ and each Sense – Hearing, Sight, Smell, Taste, Touch – had its specific iconographic markers. To the contrary, a distinguishing feature of the modernist mentality is *synesthesia*, literally meaning a ‘tying together’ of ‘simultaneity’ (*syn-*) of the formerly discrete ‘senses-perceptions’ (*aesthesis*).”⁴³ Ever since the invention of cinema, it appears that the focus has slightly shifted from the five senses to synaesthesia.

⁴⁰ *Ibid.*

⁴¹ David Howes, “Can These Dry Bones Live? An Anthropological Approach to the History of the Sense”. *The Journal of American History*, Vol. 95, No. 2 (2008): 448.

⁴² *Ibid.*

⁴³ Laurian, Anne-Marie. *Les Cinq Sens Et Les Sensations: Lexicographie Contrastive*. Bern Lang (2007): 155.

B) Mixing the Senses

1) Synesthetic Metaphors

We have seen that Aristotle offered a comparison between the five elements and the five senses. Greek and Roman philosophers defined the concept of music and proposed a system based on cosmology and star positions to come up with models of pitch, tone, scales, etc., that we still use today. In his comparison between music and gravitation, Galejev wrote that:

Anyone who has ever been occupied with the study of musical cosmology ("music of the spheres," "harmony of the universe") cannot help thinking: Isn't this related to synesthesia? Some researchers (e.g. A. Wellek) have admitted - though it may be a stretch - that, yes, this is one of the primitive synesthetic reflections: music, an audible phenomenon, is compared to the visual world and, by extension, the cosmos. In various epochs, analogies between the structure of the cosmos (at the comprehensive level of understanding) and that of the "cosmos of music" were a subject of consideration by philosophers.⁴⁴

Galejev obviously refers to Boethius' theory on music.⁴⁵ During the fifth century B.C., the Roman philosopher Anicius Manlius Severinus Boethius pulled together the essential strands of ancient Greek musical theory, translating the original documents from Greek into Latin in his own mind and then providing an overview of the essential points. What he produced was a five-book compendium, his *De Institutione Musica*, which went on to become the single most important treatise on music throughout the Middle Ages and Renaissance. Boethius claimed that there were three different kinds of music: the first, which he named *mundana*, corresponds to the music of the spheres. The second, *humana*, refers to the music of the body. The third, *instrumentalis*, is the music produced by certain instruments. The later category corresponds to what most people now refer to when using the word music. Putting aside *humana* for now, it seems clear that Boethius saw a correlation between the music of the spheres and *instrumentalis*:

The first type of music is music of the spheres, which can be seen especially in the heavens or in combination with the elements or changing of the seasons. For how can it be that a celestial machine can move so quickly yet silently on its course? And although its sound does not reach our ears, which happens for many reasons, it is not possible however that such an extremely fast motion of such large bodies makes no sound, especially because the paths of the stars are all joined in a way that nothing more perfect could be conceived. For some [travel] in a higher, and others in a lower orbit. Yet all turn with equal force in a way that through these dissimilar paths they form a rational order. With such a celestial model, no less rational order can be expected in music.⁴⁶

⁴⁴ Bulat M. Galejev, Evolution of Gravitational Synesthesia in Music: To Color and Light!”, *Leonardo*, Vol. 36, No. 2 (2003): 129.

⁴⁵ Boethius' theory on music, Cengage, http://www.cengage.com/music/book_content/049557273X_wrightSimms_DEMO/assets/ITOW/7273X_01_IT_OW_Boethius.pdf, visited 20 April 2015.

⁴⁶ Boethius' theory on music, Cengage, http://www.cengage.com/music/book_content/049557273X_wrightSimms_DEMO/assets/ITOW/7273X_01_IT_OW_Boethius.pdf, visited 20 April 2015.

The very concept of music as we understand it today, emerged from celestial observations. Galeyev's hypothesis about music being a product of synaesthesia is strengthened by the very idea of this correlation between music and the cosmos. He adds that:

Sometimes these kinds of intersensory connections, namely, gravitational - audile and gravitational - visual synestheses, rise to the level of consciousness. They can be found in ordinary speech in the form of veiled metaphors and conventional allegories based on intersensory transfers, such as "baritone" (i.e. "heavy sound"), "light music," "heavy chords" and so on. They are close to what I. Setchenov called "vague feelings" connected with the protopathic, or primary, component of sensations and revealed in the form of the most common emotional reactions (forming such incomplete verbal synestheses as "heavy mood," "light melancholy" and so on).⁴⁷

What Galeyev called "verbal synesthesia" is usually referred to as synesthetic metaphor. Some critics speak of weak synaesthesia and claim that everybody possesses the ability to experience it. Synesthetic metaphors can be found in speech, most of the time, and indicate an ancient relationship between the senses, ancient in time as well as in human development. Greta Berman writes that:

Certainly we all possess "relative synesthesia," which, like relative pitch (and unlike perfect pitch), can be developed. Relative synesthesia might be appropriately termed metaphorical; it constitutes another area of study. Indeed, most human beings experience emotional reactions to color and pitch. A common example of this is a "blue note," which connotes sadness (the "blues"), while bright yellow and red usually indicate warm and happy moods, corresponding to major scales. The language of music is filled with visual art analogies, such as tone color, chromaticism, texture and even more specific terms. [...] The term "synesthesia" has been overused in general writing on the subject. Rather than labelling as synesthetic any visual artist influenced by music or composer interested in art, it would be useful to be more accurate. When technically discussing the phenomenon of synesthesia, we should be dealing with the senses not as metaphors, but as separate and distinct realities.⁴⁸

Berman warns us to make a distinction between synaesthesia and synesthetic metaphor. In her own words, those metaphors are "relative" and may vary from one individual to another. The distinction should be taken into account when considering the importance of synesthetic metaphors in film, however, and making sense of audience response to associations between colour and music, for instance. Several other critics have argued that those natural associations in the language of music result from the process of synesthetic metaphor. Yi-Fi Tuan writes that "in human speech, vowels are able to evoke colored images with remarkable consistency. Still more common is the association of the pitch of a sound with the brightness of an image. For example, low-pitched sounds such as deep voices, drums, and thunder produce dark images, whereas squeaks, violins and soprano voices produce white or bright images. Another common association is between the pitch of a sound and the size and shape of an image. Thus, high-

⁴⁷ Bulat M. Galeyev, *Evolution of Gravitational Synesthesia in Music: To Color and Light!*, *Leonardo*, Vol. 36, No. 2 (2003): 130.

⁴⁸ Greta Berman, "Synesthesia and the Arts." *Leonardo* (1999): 16.

pitched sounds are small, angular and sharply edged, whereas low-pitched sounds are dark, round, and massive.”⁴⁹

Music therefore seems to be one of the origins (if not the origin) of human synaesthesia. This idea raises several problems, among those the question of the meaning of music. Tuan adds that “convergences of meaning that go beyond the field of pure sound can be systematically observed. For example, Imberty's first postulate links sound to movement. This is fairly close to intersensoriality. But isn't the word ‘movement’ in the responses collected by Imberty a mere metaphor?”⁵⁰ The word *movement* itself, used to describe parts of a sheet music, represents, in itself, a correlation between hearing and a different sense: touch. Sound is, therefore, connected to synaesthesia, and the latter often seems to be based on a mixing of sound and another sense. This is one of the reasons why this thesis will focus on the use of sound in cinema. Moreover, we have already noticed that some of the vocabulary used to describe music is also used to describe colours. The word *tone*, for instance, is a clear example of the synesthetic aspect of music. The particular case of synesthetic metaphor will be analyzed in a later section, when dealing with *audition colorée* (colour-hearing).

On the subject of the meaning of music, Tuan adds that:

Listeners most often qualify the word "sound" by using metaphors of synesthetic order. It is in this field that we can best study synesthesia in music. For example: the first movement of "winter" in The Four Seasons, by Vivaldi, played by the ensemble II Giardino Armonico. It is "program music" illustrating a text. The text devoted to "Winter" is concerned with cold and ice; how can one render cold and ice through music and, more precisely, through "sound"? Vivaldi found his solution and his interpreters theirs. Why is it that a given sound seems colder than another? Is the sound obtained by playing al ponticello very close to the bridge, and therefore a bit rasping a cold sound? In what conditions is it cold? It is clear that there must be cold and warm sounds, just as we speak of light and dark tones. We constantly use synesthetic metaphors to describe "sound.”⁵¹

Again, Tuan's remark may lead one to ponder the very nature and meaning of music. His argument could be relevant when dealing with the soundtrack to the films under study. Some of the songs from the soundtrack to *Blade Runner* bear names with clear synesthetic qualities. Rachel's theme and Vangelis' love theme clearly evoke the idea of a romantic relationship between Deckard and the replicant. But how does sound convey that idea? The use of the saxophone is clearly adding to the “warm” tone given to the song. Then again, the idea of a warm sound is evidently synesthetic, because it borrows from the fields of sound as well of temperature, that is to say thermoception, as we have seen previously. On the contrary, the track entitled “Blade Runner Blues” foregrounds the use of the word *blues* to describe dysphoric

⁴⁹ Yi-Fu Tuan. “Sign and Metaphor”. *Annals of the Associations of American Geographers*, Vol 68, No. 3 (1978): 366-367.

⁵⁰ *Ibid.*

⁵¹ *Ibid.*

atmospheres and refers to a specific musical genre often associated with a specific film genre: noir. It is not very clear how that association was first made. What is particularly sad about the colour blue? Associations between colour and music are found later in the *Blade Runner* soundtrack. The title “Memories in Green” also foregrounds parallels between the two lexical fields. The colour green therefore bears significant evocations of Rachel’s forged memories. All those examples of connections between two senses (in that particular case, sight and hearing) are instances of synesthetic metaphors, or what some critics call weak synaesthesia. In an article entitled “Synesthesia: Strong and Weak”, Martino, Gail & Marks argue that:

The phenomenology of strong synesthesia led us to ask whether individuals who lack strong synesthesia nevertheless show analogous cross-modal associations. There is considerable evidence that one can create, identify, and appreciate cross-modal connections or associations even if one is not strongly synesthetic. These abilities constitute weak synesthesia. One form of association is the cross-modal metaphor found in common language (e.g., warm color and sweet smell) and in literature (e.g., Baudelaire's poem "Correspondences").⁵²

The mention of Baudelaire’s poem is quite common in articles dealing with synaesthesia. It appears to be the origin of many works on the subject, and probably one of the first instances of a synesthetic artist trying to convey the idea of intersensoriality through his art. Baudelaire writes indeed that “Perfumes, sounds, and colours correspond,”⁵³ hinting at a mixing of the senses and therefore synaesthesia, since Baudelaire posits correlations between the senses of smell, hearing and sight, in that particular order. The last two lines of the poem read:

Like amber and incense, musk, benzoin,
That sing the ecstasy of the soul and senses.⁵⁴

Baudelaire endows smells with life and tries to give them the ability to sing and praise other senses, hinting yet again at synaesthesia. So far, the correlations between the senses that have been evoked have been limited to synesthetic metaphors or artistic attempts at representing synaesthesia through poetry, in this particular case. But the term synaesthesia was first coined to describe a different kind of mixing of the senses. Even though it mostly occurs through the form of weak synaesthesia, many researchers argue that synaesthesia is not limited to dead metaphors and linguistic associations used by every individual.

⁵² Martino, Gail & Lawrence E. Marks. “Synesthesia: Strong and Weak”. *Current Directions in Psychological Science*, Vol. 10, No. 2 (2001): 63.

⁵³ Baudelaire’s *Correspondences*, *Fleurs du Mal*, <http://fleursdumal.org/poem/103>, visited July 21st 2016.

Translation by William Aggeler, 1954.

⁵⁴ *Ibid.*

2) Strong Synaesthesia

Berman writes that “the phenomenon of synesthesia was given its present name more than 200 years ago, although the phenomenon was known to the Greeks in ancient times. Pythagoras is believed to have written on the subject. During the years following the Renaissance, numbers of scientists and composers attempted to make instruments that would produce color-music.”⁵⁵ As we have seen previously, it appears that synaesthesia was first discovered as a mixing of colour and music, therefore of sight and hearing. This thesis will therefore focus on that particular relationship more than any other mixing of the senses. Greta Berman, who has written at length on the topic, goes on to describe the different phenomena experienced by synesthetes, and reveals that people who experience synaesthesia on a daily basis and without the help of any sort of drugs whatsoever describe it as a sensory experience that does not transcend other sensory experiences. Synesthetes will therefore feel that synaesthesia is just another sense, and give it as much credit as to any other sense.⁵⁶ Berman acknowledges the fact that synaesthesia remains largely misunderstood, and infers that “using” the process is impossible for synesthetes, as it is not a tool; it is, in fact, simply there. However, it is fair to assume that cinematographers and directors will choose to use certain devices to provoke these associations in audiences.

Scientist Jean-Pierre Ternaux writes that:

Training in the early stages of life can be one of the main parameters influencing sensory perception. Such an effect also depends on individual receptive capacities, leading, as described by some artists, to a complete change in sensory perception, even if the stimulation normally would have expressed a specific sensation related to its natural cause. As described by John Harrison, synesthesia is "the strangest thing," and cerebral mechanisms related to its expression remain unknown.⁵⁷

One of the main differences between research on the senses and research on synaesthesia so far lies in the fact that we still do not understand the physiological and psychological process behind synaesthesia. It appears that experiences have been conclusively carried out in trying to implement synesthetic reactions in children’s minds. However, these tests still do not allow researchers to conclusively determine where strong synaesthesia comes from. Critics who have written on the topic of strong and weak synaesthesia have noted that:

Except for the finding that there are more female than male synesthetes, few other generalizations characterize strong synesthetes as a group. Attempts have been made to link synesthesia with artistic creativity: Several strong synesthetes described in case studies have worked in the visual arts or music.

⁵⁵ Greta Berman. "Synesthesia and the Arts." *Leonardo* (1999): 16.

⁵⁶ *Ibid.*

⁵⁷ Ternaux, Jean-Pierre. “Synesthesia: A Multimodal Combination of Senses.” *Leonardo* (2003): 313.

Furthermore, several artists who have produced highly creative work like Kandinsky, Rimbaud, and Scriabin have drawn inspiration from synesthesia. It is unlikely, however, that these artists were themselves strong synesthetes. Thus, there are no empirical data to support the idea that strong synesthetes show high artistic creativity.⁵⁸

There are no major general statement to be made about strong synesthetes, except the fact that they all experience an actual mixing of the senses that is not strictly limited to synesthetic metaphors. Berman writes that:

Many different manifestations of synesthesia have been recorded. Some synesthetes see a particular color upon hearing a certain musical pitch or combination of musical notes; others actually experience a bitter taste when they see, for example, a square. Still others connect specific odors with sounds or colors. The synesthetic person experiences consistency in these perceptions. If a musical note or sound "looks" like a particular color one day, then it will always appear as that color to that person. Synesthetic individuals have described sensations as diverse and specific as seeing jagged red lines when hearing loud or high-pitched sounds, "tasting" pointed shapes when eating chicken, and smelling baked beans whenever a certain name is heard. These are actual perceptions and, as such, clearly distinguishable from metaphorical associations or hallucinations.⁵⁹

Synaesthesia therefore seems to be a "fixed" phenomenon, at least within the experience of one particular synesthete. An individual experiencing strong synaesthesia will thus always experience the same sensory associations. Strangely enough, research tends to show that some colours are often associated with the same musical notes. C major chords usually bring up the colour red in synesthetes' recollections⁶⁰, which makes one think that there could possibly be a relationship between these two elements. Arguments like that one are the basis for works on strong synaesthesia. We cannot posit that synaesthesia in the films under study is going to impact viewers in the same way. However, it is still fair to assume that certain devices will bring up similar responses in the audience. To determine whether or not those correlations exist, scientists lead experiments on synesthete and produce summaries of their findings:

Carol's tendency to see colors in response to pain is an example of strong synesthesia. Synesthesia means "to perceive together," and strong synesthesia occurs when a stimulus produces not only the sensory quality typically associated with that modality, but also a quality typically associated with another modality. Strong synesthesia typically arises on its own, although it also can follow the ingestion of drugs such as mescaline and LSD. In this article, we confine our discussion to synesthesia unrelated to drug use.⁶¹

Researchers go as far as to inflict pain on test subjects in order to determine whether they will provide sensory associations or not. For obvious reasons, no study of this kind has been conducted previous to writing this thesis as it is not a research paper in the field of hard sciences but a formal analysis of film. It could however be interesting to show different passages from

⁵⁸ Martino, Gail & Lawrence E. Marks. "Synesthesia: Strong and Weak". *Current Directions in Psychological Science*, Vol. 10, No. 2 (2001): 63.

⁵⁹ Greta Berman. "Synesthesia and the Arts." *Leonardo* (1999): 15.

⁶⁰ B. M. Galeyev, "The Nature and Functions of Synesthesia in Music." *Leonardo* (2007): 285.

⁶¹ Martino, Gail & Lawrence E. Marks. "Synesthesia: Strong and Weak". *Current Directions in Psychological Science*, Vol. 10, No. 2 (2001): 62.

the film to various audiences and determine whether those passage convey the same effects on viewers. Experiments such as the one described above therefore show that synaesthesia does not limit itself to simple metaphor. Martino, Gail, and Lawrence write that:

We believe it is a mistake to label all of these phenomena simply as synesthesia because the underlying mechanisms cannot be identical, although they may overlap. In this review, we distinguish between strong synesthesia, which describes the unusual experiences of individuals such as Carol, and weak synesthesia, which describes milder forms of cross-sensory connections revealed through language and perception. In both types of synesthesia, cross-modal correspondences are evident, suggesting that the neural processes underlying strong and weak synesthesia, although not wholly identical, nonetheless may have a common core.⁶²

The three researchers do agree that, even though there has to be a clear-cut difference between strong synaesthesia and weak synaesthesia, they have deeper roots which connect them and makes the whole synesthetic experience available to non-synesthetes, that is to say the majority of the population. Yi-Fi Tuan writes on the same topic and states that:

It may be that strong synesthesia and metaphorical thinking are two ends of a continuum in human capacity. At one end, the outreach from one sensation to another is an automatic physiological process made possible by an interlacing of nerve fibers; at the other, the extension of an image or idea is a playful leap of the mind. Between them lie intermediate states, wherein the translation from one sensation, image, or idea to another is dependent in varying degree on conjoint experience, culture, and individual talent. An example, already given, of synesthesia as the result of conjoint experience is the coupling of the visually large with the auditorially loud. Culture operates at a more conscious level: it extends and elaborates a synesthetic disposition. For instance, the general tendency to associate frontal space with illuminated space and future time may be more explicitly acknowledged in some cultures than in others. Finally, a person can seek to enrich and deepen the meaning of an image by marrying it to another: he attempts metaphorical thought.⁶³

Tuan posits an interesting idea that had not been presented before: the idea that there might exist in-between degrees of synaesthesia, neither strong nor weak. Synesthetes could therefore experience synaesthesia on various levels, and audiences would be more likely to come closer to something tangible, that is to say closer to strong synaesthesia. Tuan then states that metaphorical associations between the senses depend also upon one's culture. That argument is going to come into play when dealing with Laura Marks' theories on intercultural cinema. Audiences from different cultures will indeed experience these devices in different ways. I will focus on Western cinema and its audience but it might be necessary to consider the fact that people who do not share the western collective unconscious might have different responses when confronted to film. It appears that strong synaesthesia and weak synaesthesia are closely linked, and it seems that the most common connections between senses are that of sight and hearing associations. The relations between colour and music will be of particular interest.

⁶² Martino, Gail & Lawrence E. Marks. "Synesthesia: Strong and Weak". *Current Directions in Psychological Science*, Vol. 10, No. 2 (2001): 63.

⁶³ Yi-Fu Tuan, "Sign and Metaphor". *Annals of the Associations of American Geographers*, Vol 68, No. 3 (1978): 367.

3) *Audition Colorée* and Synesthetic Artists

In his article entitled “Artistic and Psychological Experiments with Synesthesia,” Crétien Van Campen states that:

Synesthesia refers to the phenomenon in which stimulation of one sense modality gives rise to a sensation in another sense modality. The term “synesthesia” originates from the Greek *syn* (together) and *aisthesis* (perceive). The most prevalent form of synesthesia is known as *audition colorée*, the phenomenon of seeing colors when hearing music or vowels. Synesthetes experience this phenomenon more strongly – for instance, they see light spots in front of their eyes – than others who may experience only an inner feeling of color. Other forms of synesthesia result in “tasting” visual shapes and “feeling” warm and cold colors.⁶⁴

The French expression *audition colorée* (colour-hearing) is largely used throughout the world to describe the association between the senses of hearing and sight, and particularly associations between colour and music. Van Campen later states that interest in colour hearing goes all the way back to Greece (implicitly referring to the works of Aristotle) and claims that it was argued that colour, much like pitch, was thought to be a physical quality of music.⁶⁵ He then refers to the works of Pythagoras who discovered the mathematical order of musical harmony by creating associations between the length of strings on an instrument to successive octaves, therefore leading to the assumption that colour and music were closely linked.⁶⁶ On the relationship between colour and music, Galeyev states that:

In any dictionary or textbook of music one can find the paradoxical word combination "color hearing." Explanations of the term may vary, having only one point in common: Color hearing is a particular case of synesthesia (literally "co-sensation"). Let us not dwell on the supposedly miraculous, abnormal, unique and genetically inherent nature of this psychic phenomenon. I start from the premise that synesthesia is a normal and common ability of intersensory association, a particular manifestation of imaginative thinking or (when it appears in verbal form) a double metaphor, in which the transfer of meaning inherent in metaphor is accompanied by the transition into another sensory modality. Both ends of such associative links or metaphors refer to the sensory sphere.⁶⁷

Galeyev’s argument shows indeed that colour hearing is supposedly the origin of research on synaesthesia. Interestingly enough, he also points out that idea that everyone is able to experience such phenomena, bringing strong and weak synaesthesia closer to each other.

He adds that:

Among the most obvious and simplest examples of “natural” (i.e. widely shared) synestheses is the “pitch-size” association: A low pitch looks big, thick and opaque, while a high pitch is small, thin and acute (children often describe pitches in this way). This association appears because in the physical world the pitch of a sounding object depends upon its size (a big object produces a low pitch and vice versa). This,

⁶⁴ Crétien Van Campen, “Artistic and Psychological Experiments with Synesthesia”. *Leonardo*, Vol. 32, No. 1 (1999): 9.

⁶⁵ *Ibid.*

⁶⁶ Crétien Van Campen, “Artistic and Psychological Experiments with Synesthesia”. *Leonardo*, Vol. 32, No. 1 (1999): 10.

⁶⁷ B.M. Galeyev, "The Nature and Functions of Synesthesia in Music." *Leonardo* (2007): 285.

by the way, is an example of association “by contiguity,” which occurs when two corresponding sensory stimuli (such as pitch and size) consistently go together.⁶⁸

Galeyev uses the example of pitch to illustrate how colour may relate to music. Musical pitch is indeed often linked to the way we see the physical world. In that particular case, it is the shape and size of objects that will be associated with a certain pitch. Galeyev then uses the example of the correspondence between brightness or lightness and pitch, and claims that a low pitch will appear “darker,” and that a high pitch will sound “lighter.”⁶⁹ Numerous examples can be found in “Dawns” and “Nocturnes.” Galeyev also points out that the word “baritone” literally means “heavy sound.” Moreover, in the English language (uniquely), the meaning of the word light is both “of little weight” and “light-coloured.” The word light is therefore inherently synesthetic and suggests that there is a natural correlation to be found between colour and music. Yi-Fi Tuan states that:

Synesthesia can be highly individualistic and specific. One person informed Francis Galton that to him the letter “A” is always brown. To the poet Arthur Rimbaud, on the other hand, “A” is “black.” Synesthesia can also be general and widely shared: for instance the association of red color with warmth and activity, and blue color with coldness and passivity. Culture and language differ among human groups, and yet the “feeling tone” of their worlds may have much in common.⁷⁰

Tuan therefore shows that colour is not only linked to music but also to shapes, and in that case, letters. Although various synesthetes do see different colours when being presented with different letters, Tuan underlines a fixed correlation between different objects. Once again, poets seem to have played an important role in the popularization of synaesthesia in the arts. He also later claims that “Synesthesia aids memory. Extreme synesthetes are mnemonists of a high order. To them, random alphabets are easy to recall because they are not only shapes but also colors,”⁷¹ again using the example of the alphabet. This idea of synaesthesia guiding memory will be particularly useful when dealing with forged memories in *Total Recall* and *Blade Runner*.

Various critics have dealt with many synesthetic artists and tried to analyse how that particular ability interfered with their work, or how synaesthesia was used by those artists as a means to produce art. Jean-Pierre Ternaux wrote that “throughout history, many writers and painters, such as Rimbaud, Baudelaire, Kandinsky, Nabokov and Hockney, have claimed to experience synesthesia, either resulting from psychoactive-drug absorption or, in a majority of

⁶⁸ B.M. Galeyev, “The Nature and Functions of Synesthesia in Music.” *Leonardo* (2007): 285.

⁶⁹ *Ibid.*

⁷⁰ Yi-Fu Tuan, “Sign and Metaphor”. *Annals of the Associations of American Geographers*, Vol 68, No. 3 (1978): 367.

⁷¹ *Ibid.*

cases, in the absence of any pharmacological effect.”⁷² Elmer Day elaborates on the work of Kandinsky and claims that “the colors do “sing” along with the syncretistic shapes in such paintings as “Accompanied Contrast” by Kandinsky, who was involved with synesthesia and felt that form and color may be used to evoke mood similar to the sounds of music.”⁷³ That particular painting does indeed provide us with a clear example of how synaesthesia was used by Wassily Kandinsky when painting.⁷⁴ On the website “Kandinsky as Synesthete,” we discover that “it must be noted that Kandinsky’s artistic experiments were based on his own involuntary experiences of synesthesia – he was investigating perceptual and emotional mechanisms of *real* synesthetic experience. To him, synesthesia was a fact, not a deliberate contrivance.”⁷⁵ Kandinsky even established links between colour and light and produced a theorem which stated that, for instance, yellow is a warm colour while blue is a cold one, and that the two are therefore opposites. He thus posited a link between colour and, in that particular case, temperature. Kandinsky described his first synesthetic experience while “listening to” a performance of Wagner’s opera *Lohengrin* in Moscow: “The violins, the deep tones of the basses, and especially the wind instruments at that time, embodied for me all the power of that pre-nocturnal hour. I saw all my colours in my mind, they stood before my eyes. Wild, almost crazy lines were sketched in front of me.”⁷⁶ Because research on synaesthesia was nearly inexistent at the time, Kandinsky believed his experience to be a spiritual one. He also declared that “the colour red may cause a spiritual vibration like flame, since red is the colour of flame. A warm red has a stimulating effect and can increase in intensity until it induces a painful sensation, perhaps also because of its resemblance to flowing blood. This colour can then conjure up the memory of another physical agent, which necessarily exerts a painful effect upon the soul.”⁷⁷ Here, Kandinsky already evokes what appears to be a connection between colour and pain, with the obvious association of blood and the colour red. Furthermore, as well as quoting the works of French poets such as Baudelaire, Arthur Rimbaud, and Stéphane Mallarmé, Paul Hertz states that:

Though frequently cited as the precursor for modernist interest in multisensory art, perhaps because of Richard Wagner's boast of founding the "art of the future," the operatic Gesamtkunstwerk is but one instance of art composed for multiple senses. Within the Romantic and late Romantic periods a parallel

⁷² Ternaux, Jean-Pierre. "Synesthesia: A Multimodal Combination of Senses." *Leonardo* (2003): 322.

⁷³ Elmer Day. “Dreaming, Visual Creating, and Phenomenological Describing”. *Art Education*, Vol. 35, No. 3 (1982): 7.

⁷⁴ [Guggenheim Collection Online, Kandinsky’s Accompanied Contrasts, visited 2 August 2016, https://www.guggenheim.org/artwork/1963](https://www.guggenheim.org/artwork/1963)

⁷⁵ [Kandinsky as Synesthete, visited 2 August 2016, https://zaklynsky.wordpress.com/2013/08/01/kandinsky-as-synesthete/](https://zaklynsky.wordpress.com/2013/08/01/kandinsky-as-synesthete/)

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*

and decidedly smaller scale of experimentation flourished within Western European poetry, influencing a wide range of other art forms.⁷⁸

This idea of a total work of art, or a synthesis of the arts according to different translations of the German term, was first put forth by Wagner. His most famous opera *Der Ring des Nibelungen* was his main attempt at providing his audience with an intersensory experience to his audience. *Die Walküre*, perhaps the most famous passage from the opera, is still considered to be the closest any artist has achieved to conjure up a mixing of the senses. Van Campen adds on the same topic:

Symbolist painters of the late nineteenth century also explored synesthesia. Their interest in synesthesia had two main motives. First, many visual artists regarded music as the highest step on the ladder of the arts, because of its universal and ethereal quality. Second, the influential idea of the Gesamtkunstwerk proposed by Wagner assumed that visual, auditory and other sensory elements were attuned in one Gestalt experience. The experiments by symbolist visual artists ranged from whistling during the act of painting (Delacroix and Mengers whistled to create the right atmosphere for their paintings) to rules of thumb for translating musical notes into colors. Van Gogh maddened his music teacher by stubbornly testing his ideas on tone-color correspondences during piano lessons.⁷⁹

Van Gogh additionally started to learn how to play the organ in order to develop synesthetic abilities while painting. Finally, neurologist Richard Cytowic, who is believed to be one of the most qualified scientists dealing with synaesthesia, deals with the particular case of British painter David Hockney and claims that Hockney's synaesthesia involves an association of music, shape, colour and space.⁸⁰ Hockney explained that music dictates his choices of colours and materials. Much like Van Gogh, Hockney rejected the idea that some of his work was monochromatic, insisting that he was actually using different shades that most people would not identify. Cytowic explains that this is clearly a sign of Hockney's synesthetic abilities, seeing multiple shades where most people will only see one. Cytowic also states that Hockney's relation to space is linked to synaesthesia, and that the artist somehow "feels" that sound and colour both relate to space.⁸¹ There have thus been multiple synesthetic artists throughout history and in various fields. However, some of these works are said to be controversial, and many critics believe that Van Gogh, for instance, was actually not experiencing strong synaesthesia. Be that as it may, I do not believe that artists (such as directors) need to experience strong synaesthesia in order to convey synesthetic experiences in the audience.

⁷⁸ Paul Hertz, "Synesthetic Art: An Imaginary Number?". *Leonardo*, Vol. 32, No. 5 (1999): 399.

⁷⁹ Crétien Van Campen, "Artistic and Psychological Experiments with Synesthesia". *Leonardo*, Vol. 32, No. 1 (1999): 10.

⁸⁰ Greta Berman, "Synesthesia and the Arts." *Leonardo* (1999): 20.

⁸¹ *Ibid.*

C) Synaesthesia and the Arts

1) Literary Synaesthesia

Before moving on to synaesthesia in film, it seems necessary to deal with the topic of literary synaesthesia, that is to say synesthesia in literature, and in that particular case, synaesthesia in the works of Philip K. Dick, whose novels and short stories will be used as source texts for this study. Literary Synaesthesia has been defined and thought out by Glenn O'Malley in his article entitled "Literary Synesthesia." O'Malley states that:

Literary synesthesia may be defined as a writer's use of the "metaphor of the senses" or of expressions and concepts related to it. [...] The definition is necessarily sweeping and imprecise, since metaphor of the senses is no more amenable to definitive treatment than any other kind of metaphor. It is true that in some respects intersense metaphor appears elementary when compared with other kinds, since the latter may fuse or interrelate complex wholes of experience, while the comparison of sense data (of brightness with high pitch, for example) can involve a loss both of concreteness and complexity.⁸²

The Oxford English Dictionary defines metaphor as "a figure of speech in which a name or descriptive word or phrase is transferred to an object or action different from, but analogous to, that to which it is literally applicable,"⁸³ as well as "something regarded as representative or suggestive of something else, a material emblem of an abstract quality, condition, notion, etc.; a symbol, a token."⁸⁴ The Metaphor of the Senses is therefore an attempt to bring them closer to one another and present similarities and analogies between them. The expressions literary synaesthesia and intersense metaphors are both used by O'Malley to describe the same phenomenon. Even though critics who were already quoted in this chapter prevented us from referring to synesthetic metaphor as synaesthesia, it appears that there is a middle-ground where we can fairly assume that synaesthesia work on many different levels. Intersense metaphor is of the utmost interest in literary and film analyses, since it is as far as one can go to describe synesthetic experiences in cinema. O'Malley writes that:

In the last century, moreover, literary preoccupation with aspects of clinical synesthesia (with drug-induced synesthaesiae, for example) has been significant mainly with reference to the possibility of such intersense comparison as would make the metaphor of the senses generally meaningful. For such reasons, the concept of intersense analogy is clearly the more important of the two for the study of literary synesthesia. In terms of psychological validity, however, it is also in some respects the more debatable.⁸⁵

It seems that clinical synaesthesia (understand: strong synaesthesia) and intersense metaphor (weak synaesthesia) are not mutually exclusive and the existence of the first one does not cancel

⁸² Glenn O'Malley, "Literary Synesthesia". *The Journal of Aesthetics and Art Criticism*, Vol 15, No. 4 (June 1957): 391.

⁸³ Oxford English Dictionary, visited 7 July 2016, <https://www-oed-com.nomade.univ-tlse2.fr/>

⁸⁴ *Ibid.*

⁸⁵ Glenn O'Malley, "Literary Synesthesia". *The Journal of Aesthetics and Art Criticism*, Vol 15, No. 4 (June 1957): 394.

nor reduce the importance of the latter one. On the contrary, research in the field of clinical synaesthesia only reinforce the possibility of the existence of intersense metaphor. O'Malley does concede that intersense metaphor is the least credible theory, since we cannot actually conduct experiments on people. He also wrote that:

Man's senses have evolved from a primordial unity, and our psycho-physiological make-up has retained, through various stages of growth, a diminishing awareness of a state in which color, for example, was "heard" and "smelled" as much as seen. But this primitive state was presumably not so chaotic that the same sound would be experienced now as red, again as green, and so on. In other words, the concept of primitive synesthesia seems to assume aboriginal correspondences among various sense data.⁸⁶

O'Malley puts forward the idea of a unique sense that was somehow divided into plenty different senses throughout the history of mankind. Synaesthesia is therefore not a new phenomenon that brings senses together or closer to one another, but a remnant of archaic bodily functions. He also states that several kinds of people are more likely to experience synaesthesia:

Evidence for this sort of theory is sometimes cited in synesthetic statements of persons whose powers of sensory discrimination and verbalization are either undeveloped or retrograde – such "primitives" as young children and schizophrenics. Whatever may be made of such testimony, it clearly must be distinguished from the intersense linkings of manifestly gifted persons like poets and artists.⁸⁷

So far, we focused mainly on artists (mainly poets) and we only briefly envisaged drug use as an enabler, a means to trigger synaesthesia in the creation of art. But O'Malley also posits that psychological disorders such as schizophrenia may be the origin of synesthetic abilities. Philip K. Dick was a notable schizophrenic and drug user, which were likely to be the origin of his synesthetic abilities, or at least a way to enhance them.

O'Malley claims that, apart from research in the field of literature, what he calls the "harmony of the senses" is of nearly no interest to researchers.⁸⁸ He speaks of a "stylistic device" and warns his readership that intersense metaphor should only be considered as a moderate and tentative approach to a largely misunderstood phenomenon, in order not to convey wrong ideas of over-simplified synaesthesia. He also states that:

Despite such qualifications, however, the linguistic aspect of intersense metaphors has considerable value for the study of literary synesthesia. As already indicated in regard to the psychology of intersense analogy, the universal occurrence and variety of commonly accepted synesthetic transfers help to show that borrowing from one sense vocabulary to describe the experience of a different sense is fundamentally normal. One might even say that a failure to develop intersense metaphors in literature may be branded as neglect of a basic feature of language; and conversely it should be noted that writers who exploit literary synesthesia may simply be responding to the suggestiveness of ordinary speech.⁸⁹

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ Glenn O'Malley, "Literary Synesthesia". *The Journal of Aesthetics and Art Criticism*, Vol 15, No. 4 (June 1957): 396.

⁸⁹ Glenn O'Malley, "Literary Synesthesia". *The Journal of Aesthetics and Art Criticism*, Vol 15, No. 4 (June 1957): 397.

It is therefore not a stretch to believe that all humans possess the ability to experience synaesthesia, at least on a metaphorical level. O'Malley describes the incapacity to do so as a failure to communicate, and a lack of basic linguistic understanding. Writers (and perhaps then film directors) may not even be aware of the synesthetic experience they are conveying. The concept of synaesthesia in the arts seems therefore to be a part of the audience's experience, and we will focus on spectator response in a later part of this analysis.

On the similarities between the arts, O'Malley notes that:

In treating literary synesthesia, however, one must note that while many literary uses of intersense analogy and clinical synesthesia depend on acceptance of the idea that parallels exist among the arts, yet on the other hand the general idea of such parallels can be so vague and broad as to be devoid of synesthetic implications.⁹⁰

It seems fair to assume that parallels among the arts are more than just a theory, since most forms of arts derive from a kind of unity defined in ancient Greece. For instance, O'Malley refers in his article to *ut pictura poesis*⁹¹ and thus the relationship between poetry and painting, which was thought to be a unique form of art. Finally, O'Malley states that:

Since Baudelaire, the notice and study of synesthesia, literary or other, have been widespread and extremely varied. Psychological investigation during this time has done little to assist literary appreciation and has tended on occasion to discredit and discourage the use of intersense metaphors. Literary inquiry and criticism, often impaired by too great a sensitivity to psychological pronouncements, has been remarkably uneven and weakened in general by failure to define terms and discriminate among various synesthetic usages. As a result of such failure, "synesthetic" has sometimes become a label to be applied with considerable looseness. On the other hand, though some aesthetic judgments on literary synesthesia and most popular attitudes toward it may still inhibit discussion, there is now available ample information to stimulate and guide needed explorations of imaginative accomplishments in a mode that Dante and Baudelaire pursued to so high a development.⁹²

Literary synaesthesia is still a debatable research area, and it is certainly to be equated with intersense metaphor and, therefore, weak synaesthesia. We will use the argument that intersense metaphors are widely shared and understood in the arts. Even though various devices may not actually trigger synaesthesia as defined by Cytowic, we will try and analyse how senses are blurred and mixed in a metaphorical way in literature, and, later, in films.

⁹⁰ Glenn O'Malley, "Literary Synesthesia". *The Journal of Aesthetics and Art Criticism*, Vol 15, No. 4 (June 1957): 403.

⁹¹ *Ibid.*

⁹² *Ibid.*

2) Philip K. Dick and Distorted Senses

Although this thesis may be focused on four different films directed by four different filmmakers from various origins, I feel that it is necessary to deal with the author of the novels and shorts stories which inspired those four films. Biographical elements from Dick's life, as well as passages from his writings, will help clarify the way synaesthesia functions in the films, and were clearly used by the filmmakers as a basis for their work. French fiction and non-fiction writer Emmanuel Carrère narrates Dick's life in his work entitled *Je Suis Vivant et Vous Êtes Morts (I Am Alive and You Are Dead: A Journey into the Mind of Philip K. Dick.)* and offers a few keys to enter Dick's mind and understand how he conveyed a blurred reality in his works. Carrère compares Dick's childhood to that of Nabokov, who was a famous synesthete, and calls the two writers "spiritual cousins."⁹³ Carrère foregrounds the interest that both authors shared for music and classical music in particular. Dick's writing was therefore inspired by what remained throughout most of his life his first and strongest passion. He even became a clerk in a record store in Berkeley, California, where he was born and raised.

Philip K. Dick was an only child, since his twin sister, Jane Charlotte Dick, died when they were both three weeks old and was buried in Berkeley; Philip's parents made sure that Philip's gravestone was ready for the day he would pass away. The loss of his sister created deep scars in the writer's psyche, who later claimed to doubt whether he was alive and his sister was dead, or she was alive and he was dead, a question that was referenced by Carrère's choice of title for his work. Dick's schizophrenia and split personality disorders can possibly be explained by the loss of his sisters, and the way death was always around him, ever since he was a child. According to Carrère, Dick even used that information to confuse the psychiatrists he was confronted to, and talked of being neurotic and phobic. He voluntarily falsified Rorschach tests to make his situation even more complex, and did not hesitate to use his dead twin sister to make his story more believable. Dick was probably aware that he could use drugs to enhance his writing abilities. Throughout his life, Dick married three times (and thus divorced twice), had many lovers, experienced even more psychological dysfunctions, used many different drugs including mescaline in order to write more effectively at night while keeping a day job, as well as a one-time experiment with LSD which led him to wonder whether he had escaped the thousand year-long nightmare he felt he had fallen into. Later, Dick even became religious

⁹³ Carrère, Emmanuel, and Timothy Bent. *I Am Alive and You Are Dead: A Journey into the Mind of Philip K. Dick*. New York: Metropolitan Books, Henry Holt (2004): 13.

when he thought he heard God speak through him and started behaving like a prophet. In a Sci-Fi convention in San Francisco, he declared, in a very serious tone, that he had been contacted by aliens who had decided that he should be their voice on Earth. Dick's reality was, therefore, always blurred for one reason or another. It seems logical that his writing should thus be affected by his distorted views, and become blurred as well. Dick wrote more than forty novels and a couple hundred short stories, mainly during the 1950s and 1960s. Throughout his career as a science fiction writer, Dick has imagined worlds where the allies have lost the Second World War, where time goes backward, where a giant eye in a sky spies on everyone at all times, or even worlds where celebrities become anonymous overnight.

Several of his dystopian fantasies have been adapted into films or TV series. The four films I have chosen to work on share a common theme: they all convey a blurring of reality and perception, and therefore of human senses. Moreover, senses play an important part in all four stories. In his article entitled "A Closed Circuit Technological Vision: On Minority Report, event detection and enabling technologies", Christopher Gad states that:

Minority Report is based on Philip K. Dick's short story (Dick 2002 [1956]), as are several other popular dystopian movies: *Blade Runner* (1982), *Total Recall* (1990) and *A Scanner Darkly* (2006). In our view, Dick's fictional universe could be characterised with the term 'ontological uncertainty'; basic things like 'nature', 'reality', 'humanity', 'technology', or 'sociality' are ambiguous and prone to change in meaning. In MR such an uncertainty forms the backdrop of a story that poses several questions without answering them.⁹⁴

The four films therefore share common themes and a similar interest in distorted realities. While *Blade Runner* and *Total Recall* bring up the theme of the self, and what it means to be human, *A Scanner Darkly* deals with the topic of split personalities, and *Minority Report* conjures up distorted ideas of justice. Those four therefore highlight the importance of the self, of the individual among a social group, a species, or institutions. Christopher Palmer writes that:

Most narratives blur the distinction between self and not-self. The self is shown to be incomplete, either by glimpses of fluctuating inner life, or by the way the story is about a transformation from one phase of life to another. The self never faces the outside world as a distinct thing, but always as an inchoate thing, and the facing, as soon as it enters crisis, makes you wonder whether there is a self there to do the facing. Dick's fictions simply exacerbate this common situation, after the mode of postmodernism, which works by exacerbation rather than invention. Nonetheless the exacerbation is spectacular. In a given work the range of active, purposeful and opinionated beings may include any – or almost all – of the following: robots, androids (artificial humans that seem to have the bodies of 'normal' humans), 'sims' (which are like androids, but usually radio controlled), animals, aliens, actors, fakes and pretenders.⁹⁵

⁹⁴ Christopher Gad, "A Closed Circuit Technological Vision: On Minority Report, event detection and enabling technologies", visited June 25, <http://library.queensu.ca/ojs/index.php/surveillance-and-society/article/viewFile/minority/minority>

⁹⁵ Palmer, Christopher. *Philip K. Dick: Exhilaration and Terror of the Postmodern*. Liverpool: Liverpool UP (2003): 12.

All four narratives do indeed blur the distinction between self and not-self. In *Do Androids Dream of Electric Sheep?*, Rick Deckard spends most of his time wondering whether he could be an android or not, and whether the replicant he fell in love with, Rachael Rosen, is able to experience true love. *A Scanner Darkly*'s main character Bob Arctor is assigned to the surveillance of his own house and ends up wondering who he is, and who he is watching, creating a split personality disorder within the character's psyche. Douglas Quail from "We Can Remember It for You Wholesale" is constantly doubting his own identity, never knowing whether he has had false memories implanted in his brain or not. Finally, John Anderton from "The Minority Report" is being hunted by precrime agents for a crime he has not committed yet and was not planning on committing, and is therefore starting to distrust the entire judicial system and the precogs' abilities. Palmer claims that:

Dick's novels are full of uncannily accurate and successful simulacra – simulacra that erase the things they might be said to be imitating, so that they are no longer imitations of anything, they simply are. They raise a problem of representation: representation should involve imperfection of differentiation, and this is lacking in these simulacra, though, to be sure, it will reappear when they break down.⁹⁶

Simulacra obviously plays a major role in most of Dick's works (one of his novels is even entitled *Simulacra*), as his aim is often to blur the boundaries between original and imitation, between human and machine, between real memories and false memories, etc. Palmers adds that "there are lots of neurotics or psychotics in Dick's novels: that is, people who are defined as autistic, schizoid, and so on. [...] With the human characters, dissolution of boundaries figures as the sense that others know you better than you do yourself: they know what you are going to say next, they have pre-scripted it, they possess your consciousness, you are living in their dreams or drug visions."⁹⁷ Dick's own psychosis influenced the creation of most of his protagonists. Often, it is through the use of their senses that characters realize that the reality they experience is not actually the primary one.

⁹⁶ Palmer, Christopher. *Philip K. Dick: Exhilaration and Terror of the Postmodern*. Liverpool: Liverpool UP (2003): 12.

⁹⁷ *Ibid.*

3) Dick's Novels and Short Stories

In his article entitled “Quand le cinéma ne suffit pas, la rotoscopie au service d’une adaptation cinématographique. A Scanner Darkly par Richard Linklater, d’après Philip K. Dick,” Julien Achemchame deals with a particular passage from the novel *A Scanner Darkly* in which Fred, Bob Arctor’s code name when he is working as an undercover agent for the narcotics unit, is spying on his boss Connie, who is slowly taking off her scramble-suit and becoming Donna, Arctor’s love interest.⁹⁸ Fred and Bob Arctor both watch this metamorphosis and fail to discern the real from the virtual, the original from the copy. They begin to wonder how supposedly objective images from a camera can change and be altered. Inside his scramble suit, Fred wonders whether he is hallucinating – and perhaps remembering his other life as Arctor. Fred begins to wonder whether the images from the surveillance camera are fake, or whether the whole reality he had taken for granted thus far could be a simulacra. Characters from the books have therefore no longer access to reality and are incapable of transmitting it to the reader.⁹⁹ Despite all the surveillance gear he is working with, Fred is not granted access to reality. His vision is therefore deceitful, and his sense of sight does not allow him to perceive the world. Because of his split personality and use of Substance Death, Fred’s all-powerful sight is not functioning. At the beginning of the novel, the narrator describes how a scramble suit works and writes that:

As the computer looped through its banks, it projected every conceivable eye color, hair color, shape and type of nose, formation of teeth, configuration of facial bone structure – the entire shroudlike membrane took on whatever physical characteristics were projected at any nanosecond, and then switched to the next. Just to make his scramble suit more effective, S.A. Powers programmed the computer to randomize the sequence of characteristics within each set. And to bring the cost down (the federal people always liked that), he found the source for the material of the membrane in a by-product of a large industrial firm already doing business with Washington.

In any case, the wearer of a scramble suit was Everyman and in every combination (up to combinations of a million and a half subbits) during the course of each hour. Hence, any description of him – or her – was meaningless.¹⁰⁰

Dick already emphasizes the importance of the distortion of boundaries and highlights how senses come into play in the novel. As the characters features (such as eyes and nose) are transformed, it becomes impossible for anyone to recognize them. But it becomes also

⁹⁸ **Julien** Achemchame, « Quand le cinéma ne suffit pas, la rotoscopie au service d’une adaptation cinématographique. A Scanner Darkly par Richard Linklater, d’après Philip K. Dick. » *Miranda*, visited 4 April 2016, <https://miranda.revues.org/3344?lang=en>

⁹⁹ **Julien** Achemchame, « Quand le cinéma ne suffit pas, la rotoscopie au service d’une adaptation cinématographique. A Scanner Darkly par Richard Linklater, d’après Philip K. Dick. » *Miranda*, visited 4 April 2016, <https://miranda.revues.org/3344?lang=en>

¹⁰⁰ Philip K. Dick, *A Scanner Darkly*. Garden City: Doubleday (1977): 16.

impossible for undercover agents to use their senses of sight without the filter provided by the scramble suit. This device therefore literally alters senses in every possible way. Similarly, the novella *Do Androids Dream of Electric Sheep?* begins with the following line:

It always surprised him to find himself awake without prior notice – he rose from the bed, stood up in his multi-coloured pyjamas, and stretched. Now, in her bed, his wife Iran opened her gray, unmerry eyes, blinked, then groaned and shut her eyes again.¹⁰¹

The novella opens with an emphasis on the trope of the eye. I will later show how this motif is used throughout most of Dick's adaptations, particularly in *Blade Runner* and *Minority Report*.

In a later scene, Dick writes that:

He lived alone in this deteriorating, blind building of a thousand uninhabited apartments, which like all its counterparts, fell, day by day, into greater entropic ruin. Eventually everything within the building would merge, would be faceless and identical, mere pudding-like kipple piled to the ceiling of each apartment. And, after that, the uncared-for building itself would settle into shapelessness, buried under the ubiquity of the dust. But then, naturally, he himself would be dead, another interesting event to anticipate as he stood here in his stricken living room alone with the lungless, all-penetrating, masterful world-silence.¹⁰²

As humans become faceless, buildings are said to be “blind,” and the boundary between humans and objects become blurred. Interestingly enough, even though immaterial and immobile beings are somehow anthropomorphized, as it is the case with Deckard's building here, they are still unable to sense properly. The building is “blind,” and his sense of sight is thus impaired. The narrator adds that: “It managed in fact to emerge from every object within his range of vision, as if it – the silence – meant to supplant all things tangible. Hence it assailed not only his ears but his eyes.”¹⁰³ That quote is undoubtedly the most obvious example of synaesthesia and the blurring of the senses in the novella. As Deckard *watches* objects around him, he is blind to everything but silence. The narrator therefore implies that Deckard watches the silence as if it were “tangible.” He even foregrounds the sense of touch and the relation between sight and kinetics. The motif of the eye is also present in *The Minority Report*: “The eyes of the crows focused on Anderton. Avidly, they peered at the only potential killer they had ever been privileged to see at close range.”¹⁰⁴

The interplay between real and artificial eyes is a common theme in Dick's writing. The same idea is used in *Do Androids Dream of Electric Sheep?* and was particularly developed by Ridley Scott in the screen adaptation. Interestingly enough, the two shorts stories (*Do Androids Dream of Electric Sheep?* is sometimes referred to as a novel, as novella or a long short story) focus on the eyes of birds of prey, a crow in *The Minority Report*, and an artificial owl in *Do*

¹⁰¹ Philip K. Dick, *Do Androids Dream of Electric Sheep?* London: Millennium (1968): 1.

¹⁰² Philip K. Dick, *Do Androids Dream of Electric Sheep?* London: Millennium (1968): 15.

¹⁰³ *Ibid.*

¹⁰⁴ Philip K. Dick, *The Minority Report*. New York: Pantheon Books (2002): 150.

Androids? Moreover, in his short story entitled “We Can Remember It for You Wholesale,” Dick writes that:

He seated himself at the kitchen table, brought out a yellow, small tin of fine Dean Swift snuff. He inhaled briskly, and the Beau Nash mixture stung his nose, burned the roof of his mouth. But still he inhaled; it woke him up and allowed his dreams, his nocturnal desires and random wishes, to condense into a semblance of rationality.¹⁰⁵

Much like Deckard in the movie *Blade Runner*, Douglas Quail is first presented eating. Using his sense of taste as well as his nose, Quail is projected into a dream that turns out to be the reality he is experiencing every day. The whole story revolves around the idea of its protagonist living his dream, or dreaming his life. Senses are therefore a gateway into the blurring of reality, into the distortion of the real and the oneiric. Dick later writes that: “For some odd reason, he seemed familiar to Quail; familiar in a blurred, distorted fashion which he could not pin down.”¹⁰⁶

Everything is “familiar in a blurred, distorted fashion” in Dick’s stories. With the exception of two realistic novels (*Voices from The Street* and *Confessions of a Crap Artist*), Dick’s novels and short stories always present futuristic or distorted realities, in which the characters are almost always lost and wondering whether they are actually able to discern what is real and what is virtual, or fake. All four adaptations have been selected for this study focus on the dichotomy between reality and virtuality, in various ways. The four directors have also chosen to emphasise the theme of the senses, and I will try to analyse the various devices they use to conjure up those particular motifs.

¹⁰⁵ Dick, Philip K. *We Can Remember It for You Wholesale and Other Classic Stories*. New York: Citadel Press (2002): 172.

¹⁰⁶ Dick, Philip K. *We Can Remember It for You Wholesale and Other Classic Stories*. New York: Citadel Press (2002): 218.

II) Emphasis on the Senses

In this second chapter, I will try to show how the senses are represented in the four films, both on a diegetic level and on a response level. Starting with the eye motif, which is present in many science fiction films and all four adaptations, and is fundamental when it comes to cinematic response, especially in Western culture, I will demonstrate that the eye foregrounds the presence of the spectator's gaze in the films. I will then move on to the theme of memory, and show how it is presented as a sense, and a synesthetic experience, both for the characters and the audience. Finally, I will elaborate on the film's textures, showing how the films' aesthetics also foreground a blurring of the senses.

A) The Eye Motif

Throughout his career, Philip K. Dick devoted many of his novels and short stories to the depiction of human perception, and sight in particular. In his novel *The Eye in the Sky*, the reader finds a plethora of subjective realities, and eight different stories narrated by eight characters who were all exposed to a nuclear accident. It appears that the dichotomy between the real and the virtual is the main thread that links all of Dick's stories together. Less obvious examples of distorted realities and blurred vision include all the four stories that I have mentioned. In his novel entitled *Do Androids Dream of Electric Sheep?*, the narrator is indeed concerned with the protagonist's vision, and his ability to see clearly.¹⁰⁷ This motif is recurrent in "The Minority Report," even though the narrator chooses to focus more on the eyes of animals that surround John Anderton's reality.¹⁰⁸ Similarly, in the short story "We Can Remember It for You Wholesale," the narrator focuses on the eyes of Douglas Quail's opponents.¹⁰⁹ Finally, in the novel *A Scanner Darkly*, the motif of the eye is always omnipresent.¹¹⁰ It is clear that this motif is recurrent and of major importance in the works of Philip K. Dick. The four directors who adapted those stories onto the screen also chose to focus on the eye motif, in various ways.

¹⁰⁷ Dick, Philip K. *Do Androids Dream of Electric Sheep?* London: Millennium (1968): 1.

¹⁰⁸ Dick, Philip K. *The Minority Report*. New York: Pantheon Books (2002): 150.

¹⁰⁹ Dick, Philip K. *We Can Remember It for You Wholesale and Other Classic Stories*. New York: Citadel Press (2002): 218.

¹¹⁰ Dick, Philip K. *A Scanner Darkly*. Garden City: Doubleday (1977): 16.

1) Real Eyes, Artificial Eyes

The opening scene from *Blade Runner* features one of the most striking examples of the eye motif in Dick's adaptations. An extreme close-up of a human eye interrupts long shots of the cityscape during the first few minutes of the film. It is not clear whether the eye belongs to the protagonist Rick Deckard, or to another character from the film. The eye could be seen as a reminder of the spectator's gaze. In their article entitled "From Ramble City to The Screening of The Eye; *Blade Runner*, Death and Symbolic Exchange," Marcus A. Doel and David B. Clarke present this particular shot alongside René Magritte's painting *The False Mirror*. Magritte's work focus on the sense of sight and appears to be a reflection on the act of seeing. The iris has been replaced with a blue sky and clouds, giving the impression to perceive what the eye is witnessing or the impression to see directly through it.



Two very quick shots seem to frame the sequences which introduce the Tyrell Corporation pyramid. The same device used in Magritte's painting is present in the film: the fire emanating from the chimney of the Los Angeles cityscape is reflected in this bright, blue eye, and already foregrounds the emphasis on the sense of sight in the film. It also gives the impression of a shot-reverse-shot effect, while at the same time acknowledging a link between the position of the character as witness and that of the audience. The emphasis on sight already foreshadows a blurring of the senses. Here, the character's sight is equated with that of the audience. The eye seems to be literally on fire, which evokes the distortion of the senses. A parallel is already drawn between the colours red/orange (from the reflection of the fire) and blue (from the iris). This chromatic dichotomy is present throughout the whole film, as I will explain in a further chapter. Hundreds of lights from the urban landscape are reflected in the eye, creating a blurred superimposition which foregrounds the main theme of the film: what is real, and what is not? This disproportionate organ, combining natural and man-made elements, is a metonymy of the

Replicants: *more human than human*, as it stands for all humanity, including the extradiegetic audience.

In a different scene, Roy Batty and Leon investigate an eye-manufacturing factory and threaten the engineer who designed their visual organs. There is then again an echo between different levels of sight. Batty plays with a pair of artificial eyes which he puts in front of his own. This scene also achieves a mixing of the senses as we get to focus on Roy's artificial eyes which reflect the ones he already possessed as well as the spectator's gaze. Our attention is drawn to this uncanny pair of eyes while the character paradoxically becomes blind for a few seconds. Batty ends up telling the engineer: "If only you could see what I've seen through your eyes", because the things Roy has seen are too gruesome for the human imagination. There is then again a sense of confusion between Roy's artificial eyes, the engineer's eyes he has created, his own, organic eyes, and the audience's gaze. Similarly, when Deckard first investigates the Tyrell Corporation, he encounters an artificial owl with a golden eye. The colour gold suggests the presence of replicants in the film and is closely linked to the fire from the chimneys that we saw earlier. Yet again, our attention is drawn to the animal's eye which seems to be directly looking at the audience. This recurrent motif allows the audience to focus on the characters' eyes as well as reflect upon their own vision of the film. This technique reminds us of the artificial aspect of films and, at the



same time, it already lays emphasis on the boundary between the real and the virtual. In European folktales, the owl often stands for the idea of the mirror, and denounces the hypocrisy of society.¹¹¹ This artificial animal and the emphasis on its eyes foregrounds the true nature of Tyrell's assistant Rachel, and perhaps that of Deckard himself.¹¹² Another dichotomy is found in the owl's eyes: its left eye seems to be organic, whether its right eye appears to be a golden sphere, hinting at a confusion between nature and machines. Finally, another striking instance of the emphasis on the eyes happens when Batty and Pris visit their maker, Eldon Tyrell. After defeating his "father" at chess, Roy Batty literally kisses Tyrell (which some critics have

¹¹¹ Vogler, Christopher. *The Writer's Journey: Mythic Structure for Writers*. Studio City: Michael Wiese Productions (2007): 74.

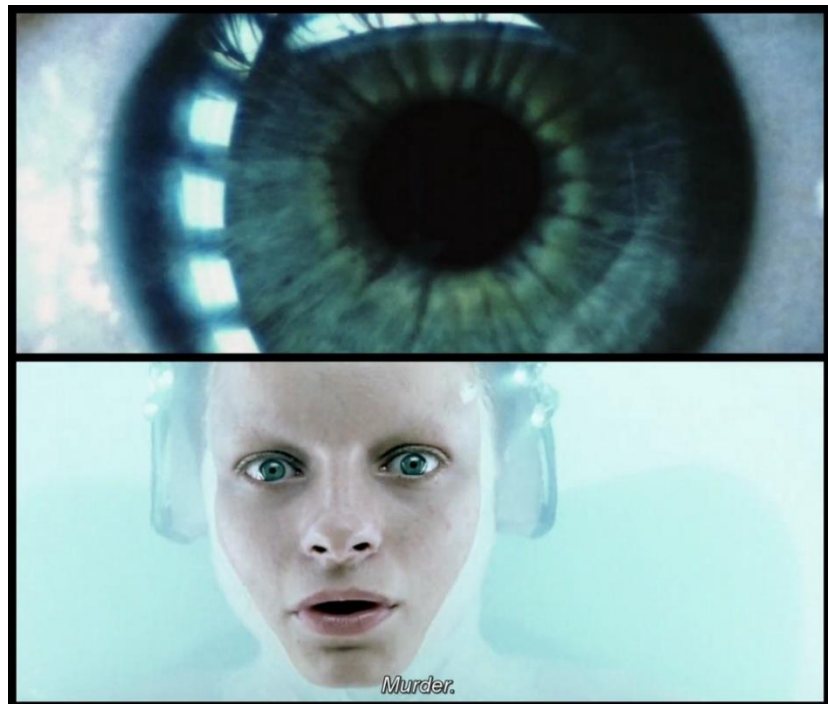
¹¹² It is never clear whether Deckard is a replicant, although Ridley Scott has repeatedly assured interviewers that he was, in fact, never human.

analysed through the scope of psychoanalysis as a representation of the Oedipus complex) and ends up murdering him, gauging his eyes out. Tyrell becomes blind and can therefore no longer see its creation – before being literally and figuratively killed by his child. The motif of the eye in *Blade Runner* is therefore always linked to the question of reality and life.

As Nigel Morris writes, *Minority Report* begins with an emphasis on eyes:

The ostensible narrative begins with a rapid montage portraying a murder. [...] Close-ups on eyes – The murderer’s? The victim’s? An onlooker’s? – culminating in an extreme close-up on an iris, underline the enigma. Similarity to key shots in *Psycho* and *2001* evoke both Hitchcock’s thrillers and Kubrick’s science fiction.¹¹³

The scene is quite oneiric and the blurring visual effects give the impression that the audience is witnessing a character’s dream. The spectator gets to learn that it is, in fact, one of Agatha’s visions. The first concrete close-up on a pair of eyes foregrounds a later scene, which was anticipated and dreamt by the precogs. The first murder attempt that is depicted and prevented by the precrime department takes place in a suburban house, where a middle-aged woman invites her lover in while her husband is away. The latter is, in fact, still in the house and decides to stab both cheaters with scissors. The same scissors were used by his wife, previously in the story’s chronological order, but later in the narrative. This split narrative already blurs the boundaries of what is real and what is not. Agatha dreams of the cheating wife using the scissors to make paper cut-outs with her children. Interestingly enough, she cuts out the eyes from a cardboard mask representing an unknown face. This striking image of a “blinded” cardboard figures foreshadows John Anderton’s surgical removal of his eyes, and the importance of sight in the film. This shot is followed by the line “You know how



¹¹³ Nigel Morris, *The Cinema of Steven Spielberg: Empire of Light*. London: Wallflower (2007): 316-317.

blind I am without them.” Referring to his glasses, the future murderer evokes nonetheless his own eyes and, more generally, to the way sight is depicted in the film. The film then displays rapid shots of the house, and the spectator is left with a close-up of the woman’s blue eye. The camera finally zooms out to reveal the face of Agatha, the most important of the three precogs. It is only then that the audience understands what the scene actually depicted. The fact that the woman’s eye and Agatha’s own eyes are superimposed hints at the confusion of different levels of sight in the film. Agatha was able to see through someone else’s eyes, using her ability to predict the future, just as the viewer is going to see through the eyes of John Anderton, and share some of his sensory experiences.

2) The Eye and the I

All four films display an intricate interplay between the sense of sight and the notion of identity, that is to say between the “Eye” and the “I”. When Anderton and the precrime brigade break into the couple’s house to prevent the husband from murdering his wife, it is through eye recognition technology that Anderton is able to identify and arrest the future murderer. His eyes and the identity that go along with them are therefore the cause of his demise. The same kind of technology is presented several times throughout the story. Anderton is able to escape eye recognition after obtaining a new set of eyes, and even the frightening *spydere*s are not able to correctly identify him. The different spelling suggests the post-human condition of most Dickian characters, and also hints at the fact that Anderton’s eyes were removed. Similarly, the “I” in spider was removed and replaced with something else. Anderton’s commitment to precrime emerged from the kidnapping of his only child. The character regularly uses drugs because “[he] need[s] to see clearly”, as he tells his dealer. The latter answers that “in the land of the blind, the one-eye man is king,” hinting again at a blurring of vision. The path that leads to Anderton’s dealer is made of dark alleys and tunnels where multiple screens await potential targets. Anderton is constantly being watched, whether it is after he is (falsely) accused of murder (or a future murder, more precisely) or when the post-capitalist city tries to surround him with advertisement. Furthermore, Anderton’s partner Lamar (Max Von Sydow) says, before inaugurating the sixth anniversary of precrime: “the eyes of the nation are upon us.” It seems that Anderton has absolutely no means of escaping other characters’ gaze, as well as that of the spectator. The emphasis on the eye and sight is therefore present throughout the whole film.

In *Total Recall*, Quaid's encounter with the mutant Kuato is followed by a dream-life sequence, where Quaid navigates above the surface of Mars as if he were capable of flying. Crane shots and CGI effects give the spectator the impression to witness the flight scene through Quaid's eyes, thanks to a POV shot. Kuato's own blue eyes mirror Quaid's eyes, and hints at the post-human condition of Quaid. It is never clear whether he has obtained memory implants from REKAL. Kuato's line "open your mind to me" is followed by a close-up of Quaid's eyes, and then a dissolve onto the surface of Mars, which is ironically blue. The eyes are, in this particular case, allow the spectator to journey through Quaid's mind.

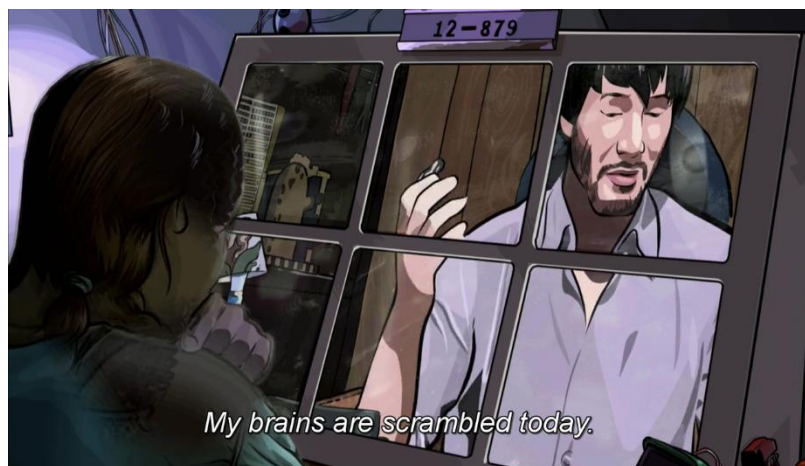
In *A Scanner Darkly*, Bob Arctor's personality becomes split, as he puts on his scramble suit to become Fred, the narcotics officer. While acting as a cop, Arctor/Fred is introducing the dangers of substance D and the importance of his police work in a lecture at the very beginning of the film. The characters in the audience are unable to perceive Fred's real identity, but the spectators navigate through the scramble suit and discover Fred's real identity. It seems that everyone but the spectator is unable to unearth Arctor's face and identity; it slowly becomes impossible for Fred to understand that he is, in fact, Bob Arctor. A voice emerging from within the scramble suit, which belongs to officer Hank (who is, in fact, Arctor's love interest in disguise), is directing Fred's actions and dialogue. Arctor is, as his name suggest, an actor on many levels. Again, the different spelling suggests a kind of blurring, which is enhanced by Arctor's split personality. Although the electronic microphone within the suit is impossible to locate for the spectator, the voice seems to come from above Arctor's head.



This shot gives the impression that Hank's voice is coming from off-screen, as if it were coming directly from the audience itself. It also displays an important emphasis on Arctor's eyes, which gives quite an eerie quality to the sequence. Keanu Reeves' monolithic acting adds to this uncanny effect, and I would argue that his fame and the fact that his voice is highly popular clearly creates a discrepancy between what the audience hears (a distorted voice coming from inside the scramble suit) and Reeves' actual voice, which the audience is very familiar with.

The same device was used recently in Spike Jonze's *Her* (2014), where a sentient operating system uses a surrogate body (who is, in reality, an actress who was paid to do this particular job) to "acquire" a body. However, Portia Doubleday's fame is not as huge as that of the voice that emerges from the sentient computer, that of Scarlett Johansson's. The audience is therefore not fooled by this treachery, and the discrepancy between what the spectator sees on screen and what they hear create a blurring effect, which Michel Chion refers to as *Synchresis*.¹¹⁴ Chion states that even an untrained audience will automatically associate an image and a sound that seem to come from the same source, even when they are aware that it cannot actually be true. One of the most famous examples of this phenomenon is the particular case of dubbing. The spectator will accept that a character's French voice (in an American movie) comes from his or her mouth, as long as the sound is synchronized with what they witness on screen. However, this effect is clearly used here in an ironic way: it creates a clear-cut discrepancy between Keanu Reeves' face and Fred's voice, hinting at the character's split personality.

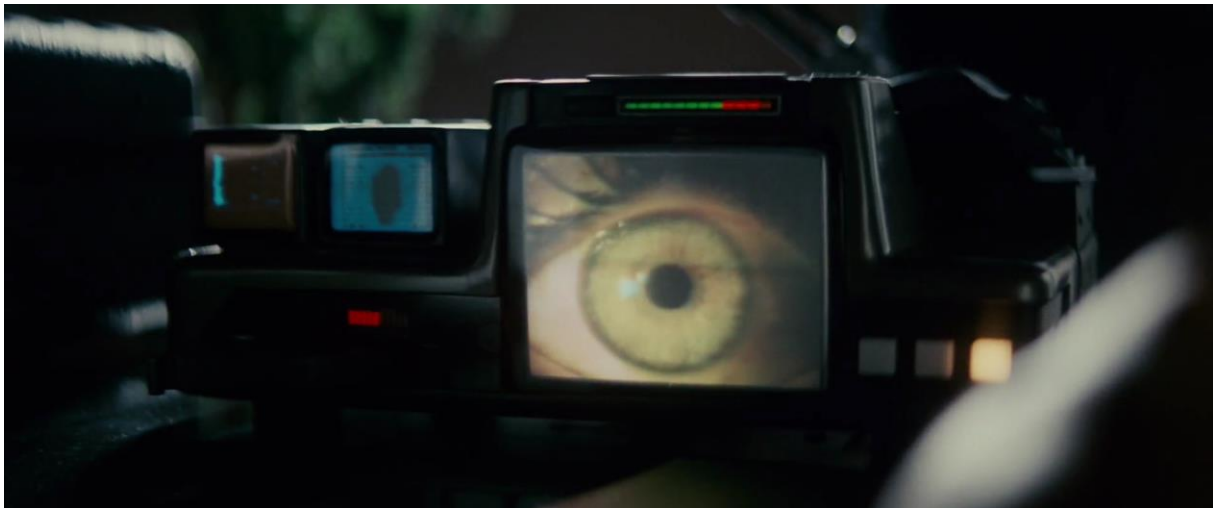
Later in the film, Fred is watching Arctor's house and fast-forwarding recordings of the previous days. Arctor is thus watching his own house from inside the scramble suit, but he seems unaware that he and Fred are the same person. They become two different



characters who appear simultaneously on the screen(s). Fred watches Arctor (and other characters who reside in his house) on a split screen (hinting at his/their split personality) while the spectator is watching Fred (and Arctor simultaneously). It is impossible to distinguish Fred's features since he is not facing the camera; the audience is not even capable of witnessing the changings of the scramble suit. However, Arctor's features do appear on the split screen. This complex game between the character's personalities therefore lays definite emphasis on his split personality. Arctor states that his "brains are scrambled today," alluding to the effects of Substance D and the character's disruptive identity.

¹¹⁴ Glossaire par Michel Chion, visited 18 November 2015, <http://www.lampe-tempete.fr/ChionGlossaire.html>

In *The Address of The Eye*, Vivian Sobchak states that one of the fundamental differences between humans (understand: persons) and animal/infants resides in the ability to perceive the world with eyes while at the same time being aware of the activity of seeing: “Both see the world as visible but cannot situate themselves uniquely in it as the “Here, where I am,” as the place and origin of access to the visible. They cannot see *that* they see. They merely see *what* they see.”¹¹⁵ Interestingly enough, Philip K. Dick describes people who are not persons as *androids*, whether they are machines or humans that no longer fit his definition, such as people responsible for mass murder.¹¹⁶ At the beginning of *Blade Runner*, following the opening scene mentioned above, the android known as Leon Kowalski is being interrogated by Blade Runner Dave Holden, at the Tyrell Corporation, which the nexus 6 have been trying to infiltrate. Holden is using the Voight-Kampff test on Leon, in order to determine whether he is



human, or a replicant. In *The Cinematic City*, David B. Clarke states that “the Voigt-Kampff test, with its focus on the Eye – and the I – is, therefore, absolutely pivotal to the world of *Blade Runner*.”¹¹⁷ The magnifying glass and the screen on the Voight-Kampff machine create a distorted sight of the replicant’s eye, which replaces Leon’s body on screen. The replicant is therefore devoid of any identity outside his visual organs, and literally becomes nothing more than an eye. Clarke argues that the blinking eye stands for the uncertainty of Leon’s identity. His eye is open and subsequently closed, hinting at the duality in every character, and the ultimate condition of Deckard. The giant eye on the VK machine screen is reminiscent of the shots from the opening sequence. However, the clear-cut distinction between the bright, blue eye from the beginning and the VK machine’s greenish eye (which always appear green

¹¹⁵ Sobchack, Vivian C. *The Address of the Eye: A Phenomenology of Film Experience*. Princeton: Princeton UP (1992): 51.

¹¹⁶ The cold-war climate and the fear of the atomic bomb were the main concerns behind *Do Androids Dream of Electric Dream?*

¹¹⁷ Clarke, David B. *The Cinematic City*. London: Routledge (1997): 158.

throughout the course of the film) do not allow the spectator to identify the first one as Leon's. It is therefore difficult to clearly identify the eyes in these scenes. When Deckard first visits the Tyrell Corporation, Eldon Tyrell requires that Rachel be submitted to the VK test. Her eye appears green as well, and it is difficult to establish a difference between Leon's and hers. The engineer who designed those addresses Roy and Leon and tells them: "I design your eyes!" Nexus 6 models thus possess the same artificial eyes and they can never be identified and separated using their eyes.

3) The Spectator's Eye

One of the most important aspects of the emphasis on the eyes in the four films is the constant presence of the spectator's gaze within the films, as mentioned above. The spectator is not simply given the task to witness images, unfolding in front of him or her, but is also reminded at all times that they are watching a film. Metacinematic elements constantly bring the audience back to their reality (without necessarily cutting them off from the film) and create a series of *mise en abyme* of the cinema itself, such as the sequence when Deckard uses the Esper machine. At the beginning of the scene, Deckard is off-screen and sleeping, and the spectator witnesses a beam of light coming from outside the apartment's window. This is obviously a reference to the cinema itself, both as a place and as an action (the act of seeing a film).

On his essay on "Other Places," Michel Foucault notes that:

The heterotopia has the power of juxtaposing in a single real place different spaces and locations that are incompatible with each other. Thus on the rectangle of its stage, the theater alternates as a series of places that are alien to each other; thus the cinema appears as a very curious rectangular hall, at the back of which a three-dimensional space is projected onto a two-dimensional screen.¹¹⁸

The beam that imitates the light of a projector in a theatre does not create an image on Deckard's wall; however, the spectator enters Deckard's mind, following a close-up of Deckard's face. Again, the spectator finds himself or herself thrown into Deckard's dream. The sequence that follows (this time, literally oneiric) depicts Deckard's dream vision of a white unicorn.¹¹⁹ This sequence is the key to understanding the film's ending. The very last scene shows Deckard picking up an origami unicorn that was left by Deckard's partner Gaff. The fact that he decided

¹¹⁸ Michel Foucault, "Of Other Spaces: Utopias and Heterotopias", *Rethinking Architecture: A Reader in Cultural Theory*. Edited by Neil Leach. NYC: Routledge (1997): 335.

¹¹⁹ This sequence was cut off for theatrical release, then reinstated in the Director's Cut (1993) and kept in the Final Cut (2007).

to leave a paper unicorn could mean that Deckard's memories were implanted. The fact that the dream sequence seems to be bathed in blue light is reminiscent of the blue halo created by the light beam. This sequence is thus a projection of the act of seeing a film within the diegesis, and what Foucault calls an "other place."

Sébastien Lefait has written at length on the topic of surveillance in *Minority Report*, in his book entitled *Surveillance on Screen*. He introduces the idea that the first scene is represented as a subjective sequence of images, and not a neutral viewpoint, as one would expect from a surveillance camera. He argues that the editing and other classic features of cinema (shot changes, location changes, etc.) give the illusion to witness the scene through Agatha's eyes. However, the fact that these images are later displayed on several screens in Anderton's office blurs the boundaries between prophecy and footage.¹²⁰ Although included in the surveillance process, the spectator is not sure whether he is witnessing a crime that has happened before, or is still yet to happen. Interestingly, the ending of the film adds another layer of confusion: the murder of Anne Lively appears to be prophetic, but it has in fact happened before. The spectator is not witnessing a future event, but a crime that has actually taken place (chronologically before the opening scene). There is thus a confusion between the senses, and the sense of time (chronoception) in particular: the spectator is unable to discern real images from memories. Sight is equated with memory, and it becomes impossible for the audience to know whether they are witnessing the film's diegetic past or future.

Morris states that "Agatha's large eyes and shaven head, together with her blank white background, locate the Pre-Cog, whose vision this is, on a line of mystical Others in Spielberg's science fiction cinema. She is, furthermore, another personification of cinema."¹²¹ Moreover, the very first scene that opens the film is, in fact, a vision of things to come seen through Agatha's eyes. The spectator is thus reminded of the artificial aspect of cinema. The precogs' vision are being projected onto a screen in John Anderton's main workspace. Anderton manipulates the visions at will, impersonating a film editor. He cuts off passages from the precogs' dreams and re-organizes them in the order he chooses. Anderton therefore embodies cinema as well.

¹²⁰ Lefait, Sébastien. *Surveillance on Screen: Monitoring Contemporary Films and Television Programs*. Lanham: Scarecrow Press, Inc (2013) : 60.

¹²¹ Morris, Nigel. *The Cinema of Steven Spielberg: Empire of Light*. London: Wallflower (2007): 317.



The precogs are being watched from the same office, which is also reminiscent of the act of seeing a film. In a striking sequence, agent Danny Witwer (Colin Farrell) watches the precogs for the first time, from Anderton's office and through a glass. Witwer's face appears reflect in the window pane and at the centre of a triangle formed by the three precogs. If the precogs are a representation of cinema, then Witwer stands for its audience, and the spectator itself. Christopher Gad states that "following MR's focus on the power of (controlling) vision, the movie is also seen as an argument that we need to be critical of the very act of seeing."¹²² The film itself is a reflection on the sense of sight, and the act of *watching* other people. Anderton is not only seen, but he is being watched at all times. The film uses the concept of the panopticon, a "perfect" prison designed to keep an eye on the prisoners without them ever seeing their gaolers, but still aware that they are being watched. Mark Garrett Cooper claims that "the security camera typically figures a system with fatal blind spots. Its lens cries out for spray paint; its wire invites a cutter. Only the most meticulous staging can make it appear all-seeing (as with Hal's ubiquitous eye in *2001: A Space Odyssey*)."¹²³ The Hal 9000 computer is advanced enough to pass as human, much like the Replicants from *Blade Runner*. The same kind of close-ups are used in both films, with a different effect. The eye in *Blade Runner* seems to be somehow dehumanized, as Susan Doll and Greg Faller explain: "in *Blade Runner*, the eye imagery serves as a reminder of the replicants' soulless existence."¹²⁴ On the contrary, Hal's

¹²² Gad, Christopher. "A Closed Circuit Technological Vision: On *Minority Report*, event detection and enabling technologies." *Surveillance & Society*, visited 4 April 2016, <http://library.queensu.ca/ojs/index.php/surveillance-and-society/article/viewFile/minority/minority>

¹²³ Cooper, Mark Garrett. "The contradictions of *Minority Report*." *The Free Library*, visited 18 January 2016, [http://www.thefreelibrary.com/The contradictions of Minority Report.-a0118377486](http://www.thefreelibrary.com/The+contradictions+of+Minority+Report.-a0118377486)

¹²⁴ Doll, Susan and Greg Faller. "Blade Runner and Genre: Film Noir and Science Fiction." *Literature Film Quarterly*, Vol 14.2 (1986): 94.

eye appears to give him a human aspect. Hal is a computer that appears to be human, whereas the precogs from *Minority Report* are humans that appear to be computers. Because of an unfortunate and random genetic accident, they have been endowed with the ability to foresee future murders, and are therefore used by the precrime organization. In a later scene, John Anderton has acquired a new set of eyes and is hiding in an old building. The setting is very reminiscent of *Blade Runner*, with all its giant screens and ads for international brands, and the disused buildings, which make up the cityscape of Washington DC. He is being chased by his former co-workers, who use spyzers to infiltrate the building and identify the people who reside there. Spyzers obviously connote the act of seeing, because of their numerous eyes, as well as the web in which Anderton seems to be taken from the very beginning. In a long take (and a sequence shot), the spyzers manage to enter the building and test every subject inside it; the camera navigates above the roof, and thanks to holes in the glass ceiling, the spectator is able to witness the different characters' actions, as if the house were a panopticon itself. The residents know that they are being watched, and the spectator is allowed to see everything that is happening inside the building. The audience watches different couples fighting, making love, etc., until the spyzers finally reach Anderton, and fail to identify him. The spyzers therefore stand for the intrusive spectator. A similar *mise en abyme* is used in *A Scanner Darkly* when Fred watches Bob Arctor's house. Fred is directly staring at a screen for several hours, and the spectator watches Fred watching Arctor. The audience is thus always reminded that they are watching a film – possibly wondering whether they are being watched. The scramble suit seems to represent the theatre: a dark, isolating place, which transform the people inside it into strange shapes with vague outlines. Fred appears to be another audience member, as if he were actually in the theatre with the spectator. The barrier between the screen and the theatre is blurred, and the spectator is invited to reflect on their own position as witnesses. The spectator's eye is therefore always present on screen, and their gaze is used as a subtle comment on the cinema.

The films thus present the eye as a recurrent motif that reminds the audience of its own presence within the cinematic experience. The emphasis on the eye is also linked to identity in the films. Sight is traditionally as a primary sense, and appears to be more important than any other sense. However, I will discuss other senses and their representation in the films, and explain how sight is sometimes put in the background while other senses are favoured, especially when sight is thought to be deceitful.

B) Senses and Memory

Although memory is not considered to be a sense in the strict definition of the term, the four films appear to lay emphasis on the importance of memory, which becomes equated with other senses. I will try to show how the films represent memory as a kind of sense.

1) Fragmented Memories

The opening sequence in *Minority Report* shows one of the precogs' visions of a future crime. This prophetic sequence shares some interesting aspects of music videos. Laurent Jullier claims that this comparison is often made by critics to besmirch some films' and directors' reputations. He also states that their aesthetic characterization creates a similar effect as a music video on MTV. The "clip-effect" creates a rupture in the narration, and allows the spectator to listen to a song and witness synchronized movements (characters' movements, editing, etc.) at the same time. He states that this effect favours, on the one hand, *plastic synaesthesia*, that is to say the blurring of sight and hearing (and in that case, images and music), and the impossibility for the audience to immerse in the narrative, on the other hand. The sequence thus presents images for the sake of images, and not images for the sake of storytelling.¹²⁵ Interestingly enough, the dream sequence does not interrupt the narrative; it delays it. The spectator is first presented with a mix of images and sound that do not make much sense (yet). The audience later understands how all those shots connect with one another, when the scene foreseen by the precogs take place in the film's diegesis. Agatha's vision is therefore prophetic and proleptic: it is first seen as a possibility of what might happen, then as a realization of what happens in the film. As timelines collide, the spectator is presented with a confusing sequence. The film's narrative is thus fragmented, because it starts with an event that is both present time, and future. Agatha uses her ability to foresee the future at present time, but the audience witnesses a future event.

The several shots that make up the opening scene are also not presented in chronological order: the shot where the cheating woman is presented cutting off pieces of paper with scissors comes after the shot when she is murdered by her husband; however, as the audience learns later in the film, the woman first plays with scissors, then gets stabbed. The scissors provide a link between the two shots, which are shown in the opposite chronological order, in Agatha's

¹²⁵ Kinephanos, Laurent Jullier's "L'effet-clip au cinéma," visited 12th September 2016, <http://www.kinephanos.ca/2013/effet-clip/>

vision. Narration is therefore fragmented, and not always in a strict chronological order, during the opening sequence. Furthermore, some of these shots are presented in reverse: not only do they appear in the wrong order (chronologically speaking), but they were also edited backwards. A recurrent shot during this sequence shows water coming into a bathtub. Obviously, the water was filmed coming out of the tub, then edited in reverse. The fact that the woman chooses to drag her wounded body to the bathtub is reminiscent of Anne Lively's murder underwater. Other editing techniques are used to ensure the fragmented aspect of this sequence: slow motion, accelerated motion, repetitive shots, etc. The film switches from one chromatic range to the other, from vivid blue to dull grey, which emphasizes the synesthetic aspect of memory: memory is linked to colour (and therefore sight) as well as movement (and therefore touch).

Agatha's experience of precognition is an embodied one: the last shot from the opening sequence dissolves into her eye, underlining the idea that the whole sequence was seen from her point of view. Those shots were therefore POV shots, even though the audience is not presented with what Agatha directly sees through her eyes (the ceiling within the "Temple"), but rather what her other sense allows her to discover. However, it is arguably a form of seeing, and Agatha's experience of precognition seems to rely on all her senses. Even though emphasis is laid on her eyes, Agatha's body appears to be in a state of trance. As she speaks of "murder", her head literally dives underwater (again echoing her mother's murder) as if to dull her senses after a traumatic experience. The fragmented experience of memory is therefore presented as a kind of sense, but at the same time, it is depicted as a very confusing blur of images and sounds. Emphasis is thus laid on the importance of the senses, before narration can ever begin. This first sequence therefore foregrounds the idea of a confusion between the senses.

2) *Total Recall*: Memories and Identity

Both *Blade Runner* and *Total Recall* are concerned with the theme of memory, and identity. In the latter, Douglas Quaid dreams of visiting Mars. He decides to hire the services of the REKAL Corporation to travel there – or, more precisely, to remember having travelled to the red planet. Quaid is about to acquire implanted memories of a secret agent mission to the planet Mars when the REKAL employees discover a previous implant in Quaid's brain. As the plot unfolds, the spectator gets to learn about Quaid's past and his "real" identity: that of Hauser, an actual secret agent who had his memory erased and replaced with a new identity and new memories. The film focuses on Quaid's quest for the truth. In an article entitled "Recalling the

Self: Personal Identity in *Total Recall*,” Shia Biderman argues that Quaid is “struggling with the two central issues of personal identity, the criteria of personhood and the question of his unique personality.”¹²⁶ Quaid thus needs to understand what makes him the same person over time. Unlike Bob Arctor, Quaid is himself from the opening scene of the film, and he is Hauser in a video recorded before the film’s diegesis (chronologically speaking). Quaid is not two different people at the same time, but his identity changes over time. In *Blade Runner*, the theme of personhood is central to the story and the film is very much about what it means to be a person, or a machine. In *Total Recall*, what seems to prevail Quaid’s quest to remain himself over time.

Biderman states that:

The question, then, is what is this x that guarantees the sameness of person? There are various attempts to spell out what this x is. These attempts can be broken down into two different categories, the physical criteria, or the criteria that describe x as some sort of physical continuity over time, and the psychological criteria, or the criteria that describe x as a kind of psychological continuity over time.¹²⁷

Biderman subsequently argues that Quaid and Hauser could be seen as the same person because they possess the same body. It appears that body and mind are not two disruptive entities which live in symbiosis; they are, on the contrary, the same entity. However, the concept of implanted memories shatters that explanation. In *The Skin of The Film*, Marks states that: “[Bergson] distinguished two kinds of memory: memory images, and modifications of the body: “the one *imagines* and the *other repeats*.”¹²⁸ The character of Kuato, a mutant who lives within the body of one of his underlings, is represented as a growth in George’s torso. There is a clear-cut distinction between the two characters: George is a human being, who is assigned certain tasks by his boss Kuato. The latter is an uncanny excrescence that resides within George’s body. We can argue, however, that both George and Kuato



¹²⁶ Sanders, Steven. *The Philosophy of Science Fiction Film*. Lexington: UP of Kentucky (2008): 40.

¹²⁷ *Ibid.*

¹²⁸ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 142.

possess the same body. When George is killed, so is Kuato, and they are never separated from each other. They exist in the same physical envelope, and could thus be considered the same person. But Kuato's voice is different, and his intentions are not the same as George's. He also seems to be endowed with post-human abilities, as Quaid's dream sequence (instigated by Kuato) seems to suggest. The body criterion is therefore not enough for Quaid to recover his identity.

Kuato's body is reminiscent of Quaid's implant: something that should not have been implanted there, and is therefore perceived as a lump. The design of the creature is quite similar to that of the main character in Cronenberg's *The Fly* (1986). In the latter, Seth Brundle (Jeff Goldblum) slowly transforms into an insect-like entity after a failed experiment and gradually becomes less and less human. Kuato's body is closely linked to the theme of decay, and of rejection. Quaid decides to refuse the call of Hauser, which begs him to surrender his recent identity so that Hauser could, in effect, become himself again. Kuato appears to have a brain of his own, which separates him from George, according to Biderman's brain criterion. He states that "since each has his own head, each has his own brain."¹²⁹ However, this argument does not resolve Quaid's issue: he and Hauser possess the same brain, with a slight alteration in the case of Quaid. One may think of the philosophical problem of Theseus' ship: if all the parts from the ship of Theseus are replaced during his journey, is it still the same ship? Quaid's brain differs from Hauser's since he had new memories implanted, just as George changed when Kuato grew on his torso. Biderman finally suggests a final test, the memory criterion, "the idea that a personal identity is defined by having memories of past experiences."¹³⁰ Quaid is therefore a person because he can remember his past life, and he is separate from Hauser because he does not recall being Hauser. Ultimately, Quaid's revelation that he is, in fact, someone else, is quite reminiscent of the split personality of Bob Arctor. Even though Quaid and Hauser are not technically two different persons at the same time, they appear to be on screen. When Quaid's



¹²⁹ Sanders, Steven. *The Philosophy of Science Fiction Film*. Lexington: UP of Kentucky (2008): 42.

¹³⁰ Sanders, Steven. *The Philosophy of Science Fiction Film*. Lexington: UP of Kentucky (2008): 43.

allies turn on him and bring him to Cohaagen, the antagonist who appears to be controlling the planet Mars and its resources, Cohaagen presents Quaid with a message from someone he trusts: himself. Or, more precisely, his former, “real” self, Hauser. Hauser speaks directly to Quaid (in what seems to be a recorded video message) on three different screens. Quaid and Hauser are thus present in the same scene, and even though the recording actually took place several weeks prior to the scene, the fact that Quaid is witnessing these messages disrupts the boundaries between Quaid and Hauser. The three screens hint at Quaid’s several identities and suggest that Quaid’s body may have more than two different identities. Hauser and Quaid could, in fact, both be fake identities.

As in most novels and short stories by Philip K. Dick, *Total Recall* does not leave the spectator with a clear, definite answer. There is still much debate about its ending (as is the case for *Blade Runner*, and *A Scanner Darkly* to a lesser extent), and it is difficult to assert which identity is “real”, which memories are fake and which ones are not. Critics have argued that the whole plot is a dream, which would resolve various problems in the plot.¹³¹ Be that as it may, the theme of memory is particularly important in *Total Recall*, and in *Blade Runner* as well.

3) Implanted Memories in *Blade Runner*

One of the central themes in *Blade Runner* is the idea that memories are often a simulacrum, and they can thus be deceiving. Kevin McNamara states that:

Instead of reinforcing the border between humans and replicants, *Blade Runner* projects a world in which technologies of image and memory production render human experience and memory ultimately indistinguishable from the experience of, and the memories created for, the replicants.¹³²

Much like Quaid in *Total Recall*, Deckard and the replicants’ identities are based on the memories they have of things they have experienced. But the spectator gets to learn that some characters’ memories are not genuine. When Rachel first visits Deckard at his apartment, she tells him about one of her first memories, a nightmare-like situation where she was caught by surprise and terrified by a spider. Deckard then finishes the story in her stead, and explains that this particular memory comes from Eldon Tyrell’s niece and was implanted into Rachel’s artificial brain. Rachel was not aware of her condition, and simply thought she was part of

¹³¹ Paul Verhoeven claimed that the whole film had to be a dream, but several critics pretended that the director was only covering up different plot holes.

¹³² Kevin R. McNamara, “Blade Runner’s Post Individual Worldspace”. *Contemporary Literature*, Vol. 38, No. 3 (1997): 423.

Tyrell's family. Similarly, Deckard thinks he is human. But the film's ending, which echoes his unicorn daydream, shatters the foundations of Deckard's identity. Beside the dialogues, Rachel's memories are presented to the spectator through a series of photographs. One of those photographs is a particularly striking image of her pretended mother, who turns out to be the mother of Tyrell's niece. As the camera zooms in on the photograph, it appears that a slight breeze brushes off a strand of hair on Rachel's forehead (who is, in fact, Tyrell's niece) and creates a very vivid image of the memory. The latter is no longer a two-dimensional photograph but becomes a three-dimensional sequence, and the audience therefore gets to see the scene



through Rachel's point of view. However, it is made clear that Rachel never witnessed or was a part of that scene. Interestingly enough, the photograph is not laid on Deckard's piano or in Rachel's hands, but it is firmly hold between Deckard's fingers, hinting at a mixing of the senses; in that case, touch is equated with hearing.

McNamara states that:

As Giuliana Bruno observes, in *Blade Runner*, photography is given "the grand task of reasserting the referent, of reappropriating the Real" (74), even as it replaces the Real: if snapshots have their usual function of recording time past, for replicants this function has a greater urgency.¹³³

The replicants' photographs are therefore the only proof they have of their recorded existence. However, these artefacts prove to be forged, much like the supposedly antique firearms from *The Man in The High Castle*, one of Dick's most famous novels. In his article entitled "The Power of Small Things in Philip K. Dick's *The Man in the High Castle*," John L. Simmons deals with what he calls "the pursuit of smallness" in the novel, which applies to the replicants from *Blade Runner*. In *High Castle*, Frank Frink manufactures fake antique weapons to sell

¹³³ McNamara, Kevin R. "Blade Runner's Post Individual Worldspace". *Contemporary Literature*, Vol. 38, No. 3 (1997): 425.

them to Japanese high-ranking officers with a slight inclination towards World War II nostalgia. The guns are identical to those actually manufactured during the war. It is literally impossible to dissociate the original from the copy. The replicants function in a similar way. They are even said to be “more human than human” (as the Tyrell Corporation advertises), and nearly indistinguishable from human beings, if it were not for the VK test. The small photographs in *Blade Runner* serve the same purpose as the guns in *High Castle*: to record history, to acknowledge a certain idea of the past and to make the fake pass as the original. The photographs also seem to function as a reminder of what the replicants lack: a mother, in Rachel’s case, given that the only “parent” they are said to have is Eldon Tyrell, their figurative father and creator. Another photograph depicts an empty room, which can be read as a comment on the replicants’ empty bodies: “the replicants’ non-humanity is further emphasized by the fact that they have no memory, past identity, and by extension, no soul.”¹³⁴ The photograph also displays a mirror, in which Deckard finds a silhouette, after “enhancing” the tiny detail thanks to his Esper machine. The replicants might therefore stand as a reflection of humanity, and Deckard himself. Interestingly, the same photograph found in Leon’s apartment is found again in Rachel’s pack, which serves to show that the replicants were given similar memories, and sometimes the exact same ones. Even though Rachel possesses her own fake memories, she shares a certain amount with other replicants. She has never met the other Nexus 6 models, however, and therefore could not share experiences with them. This further establishes the fake identities of the replicants. One of the most striking examples of how memory is used as a means to make the characters reflect upon their identities is obviously Deckard’s dream.

David B. Clarke states that:

The key sequence to be reinstated in the Director’s Cut was Deckard’s dream featuring a unicorn. As noted above, the last of the models Gaff places for Deckard to come across is a tiny origami unicorn, which Deckard finds as he and Rachel flee his apartment. His memory of Gaff’s last word – “It’s too bad she won’t live. But then again, who does?” – are replayed in voice-over, and the implication is that Deckard’s dreams, like Rachel’s memories, are not private and personal but issue from some kind of implant – such as those manufactured by the Tyrell Corporation, or the collective unconscious, for example. Gaff has seemingly had access to Deckard’s dreams – or has dreamt them himself – implying that Deckard, too, is a *Replicant*.¹³⁵

The film’s enigmatic ending is a climatic passage regarding the replicants’ identity. Deckard understands that he very well might be a replicant himself, by looking at the tinfoil unicorn. Previous to that, Deckard had been collecting photographs from an earlier century. Susan Doll

¹³⁴ Doll, Susan and Greg Faller. “Blade Runner and Genre: Film Noir and Science Fiction.” *Literature Film Quarterly*, Vol 14.2 (1986): 94-95.

¹³⁵ Clarke, David B. *The Cinematic City*. London: Routledge (1997): 155.

and Greg Faller state that Deckard might have been trying to “reconstruct a past,”¹³⁶ much like the replicants. These photographs also seem to represent families, or at least mother figures, and therefore the need to understand where one comes from. Deckard’s daydream sequence takes place when Deckard is sat down at his piano, playing music. The fact that these



photographs are laid on the piano creates an association between image and sound, and between sight and hearing. Deckard seems to be piecing together fragments from the past, just like a musician creates a melody from single notes.

Memory in the films is therefore presented as a sense, or as a multisensory experience. It is always linked to the senses in one way or another. The experience is most often visual and auditory; however, other senses are evoked through the use of sound and images. As shown previously, Agatha’s experience of precognition is a visceral one: her whole body is in a state of trance and her senses are thus called upon. The fact that Agatha lies underwater also indicates that she is living in a state of dull senses and remains numb for the first part of the film. Water obviously calls upon different senses, much like the rain in *Blade Runner*, which is both a visual and auditory experience, but is also considered a kinesthetic one. Again, water is used to dull the senses, and adds another layer of confusion in the synesthetic cinematic process. Memory is thus linked to touch as well, which is quite obvious in *Total Recall*, as seen with the character of Kuato. The latter seems to be a physical representation of memory and an echo of Quaid’s split personality. Again, the experience is visceral: Kuato emerges from his host’s body. Quaid is able to navigate through his own memory when being touched by Kuato’s hand. Similarly, Bob Arctor is able to witness his own memories on a screen. However, because his vision is

¹³⁶ Doll, Susan and Greg Faller. "Blade Runner and Genre: Film Noir and Science Fiction." *Literature Film Quarterly*, Vol 14.2 (1986): 98.

blurred after taking Substance D, he only gets a distorted version of what really happened in his house. Memory is thus represented as another sense, or more precisely an association of different senses, and is called upon when the characters and the audience experience synesthetic phenomena.

C) Focusing on Texture

1) Colour Codes

In his book entitled *Colour*, Steven Peacock states that “film writing has rather overlooked cinematic colour.”¹³⁷ The critic acknowledges the importance of colour in film, and their “repetitions, variations, and overlaps of meaning.”¹³⁸ It is crucial to examine attentively the use of colour in film, especially in films such as those chosen for this corpus. Colour appears to play a major role, both in terms of aesthetics and narrative, in the four films that I have chosen for this thesis. In her study of *Gattaca* (1997), Nathalie Vincent-Arnaud establishes a parallel between music and colour in the film, and uses the expression “chromatic counterpoint”¹³⁹ to establish a connection between the lexical fields of colour, and that of music. She underlines three distinct chromatic lines: the blue/grey atmosphere of the opening scenes, and the dull, repetitive routine of the protagonists. The colour blue also highlights the importance of the “valids” and their genetic superiority. It somehow dehumanizes the flow of employees and the police forces which investigate a crime scene where Vincent/Jerome (Ethan Hawke) works. On the other hand, the colour gold (and red, to a lesser extent) accentuates the human side of the characters, and is often used to stress romantic scene between Vincent and Irene. Gold also points out the theme of imperfection, and is linked to the “invalids.” Finally, the chromatic field of green emphasizes change, decay, danger, and a threat that, little by little, infiltrates the film and replaces the colour blue.¹⁴⁰ The use of colour in *Gattaca* reaches its climax when Vincent/Jerome needs to cross the road without wearing his contact lenses. His myopic vision could have killed him, if it were not for the love of Irene and her guiding voice. Thanks to a

¹³⁷ Peacock, Steven. *Colour*. Manchester: Manchester UP (2010): xii.

¹³⁸ *Ibid.*

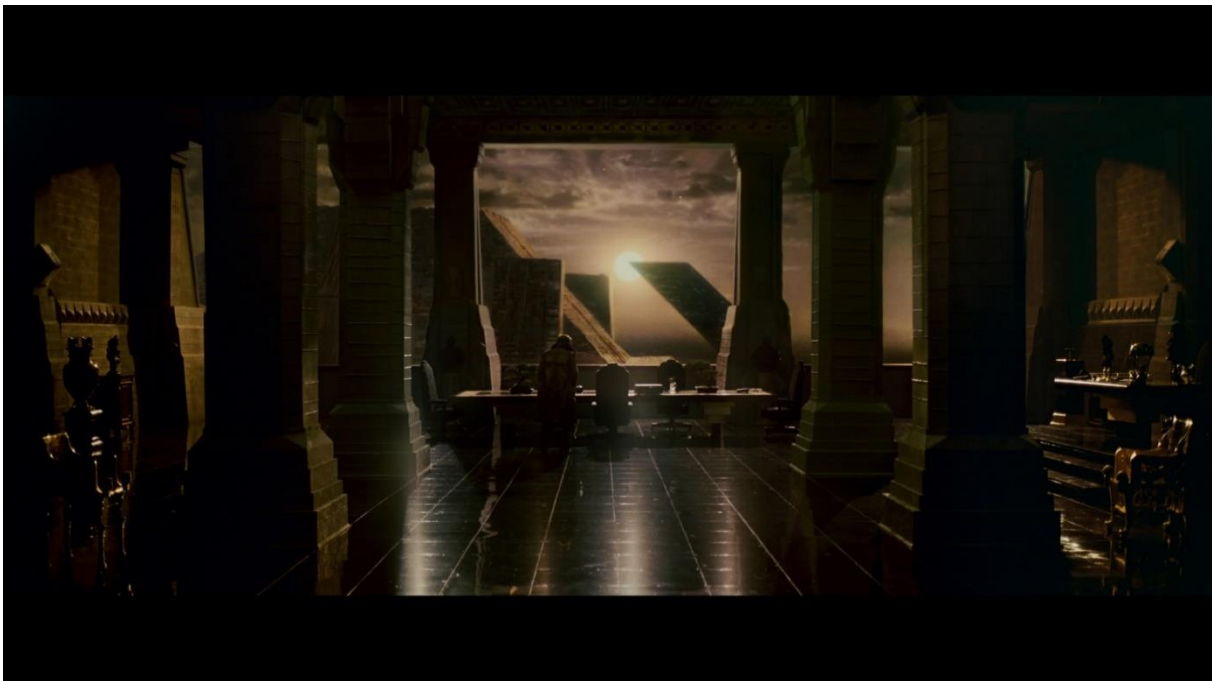
¹³⁹ Nathalie Vincent-Arnaud, “Contrepoints chromatiques: couleur et énonciation musicale dans *Gattaca* d’Andrew Niccol”. *Cinéma et Couleur*. (dir. Raphaëlle Costa de Beaugard) Toulouse : Presses Universitaires du Mirail (2009) : 358.

¹⁴⁰ *Ibid.*

POV shot, the spectator is presented with Vincent's blurred image of the flow of cars passing. A mix of all three colour lines is thus presented, as Vincent's sight becomes completely blurred.

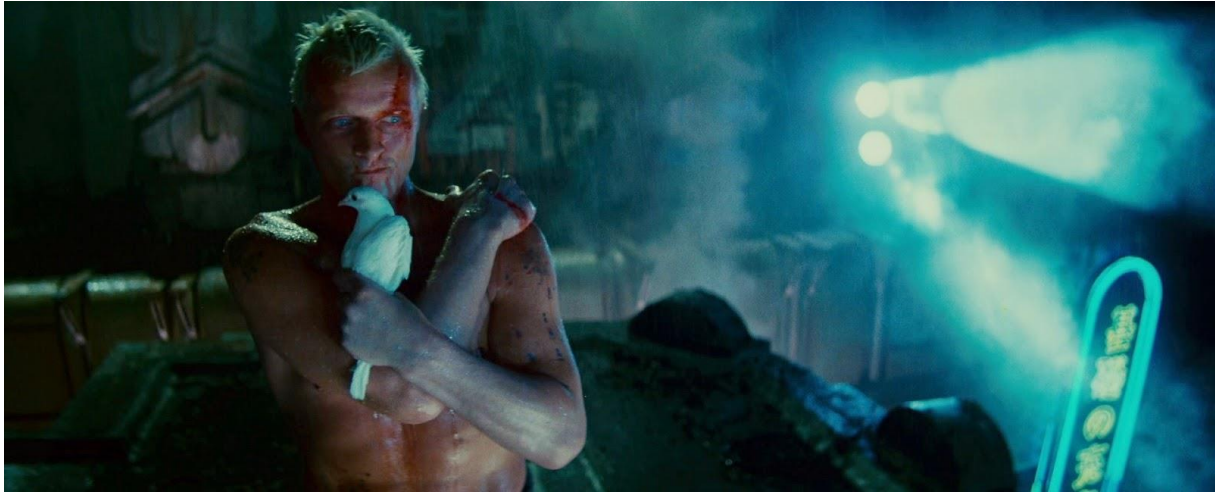
As Elmer writes, "experience such as hearing color and touching taste are not unusual in the work of children and artists. Helen Keller once spoke of sensing the warmth of color though she was blind."¹⁴¹

A similar dichotomy between the colour blue and the colour gold is found in *Blade Runner*. When Deckard first visits the Tyrell Corporation, the room in which he is welcomed by Eldon Tyrell and his assistant Rachel is bathed in golden light, coming from the window. This light echoes the urban cityscape and the fire emerging from the chimneys mentioned before. The colour gold is first used in this scene to highlight the artificial aspect of the owl which flies away when Deckard arrives. Gold is therefore linked to the manufactured aspect of the Replicants. When Tyrell asks Deckard to use the VK test, the latter lowers the blinds halfway down, projecting stripes of golden light and shadow onto Rachel and himself. This particular device already foregrounds Rachel's true nature, and the question about Deckard's identity. They are both bathed in golden light and partly hidden in the shade, and are therefore equated with each other. Contrary to *Gattaca*, the colour gold in *Blade Runner* appears to highlight the artificial and the machine, whereas the colour blue seems to be closely linked to human characters and themes. However, the film plays around with those codes, and the dichotomy is not always that decisive.



¹⁴¹ Day, Elmer. "Dreaming, Visual Creating, and Phenomenological Describing". *Art Education*, Vol. 35, No. 3 (1982): 7.

The colour blue appears to underline the human and humane quality of the characters. At the very end of the film, Roy Batty is the last of the Replicants to be retired (a synonym for killed) and ends up on a roof-top with Deckard. Batty has the upper hand after a long struggle, but decides nonetheless to spare Deckard's life and accept the end of his own. Batty is bathed in blue light coming from a projector, which appears to be diffused under the rain. He is holding a dove, which is probably artificial, given that real animals are extremely scarce in the world of *Blade Runner*. After his long and famous monologue, Batty releases the dove, letting go of the



replicant aspect of his personality, embraces his human(e) side, and accepts his own death. JF Sebastian's apartment, that is to say the building where Deckard finds Batty, is bathed in golden light throughout the film, except at its very end. Michel Pastoureau writes that everything is ambiguous when it comes to colour. Every colour has a double, and they both form two sides of the same coin.¹⁴² Deckard's brown coat appears to be linked to the golden line, whereas Batty's bright silver hair is much closer to the blue line. This dichotomy is therefore a means to blur the boundaries between humans and machines. When Rachel visits Deckard in his apartment, he throws her to a wall and kisses her. Both their faces are dimmed in blue light, but the same motif of light/shade is used, adding to the mystery of Deckard's identity. Nevertheless, the colour blue highlights the romantic aspect of the scene, as the spectator understands that the characters are falling in love, and about to make love.

Similarly to *Gattaca*, *Blade Runner* displays a particular use of the colour green which underlines change, but is also a harbinger of simulacra. Clarkes claims that: "the Voigt-Kampff apparatus always renders the subject's eye as green, even when in actuality is not (Leon's eyes

¹⁴² Pastoureau, Michel, and Dominique Simonnet. *Le Petit Livre Des Couleurs*. Paris: Seuil (2014) : 33-34.

are blue, Rachel's are brown."¹⁴³ The VK test not only dehumanizes its subjects by transforming their image into a huge eye (as mentioned before), but also creates a mystery around them, using this green chromatic axis. Pastoureau explains that "green stands for what changes, moves, varies."¹⁴⁴ Rachel's status varies from Replicant to human (in Deckard's mind, then in hers in a later scene) because of the VK test. In the opening scene, Leon's test is followed by the first murder seen in the film. The colour thus seems to foreground both change and danger.

In *A Scanner Darkly*, the colour blue also seems to play a major role. There does not seem to be a clear-cut dichotomy between blue and another colour, such as the ones I just focused on. However, the whole film is infiltrated by the colour blue, which is mainly used as a reminder that the audience is entering Fred's scramble suit. The transition between the outside (diegetic) world and the inside of the suit is not only highlighted by camera movements and a dissolve effect, but it is also underlined by the use of the colour blue. Arctor's face is therefore always lit in blue when he is Fred, which creates a discrepancy between his personalities. Colour is therefore used as a narrative element, which creates a clear distinction between the two characters of Fred and Bob Arctor. The dark blue light shed on Fred's face inside the suit allows the audience to enter Arctor's mind. The colour blue is also found in the fields cultivated by the New Haven society. As the spectator gets to learn at the very end of the film, the rehabilitation center is in fact at the very origin of the Substance D: Arctor ends up working on a farm after Substance D fried his brain; he is helping cultivate blue flowers, which in turn will become Substance D. Blue is thus linked to drug abuse, and therefore the origin of Arctor's split personality. It underlines, in itself, a duality. Other colours also appear to play an important role in the film, but the most striking use of colour is the scramble suit, which never stays the same, and is therefore always a chromatic blur. Much like the car lights in *Gattaca*, it is very difficult for the characters outside the suit and the spectator to identify what colours make up the suit. The suit is therefore not only a vague shape, but the colours also participate in the blurring of vision.

The colour blue is extremely important in *Minority Report*. Even before the film actually begins, the 20th Century Fox jingle and logo are bathed in blue light, and distorted so as to look underwater. The scene opens with Agatha's blurred vision of the first murder attempt, but the colour blue and the ripples on the screen suggest the importance of another murder, that of Anne Lively. The latter was actually murdered by Lamar Burgess, creator of Precrime, because she

¹⁴³ Clarke, David B. *The Cinematic City*. London: Routledge (1997): 157.

¹⁴⁴ Pastoureau, Michel, and Dominique Simonnet. *Le Petit Livre Des Couleurs*. Paris: Seuil (2014) : 66.

was Agatha's mother and did not see eye to eye with Lamar regarding the use of her daughter's abilities. This murder, which happened in spite of precrime, is the key to the film's mystery. The colour blue thus foreshadows the film's ending, even before the film started, which is reminiscent of Agatha's ability to anticipate events before they happen. As seen on several screenshots¹⁴⁵, the room where Agatha, Arthur and Dashiell¹⁴⁶ anticipate future events is bathed in blue light. Agatha's eye also echoes the beginning of the film, and seems to blend in the murder vision of Anne Lively, who is killed underwater. The blood shed underwater creates a clear-cut dichotomy with the colour blue. The colour red is also found in Anderton's office, which suggests the danger of technology and of precrime.

The chromatic lines in *Total Recall* are clearly dominated by the colour red, which suggests Quaid's dream to visit the planet Mars. The opening sequence is an actual dream, and the spectator travels on the surface of the red planet thanks to a crane shot and CGI effects. This bright red glow is counterbalanced at the ending of the film, where Quaid triumphs over Cohaagen and releases oxygen on the surface of Mars, terraforming the planet in the process. Mars becomes blue and inhabitable. The colour is present earlier in the film, and seems to be linked to Quaid's normal life, and planet Earth, but it is still eerie, and warns the spectator that these sequences might only be Quaid's dream.

¹⁴⁵ See I-A-1 and I-A-3.

¹⁴⁶ The precogs' names obviously refer to Agatha Christie, Arthur Conan Doyle and Dashiell Hammett.

2) A Scanner Darkly: Rotoscope Imagery

The most peculiar feature in *A Scanner Darkly* is the use of rotoscope imagery. The film was shot digitally and then animated using interpolated rotoscope, a technique which consists in digitally drawing over the original film frame by frame. The film was therefore shot, edited and finished a first time using real-life actors; it was then re-made using rotoscope imagery. French critic Julien Achemchame states that having two separate films (the first one, and the one made with rotoscope) also blurred the boundaries between the real and the virtual.¹⁴⁷ He adds that there is a third experience: that of the spectator, who is constantly invited to switch between the first two.

Quoting Linklater himself, Achemchame states that the spectator is allowed to journey between the real film (since they can clearly discern real-life actors, and famous ones, for that matter) and the version that was painted over.



The film is not Richard Linklater's first attempt at making an animation feature using rotoscope imagery. His previous film *Waking Life* was already similar to *A Scanner Darkly* in that respect. *Waking Life* depicts a lucid dream in which the protagonist wonders what is real what is not, and discusses many topics, among which the film critic André Bazin's theories on cinema. *A Scanner Darkly* introduces the spectator to a common quest for the real. Achemchame states that the film aims to represent Philip K. Dick's imagined "futuristic and schizophrenic universe,"¹⁴⁸ where everything is fake and nothing can be trusted. Although the film takes place in the 1960s in California, it actually stands for a future that still has not come, and will hopefully never come, as mentioned before.

¹⁴⁷ **Julien** Achemchame, "Quand le cinéma ne suffit pas, la rotoscopie au service d'une adaptation cinématographique. A Scanner Darkly par Richard Linklater, d'après Philip K. Dick." Miranda, visited 4 April 2016, <https://miranda.revues.org/3344?lang=en>

¹⁴⁸ *Ibid.*

Achemchame claims that the rotoscope imagery used in *A Scanner Darkly* aims to “update [...] the spectator’s relationship with the cinematographic image.”¹⁴⁹ He states that the distorted image allows the film to represent a new world, or a different one, seen through a filter, or perhaps through “a scanner, darkly”, to use Fred’s words (who is actually quoting Corinthians).¹⁵⁰ The technique is different from motion capture and does not work as well on depth. The three-dimensional image is often perceived by the spectator as a two-dimensional one. The characters and the background are blurred, which creates a sense of confusion. Ironically, the aim of cinema is to project three-dimensional worlds on two-dimensional screens, as Foucault explains.¹⁵¹ But even though spectators are duped by this device, screens and the image they contain remain two-dimensional, with the sole exception of 3D technology. The film therefore displays a two-dimensional universe on a two-dimensional screen, revealing the treachery of cinema.

Rotoscope imagery adds another layer of subjectivity to the film’s reality. The spectator never gets to see the original film, which is also not the thing in itself but its representation, and only gets to watch a copy of a copy. The released picture is a digital rendering of a digital image. This creates a blurring effect, which underlines the characters’ confusion. Achemchame states that:

Cette réification de l’humain développée par la technique sert intelligemment l’oeuvre littéraire de Philip K. Dick dont les personnages, *addicts* en voie de déchéance à cause de la fameuse drogue *Substance M*, errent, entre psychose et schizophrénie, hallucinations et solipsisme, aux confins d’un réel qui est là, qui affleure, mais qu’il est impossible d’atteindre. Les personnages à la perception altérée offrent alors au spectateur une expérience troublante durant laquelle se confondent la chose (l’image première issue du réel) et la représentation de cette chose (son traitement rotoscopique.) Cette confusion ressentie par les personnages s’appuie sur la technique d’animation pour mieux atteindre la perception du spectateur et lui proposer, à travers le vertige d’une adaptation littéraire fidèle et novatrice, un monde imaginaire soutenu par le réel.¹⁵²

The characters’ confusion (which originates in drug abuse) is therefore blurred with the spectator’s confusion. This phenomenon invites the audience to be a part of the film, to journey in and out of the screen, just as the camera journeys in and out of the scramble suit. The spectator is invited to become a narc, and keep an eye on Bob Arctor’s house.

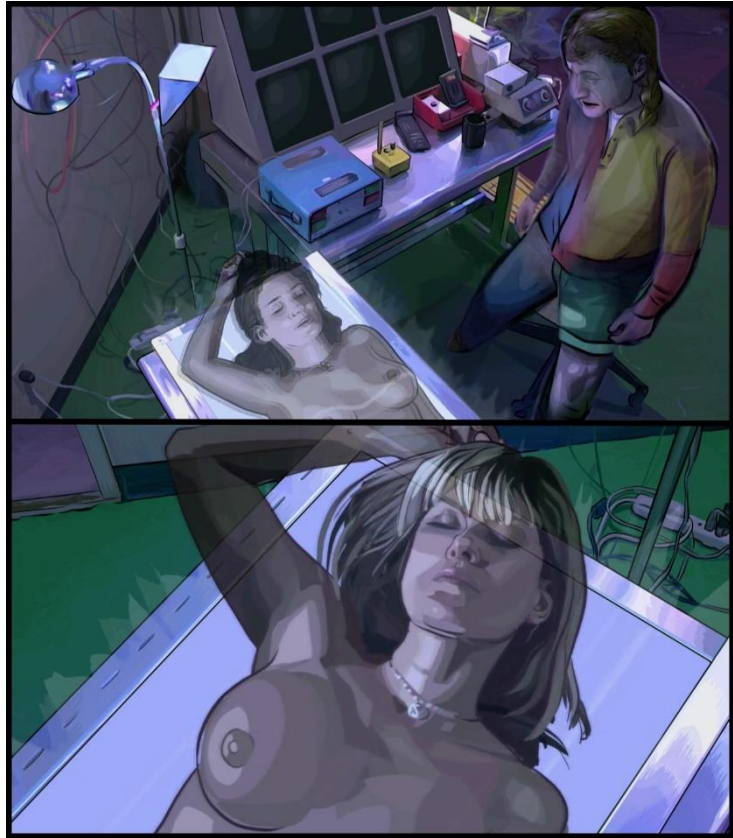
¹⁴⁹ **Julien** Achemchame, “Quand le cinéma ne suffit pas, la rotoscopie au service d’une adaptation cinématographique. *A Scanner Darkly* par Richard Linklater, d’après Philip K. Dick.” *Miranda*, visited 4 April 2016, <https://miranda.revues.org/3344?lang=en>

¹⁵⁰ And quoting Dick’s novel, word for word.

¹⁵¹ Michel Foucault, “Of Other Spaces: Utopias and Heterotopias”, *Rethinking Architecture: A Reader in Cultural Theory*. Edited by Neil Leach. NYC: Routledge (1997): 334.

¹⁵² **Julien** Achemchame, “Quand le cinéma ne suffit pas, la rotoscopie au service d’une adaptation cinématographique. *A Scanner Darkly* par Richard Linklater, d’après Philip K. Dick.” *Miranda*, visited 4 April 2016, <https://miranda.revues.org/3344?lang=en>

When Bob Arctor witnesses Connie's face change into Donna, the spectator gets to understand that the characters within the film can never reach reality, whether it is because of their drug abuse, or their diseases. Achemchame argues that Fred/Arctor's inability to see everything, despite his position as spy and all-seeing agent, reinforces the idea that the spectator can always be deceived. Arctor's only hope of unearthing the truth lies in the cameras' objectivity. This certitude is thus shattered when Donna's face replaces Connie's on Arctor's screen. Arctor uses a three-dimensional projector to make sure his eyes are not deceiving him. Again, Connie's face change into Donna's, and Arctor finally understands that there is no real objectivity, and that he will never reach the truth. The two sides of his brain which no longer communicate because of Substance D, and which created his split personality, are blurred at this very moment. Fred has therefore memories from his life as Bob Arctor, and they sometimes emerge when he is acting as a police officer.



3) Noir Aesthetics

Blade Runner is a hybrid movie. The film borrows from science fiction films as well as from *film noir*. The latter is a genre that emerged in the US from the early 1940s to the late 1950s. The expression *film noir* was coined by French critic Nino Frank in 1946 and is still used internationally. Susan Doll and Greg Faller claim that: “*Blade Runner* makes an excellent example by which to study certain aspects of genre theory because it combines conventions of more than one genre – those of film noir and science fiction.”¹⁵³ Ridley Scott talked about a “forty year-old movie set forty years in the future.” Doll and Faller synthesize the essence of *film noir* and state that the genre is initially based on aesthetics. Borrowing arguments from J.K. Place and L.S. Peterson, they explain that Noir consist of eight characteristics:

Low-key lighting, claustrophobic framing, shadows and/or reflections, unbalanced compositions, and great depth of field. To these we add three more: urban landscapes; costuming, particularly trench coats, garments with padded shoulders, and spiked heels; and most often rain-soaked environments. These eight characteristics can be regarded as the iconography of the genre.¹⁵⁴

Even though it is not only a *film noir*, *Blade Runner* appears to be a perfect case study of the genre, since it seems to possess all the criteria mentioned above. Doll and Faller add that:

Characters include an investigator (often a detective), the investigator’s *doppelganger* (a double representing his dark side), a corrupt authority figure, and women who are either femmes fatales or redeemers. Noir themes frequently suggest that the characters reside in a hopeless or doomed world predetermined by the past. The only sense of morality exists within the investigator who attempts to survive in an amoral and unstable society.¹⁵⁵

Deckard fits the definition of the detective perfectly. As a Blade Runner, he is a police officer but appears to work on his own. He is retired (ironically, he is brought out of retirement to “retire” the replicants) and has no wish of returning to the police force, for which he has little regard. His long, brown trench coat evokes the codes of *noir*. The character of Roy Batty can be seen as an arch enemy as well as a *doppelganger*. He and Deckard appear to be two sides of the same coin. They both oscillate between human and replicant. They both commit murder and seek to find the truth. The corrupt authority figure mentioned by Doll and Faller seems to fit the character of Eldon Tyrell, whose monopoly over androids and replicants has granted him control over the population.

One of the most striking iteration of the *noir* motif lies Rachel’s appearance. Her haircut and “padded shoulders”, as Doll and Faller state, clearly establish her as a *femme fatale*. She is

¹⁵³ Doll, Susan and Greg Faller. “Blade Runner and Genre: Film Noir and Science Fiction.” *Literature Film Quarterly*, Vol 14.2 (1986): 89.

¹⁵⁴ *Ibid.*

¹⁵⁵ *Ibid.*

dressed in black, wears red lipstick and answers to the VK test with bold answers: “is this testing whether I’m a Replicant, or a lesbian, Mr Deckard?” She is hinting at her sexuality and sexual power. Obviously, Rachel is both a *femme fatale* and a redeemer. She murders Leon to save Deckard, and makes the protagonist fall in love with her. In the end, it is Deckard’s love for Rachel, which transcends the boundaries between human and machines, that saves him.



Doll And Faller states that:

Other characters appear to fit both science fiction and film noir. Rachael’s clothing identifies her with the spider women of film noir who often attempt to destroy the hero, but Rachael ultimately saves Deckard both physically and spiritually.¹⁵⁶

The urban landscape from *Blade Runner* also displays themes borrowed from *noir*. It appears to be consistently raining in the film, which blurs the shapes seen by the spectator, and by the characters. There is no dichotomy between black and white (as it is a colour film), but the colour code seems to be used in the same way. The two lines we mentioned before replace the black and white from original *film noir*. There is also a growing concern in the film about the consequences of nuclear warfare. The book *Do Androids Dream of Electric Sheep?* focuses on the consequences of a nuclear war. Before the opening sequence from *Blade Runner*, a short text summarizes the state of the world in 2019. *Film noir* was concerned with World War II, as some of them were made during that period, and the rise of Nazism.¹⁵⁷ The film’s hybridity,

¹⁵⁶ Doll, Susan and Greg Faller. "Blade Runner and Genre: Film Noir and Science Fiction." *Literature Film Quarterly*, Vol 14.2 (1986): 89.

¹⁵⁷ Site des lettres de l’académie de Nice, <http://www.ac-nice.fr/lettres/index.php/ressources-en-lettres/audiovisuel/textes-generaux/119-les-genres-le-film-noir>, visited May 4th 2016.

sometimes referred to as Tech Noir, therefore blurs the boundaries between genres and creates a confusion in the audience's minds.

The films' different textures thus provide a synesthetic experience for the spectator. The colour codes in the films help create a blurring effect; it becomes harder and harder to establish a clear distinction between the real and the virtual. In the case of *Blade Runner*, the fleeting dichotomy between colours suggests the presence of replicants. However, as shown before, the distinction is not always clear. The colour blue in particular is used throughout the films, notably in *Minority Report* and *A Scanner Darkly* where it appears to play a major role. It allows the spectator to journey in and out of Fred's scramble suit, and contributes to the blurring effect of the suit. In *Minority Report*, the colour blue echoes the underwater scenes and therefore a dulling of the senses. Furthermore, the rotoscope imagery in *A Scanner Darkly* displays another confusing blurring of the senses. The spectator is presented with the representation of a representation, and is therefore always halfway between the two films. The rotoscope imagery foregrounds the importance of two-dimensional shapes and colours, as it seems to be the only thing left to look at in the film. Moreover, the *noir* aesthetics in *Blade Runner* contribute to the intersensory experience of the film. Memory of past *film noir* experiences in the audience's consciousness also brings up expectations from a response level: the audience is expecting to find different features of the genre in the film.

The films therefore play on several senses to create a synesthetic cinematic experience; although the motif of the eye is central, and the sense of sight is always called upon, it is not the only sense used by the characters and the spectators. Sight is also often linked to other senses. As I have tried to show, memory is an equally important sense, and can be considered a sense in itself. Furthermore, the sense of touch is also called upon, and the films' aesthetics in particular contribute to the mixing of sight and touch. However, even though different senses are often equated, and one sense can evoke another, the idea that the films convey strong synesthetic experiences is still yet to prove. I have showed that metaphorical synaesthesia (or what I called weak synaesthesia in the first chapter) functions in the films. One sense can evoke another, but how can one sense replace another? The third and final chapter of this thesis will be devoted to multisensory phenomena.

III) Multisensory Phenomena

In this final chapter, I will focus on how synaesthesia works in the films, and in particular how sound calls upon other senses. The previous chapter focused more on sight, as vision is often said to be traditionally more important in the Western culture.¹⁵⁸ I will start with the “minor” senses, as Marks puts it: touch, taste and smell, and move on to intersensory phenomena linked to sound. Sound has not been dealt with so far in this thesis. I will therefore try to elaborate on theories of film music and sound effect to show how multisensory phenomena linked to sound work in cinema. The importance of sound in the making of cinematic space will be emphasized.

A) Kinesthetics and Touch

Christopher Palmer states that: “SF is a strongly kinetic form: it is very concerned with journeying, moving outwards, opening out, travelling towards or in search of wonder. Change, and even simply experience, are thereby associated with movement, in an exhilarating way.”¹⁵⁹ I will deal with the sense of touch, and try to explain how the films creates effects of loss of balance and vertigo to blur the boundaries between the senses. I will then move on to the idea that revelations are made through kinesthetics and later deal with what Laura Marks calls the “minor” senses.

1) Loss of Balance and Vertigo Effect

Balance is a crucial element of film making and has been used by many directors, either to underline symmetries (as Stanley Kubrick often shows) or, in a more subversive way, to create vertigo effects in the spectator’s mind. It seems that balance and vertigo are associated with at least two senses: sight, on the hand, and touch on the other. In Hitchcock’s *Vertigo* (1958), the vertigo effect is created through the use of the dolly zoom:

The dolly zoom, also referred to as the Vertigo effect or a Zolly shot, is a technique wherein the camera is dollied either forward or backward while the zoom on the lens is pulled in the opposite direction. When timed correctly, the effect of this technique is one in which the characters in the frame remain the same size while the foreground and background become compressed or de-compressed, depending on which direction the camera is traveling.¹⁶⁰

¹⁵⁸ Shafer, R Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester: Destiny Books (1994): 151.

¹⁵⁹ Palmer, Christopher. *Philip K. Dick: Exhilaration and Terror of the Postmodern*. Liverpool: Liverpool UP (2003): 50.

¹⁶⁰ No Film School, <http://nofilmschool.com/2014/01/everything-need-know-dolly-zoom>, visited September 19th 2016.

This effect was most famously used in the scene where Scottie (James Stewart) is dreaming and falling into a grave. The spectator is under the impression to be falling alongside the character. The scene is highly synesthetic, as the film plays around with various colour filters. The close-up on Robbie's face is successively dim in blue, orange, and then purple light as we enter the character's mind. But the effect seems to rely mostly on sight. Other attempts at creating vertigo effects have been made, notably in Gaspard Noé's *Irréversible* (2002), where sound creates a loss of balance:

The first 30 minutes of Gaspar Noé's *Irréversible* has a background noise with a frequency of 28Hz (it is low frequency, almost inaudible), similar to the noise produced by an earthquake. In humans, it causes nausea, sickness and vertigo. It was the main cause of people walking out of the theaters during the first part of the film in places like Cannes and San Sebastian. In fact, it was added with the purpose of getting this reaction.¹⁶¹

The use of sound, and ultrasound in that particular case, therefore creates synesthetic associations in the spectator's body. The sensation of vertigo is felt in the audience's minds as well as in their bodies. This process underlines a very violent passage that starts with a murder and ends with a rape scene. The film is made up of fifteen long takes, edited in the reverse order, chronologically speaking. Yi-Fi Tuan states that "the world of sound would appear to be spatially structured, though not with the sharpness of the visual world"¹⁶². As mentioned before, there is a relation between sound and shape, and particularly between pitch and size. High-pitched sounds evoke lighter objects, while low-pitched sounds are linked to larger spaces, such as the cityscape in the opening sequence from *Blade Runner*. In *Minority Report*, the scene where Anderton comes back to precrime after being chased by his former colleagues and tries to talk to Agatha and get his minority report is a perfect example of how acute sounds can evoke



¹⁶¹ The Film Fatale, <http://thefilmfatale.me/post/59658023878/the-first-30-minutes-of-gaspar-no%C3%A9s-irreversible>, visited September 2016.

¹⁶² Tuan, Yi-Fu. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota P (1977): 15.

vertigo. John speaks directly to Agatha who seems unresponsive. As Anderton stands up, the camera tilts up and Agatha gradually disappears from the screen. But a very acute sound, almost unbearable, creates a vertigo effect as Agatha sits up. She then proceeds to lie on her back while showing Anderton Anne Lively's murder on a screen. Agatha's body is therefore upside down, while the screen remains in the same position, creating a dichotomy between the character and the image of her mother. Laura Marks claims that: "Tactile epistemologies conceive of knowledge as something gained not on the model of vision but through physical contact."¹⁶³ I would then argue that it is this very acute sound that creates a vertigo effect in the spectator's bodies, even before they can actually see what happens to Agatha on screen.

2) Revelations Through Touch

Blade Runner was released seven times with different versions over the course of its history. The very last scene in the director's cut (1992), and in the final cut (2007), presents a very enigmatic ending to the film. Deckard, who has decided to run away with Rachel, discovers an origami unicorn next to his apartment. Knight writes that:

Previously in the film, Bryant's assistant, Gaff, has left suggestive origami figures for Deckard to notice. The origami unicorn is particularly important to Deckard because, earlier in the film, he had a dream that featured a white unicorn. So while the unicorn is emblematically the figure protecting the virgin, and as such suggests Gaff's support of Deckard's actions to save Rachel, Gaff's origami unicorn may also strongly suggest to Deckard that Gaff knows Deckard's memories are implanted just as Deckard knows Rachel's are implanted. If Deckard, too, has implanted memories, then it is a simple step to conclude that he is a replicant. The film is not decisive in this issue but strongly implies that Deckard is not human.¹⁶⁴

The origami figure is knocked over by Rachel's high heel and its fall produces a sound similar to the fleeting sounds from Deckard's dream. The dream suddenly becomes equated with the reality of the film, and once again the boundary between the real and the virtual becomes blurred. Furthermore, Deckard hears the unicorn before he can actually see it. He picks it up with his wounded and bandaged hand, hinting at a confusion in perception. Indeed, after Deckard was stabbed in the hand by Roy Batty, it becomes harder for the character to perceive things using only his sense of touch. The unicorn is held between Deckard's fingers and flipped over, much like the photograph representing Rachel and her mother. The world of the photograph, which was that of the replicants, is replicated here and turned over on its head, once again. Deckard touches the figure, crumples it in his hand, acquiesces and walks out.

¹⁶³ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 138.

¹⁶⁴ Sanders, Steven. *The Philosophy of Science Fiction Film*. Lexington: UP of Kentucky (2008): 123.

Kinaesthesia and touch also play a very important role in this particular scene. Touch allows Deckard to flip the origami unicorn over and, finally, to destroy it. This conscious will to leave the question of his own nature opened is thus presented through the use of touch. A former theatrical release showed Rachel and Deckard flying away to the countryside. This much darker version helps us put into question the protagonist's very nature, as Deckard himself seems to acknowledge the fact that he probably is a replicant. This revelation is first made possible through hearing, then touching the origami unicorn. The film's twist ending therefore lies in the character's ability to perceive. As a film noir investigator, Deckard relies on all his senses to try and shed a light on the film's mystery. As the film progresses, the mystery shifts from the geographical location of the replicants to the very nature of Deckard. The role of the investigator is thus transferred to the audience. The spectator becomes endowed with the task of revealing the nature of the main character. The audience then have to rely on their senses to elucidate this enigma. Furthermore, David B. Clarke claims that:

The key sequence to be reinstated in the Director's Cut was Deckard's dream featuring a unicorn. As noted above, the last of the models Gaff places for Deckard to come across is a tiny origami unicorn, which Deckard finds as he and Rachel flee his apartment. His memory of Gaff's last word – "It's too bad she won't live. But then again, who does?" – are replayed in voice-over, and the implication is that Deckard's dreams, like Rachel's memories, are not private and personal but issue from some kind of implant – such as those manufactured by the Tyrell Corporation, or the collective unconscious, for example. Gaff has seemingly had access to Deckard's dreams – or has dreamt them himself – implying that Deckard, too, is a *Replicant*. And it is perhaps no coincidence that this origami unicorn is folded from a relatively lustreless piece of tinfoil, whose multiple folds do not so much focus the light into a coherent whole, as separate it into an infinitely disadjusted, spectral presence. It is as if this final sign left by the agents of the dominant, molar order were alluding to the aporetic status of the *tain* of the mirror, which is the condition of possibility of visibility, reflection and recognition, and yet remains invisible and unrepresentable within the mirror-play of identity itself.¹⁶⁵



It is then through the use of kinaesthesia that Deckard (and the spectator) understands the nature of his own life. The tain from the unicorn, as opposed to the grain that we will see in a later

¹⁶⁵ Clarke, David B. *The Cinematic City*. London: Routledge (1997): 155.

subpart, underlines then the replicants' perfection and absence of "aporetic" textures. Being more human than human, as their creator describes them, the replicants are flawless and therefore perfect on an aesthetic level. The film thus ends on a shot depicting Deckard's hand, hinting at the importance of kinesthesia in cinema.

3) Smell and Taste

In spite of the failed attempt at releasing different smells in theatre with the Odorama, it seems that the sense of smell has a role to play in intersensory cinema. Be that as it may, smell (and taste, by association) have largely been left out of studies of intersensory cinema. Those are not the most obvious senses evoked by images and sound, but I would argue that film does possess the ability to call upon those two senses. David Sutton writes that:

Synesthesia has been explored as a key to food memories through the notion that memory has multiple interacting sensory registers. These points are summed up by Kirshenblatt-Gimblett (1999): "From color, steam rising, gloss and texture, we infer taste smell and feel. Taste is something we anticipate and infer from how things look, feel to the hand, smell (outside the mouth), and sound. Our eyes let us 'taste' food at a distance by activating the sense memories of taste and smell."¹⁶⁶

Sutton thus argues that it is possible to use our sense of smell by *looking* at something. Sight is thus able to call upon olfactory and gustatory experiences. In *A Scanner Darkly*, as we have mentioned before, the use of the colour green when Charles Freck uses anti-bug spray to get rid of the hallucinatory insects crawling on his body evokes bad smells, because those are encoded in the spectator's smell memory. Marks states that "it is a common argument that we have an innate, that is, genetic, attraction to odors associated with sexuality, and an innate aversion to odors of danger and death."¹⁶⁷ As shown previously, the colour green evokes danger, and is thus also associated with bad smells. Smells are also evoked via metaphors, in *Blade Runner* for instance, when Roy Batty is hunting Deckard in JF Sebastian's house and building. The figure of the hunter and the wolf calls upon the sense of smell. As Deckard is trying to hide, his smell is partially hidden thanks to the rain, but Batty's increased senses help him dig out the Blade Runner. In *A Scanner Darkly*, Arctor smells the blue flowers that will eventually become Substance D before the ending credits, leaving the spectator with the smell of death. Marks states that "smell is difficult to verbalize and visualize. Smells are easier to identify through

¹⁶⁶ Sutton, David E. "Food and the Senses". *Annual Review of Anthropology*, Vol. 39 (2010): 211.

¹⁶⁷ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 204.

personal memory associations than by name.”¹⁶⁸ Smells seem thus to rely on more personal processes of identification, and are somehow more difficult to evoke in film. The same image and/or sound might not achieve the same effect on people; different spectators might react to images and claim that those images are not calling upon the same smells. In any case, smell is evoked in cinema through the use of synesthetic metaphors.

Taste is thus another complicated sense to call upon using sight and hearing, since it is derived from smell. Even though gustatory experiences differ from olfactory experiences, it is still important to bear in mind that taste would not be possible without smell. Food plays an important role in cinema; drinks and meals are often more than they seem at first glance in film. One might think of the TV series *Twin Peaks* (1990, 1991) and its numerous references to food and beverages. The famous cherry pies and “damn good cup[s] of coffee” offer metaphors of sexuality and mystery.¹⁶⁹ One of the recurrent motifs of *film noir* found in *Blade Runner* is directly linked to the sense of taste: as he analyses Leon’s snapshot, Deckard pours himself a glass of whisky and leaves it on his piano, hinting at a mixing of the senses. The *noir* detective drinking whisky has become a *cliché* but its connotations are all the more important in *Blade Runner*: Whisky is famous for dulling the senses, and Deckard seems to need to indulge in anaesthetic substances when he is not working, which equates him with police officer John Anderton, who is also reminiscent of the *noir* detective figure. Moreover, Deckard is first presented buying food in the rain, which combines at least three senses, taste (Chinese noodles are evocative of a certain lifestyle, especially in the United States of America), sight and touch, as rain creates a texture with which to interact kinesthetically. Marks states that: “cinema can appeal to the senses that it cannot technically represent: the senses of touch, smell and taste. This focus is not some intellectual game but an extension of my concern throughout this work to show how and why cinema might express the inexpressible.”¹⁷⁰ After the dream sequence, Deckard pour himself a whisky while looking at Leon’s snapshot. As I mentioned before, he his holding the photograph between his fingers, and he then flips the picture and puts it between his lips. He can this literally taste the photograph, and taste is equated with touch.

¹⁶⁸ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 205.

¹⁶⁹ One Perfect Shot, <http://oneperfectshotdb.com/news/blue-rose-special-the-symbolism-of-food-in-twin-peaks/>, visited 20th September 2016.

¹⁷⁰ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 129.

B) World-Building Through Sound Effect

Murray Shafer writes that “it is not surprising, noting the visual bliss of modern Western culture, that the psychology of aural perception has been comparatively neglected.”¹⁷¹ Images, and therefore sight, play a major role in our everyday lives, as well as in the cinematic experience. But as Ventura argues, “Music is essential to story-telling and without it, the audience’s engagement with the narrative is considerably reduced.”¹⁷² It seems that sound, and music in particular, is an essential element of the cinematic experience. Michel Chion, who has written at length on the topic of music and sound in film, claims that music is an “added-value”¹⁷³, which enriches an image and adds meaning to it. Paradoxically, he argues that music is a necessary element of film, but that its presence needs to go unnoticed, and that meaning should appear to emerge naturally:

Added value is what gives the (eminently incorrect) impression that sound is unnecessary, that sound merely duplicates a meaning which in reality it brings about, either all on its own or by discrepancies between it and the image.¹⁷⁴

Chion states that “sound perception and visual perception have their own average pace by their very nature; basically, the ear analyses, processes, and synthesizes faster than the eye.”¹⁷⁵ Sound thus plays a major role in the film experience; it does not only add value to the images, but generates value, and meaning.

1) Vangelis and Blade Runner

The score to *Blade Runner* was composed by Greek musician Vangelis, best known for his work on *Chariots of Fire* (1981). Vangelis created a mix of classical composition and electronic music, with the help of synthesizers, which underlines the film’s hybridity. The synthesizers and various ambient sound are reminiscent of the science fiction features in the film, on the one hand; the more classical tunes (and the use of a saxophone) are quite evocative of *film noir* criteria, on the other hand. Even though electronic music was invented and made popular in the 1970s, Vangelis’ approach to this particular score was quite new and original. The song titles are related to the two musical (and cinematic) genres: while tunes such as “Love

¹⁷¹ *Ibid.*

¹⁷² Ventura, David. *Film Music in Focus*. London: Rhinegold Education (2010): 7.

¹⁷³ Chion, Michel, Claudia Gorbman, and Walter Murch. *Audio-vision: Sound on Screen*. New York: Columbia UP (1994): 5.

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.*

Theme” or “Blade Runner Blues” allude to *film noir* (because of the romantic relationship and the blues/jazz ambiances that they feature), some other songs are clearly linked to the science fiction world of *Blade Runner*: “Tales of the Future,” Mechanical Dolls,” etc.

During the opening scene, the sound emanating from the industrial chimneys is followed by similar sounds, but which are clearly identified as extra-diegetic sounds. The thud created by the release of fire (which resembles an explosion) from those chimneys is matched by musical elements. As the black screen dissolves into the first shot, a series of quick notes played on synthesizers with a high-pitched sound is unravelled at the same time as the urban landscape of 2019 Los Angeles. Those notes are then followed by a series of bass sounds, which superimpose with the diegetic, industrial sounds. Ventura states that: “one important and recurring motif is the huge reverberated bass drum sound which represents the futuristic cityscape.”¹⁷⁶ Ventura notes that the bass sound is equated with the cityscape of *Blade Runner*. The score seems indeed to underline the diegetic sounds, and even reproduce them. But I would argue that the “Main Titles” (sometimes referred to as “Los Angeles, 2019”) would have the same effect without the diegetic sound. The diegetic sound emanating from the chimneys was also made up on electronic synthesizers, or recorded then re-arranged on electronic instruments. Music in that particular scene could be considered as an added value that adds meaning to the scene. But the first tune from the score actually generates meaning: the fact that the synthesizer notes imitate a sound that was already created with electronic instruments echoes the theme of the simulacra in the film.

The urban landscape from the opening scene was made with miniatures models, as in many science fiction movies ever since *Star Wars* (1977) popularized the technique. Even though the thud from the chimneys creates the illusion that the cityscape is real, it is the music that helps the spectator journey through the urban landscape.

Ventura states that:

Vangelis created a highly atmospheric soundtrack for this sci-fi movie, set in a dark, industrial future. Much of it uses layered textures, created by the large collection of synthesizers in his studio, together with some processed percussion sounds. The music is improvised to produce melodic fragments over sustained chords progressions. The harmonies used are largely triadic and the melodies often move by step. Chromaticism is reserved for the relationships between one chord and another, for instance a D major chord moving to an Ab major one. In other words, the harmonic language is often restless, avoiding perfect cadences and traditional modulations, slowly morphing from one chord to another using link notes and pivots. Most of the time it is non-functional.¹⁷⁷

¹⁷⁶ Ventura, David. *Film Music in Focus*. London: Rhinegold Education (2010) : 64.

¹⁷⁷ Ventura, David. *Film Music in Focus*. London: Rhinegold Education (2010): 63.

The flying cars coming on-screen and off-screen are preceded by lingering notes on the synthesizer. Their movement (in and out of the frame) are thus underlined by the score. As mentioned before, Foucault states that the cinema is a three-dimensional world projected onto a two-dimensional screen.¹⁷⁸ Even though the flying cars seem to be flying towards the spectator, then towards the horizon, they are actually only moving on a two-dimensional space. It is the music rather than visual elements that creates the illusion of a three-dimensional space. The cars' trajectories are underlined with triplets: series of notes divided into three parts. Those three-note units evoke the idea of movement, whereas binary music alludes to stability. Moreover, as the sequence cuts to the giant eye shot, the fire reflected in the eye fills the screen from bottom to top. This movement is accompanied by a chromatic movement upwards: the notes go higher and higher as the flames go up. Finally, the sequence reaches its climax during the last shot: the crane shot over the Tyrell Corporation pyramid is accompanied by the highest-pitched note of the whole opening sequence. Later in the film, Deckard is picked up by Blade Runners and has to follow them in a flying car. As the car soars into the air, series of two-note units are heard, the second note being higher than the first one. The scale goes upward, imitating the movement of the flying car, until the latter reaches an appropriate altitude. The Blade Runners have left the filthy, underground world and reached a new dimension of the *Blade Runner* cityscape. From there on, the notes go lower and lower, and an eerie and uncanny melody foregrounds Deckard's journey throughout the film. As Ventura points out, the score is non-functional: "rather than chords moving from one to another following hierarchical, tonal relationships (tonic, dominant and so on), they are chosen simply for the emotional or sonic effect they produce when juxtaposed."¹⁷⁹ There is no key change during the sequence, as there is no actual key: chords and notes are simply laid out next to one another, unified by the sound of the synthesizer more than the music itself. However, the atmosphere does change from a euphoric one to a dysphoric one: the shift is not underlined by tonal relationships, but by notes following one another in a disorderly manner. They are, however, going upwards, then downwards. Music therefore enriches space, but also creates space.

The triplets underlines the circular movement of the flying car: as it goes higher and higher, the vehicle spins on itself and creates a kind of whirl. A POV shot from within the car allows the spectator to see through Deckard's eyes. The panoramic shot that follows features skyscrapers with advertisement on the walls, and a heavy rain that falls down during most of the film. The

¹⁷⁸ Michel Foucault, "Of Other Spaces: Utopias and Heterotopias", *Rethinking Architecture: A Reader in Cultural Theory*. Edited by Neil Leach. NYC: Routledge (1997): 334.

¹⁷⁹ Ventura, David. *Film Music in Focus*. London: Rhinegold Education (2010): 63.

high-pitched notes from the score create a sort of tapestry that match the texture of the rain, a kind of pointillism described by Ventura: “One minor chord will be sustained using a synthesised string-like sound, and sound effects or single notes are layered over this chord, like points of light in a dark sky.”¹⁸⁰ Music therefore accompanies movement; the movement of the flying car, as well as of the movement of the rain. As shown before, music generates movement, and creates visual space. It is thus closely linked to touch.



¹⁸⁰ *Ibid.*

2) Sound in *Minority Report* and *A Scanner Darkly*

In *La Musique au Cinéma*, Michel Chion states that :

Rien que pour la science-fiction, selon les époques, on passe ainsi d'effets électroniques futuristes (*Planète interdite*, déjà cité), à une musique orchestrale néo-wagnérienne (*La Guerre des Etoiles*) en passant par le pop-rock (les groupes Queen pour *Flash Gordon*, 1980, de Mike Hodges, et Toto pour *Dune*, 1984, de David Lynch).¹⁸¹

Chion establishes a chronological catalogue of science-fiction film scores and shows that various musical genres have been used to match the different atmospheres of the films he mentions. The score to *Minority Report* was composed by John Williams, who is most famously known for his work on Hollywood blockbusters such as the *Star Wars* series, *Jurassic Park* (1993) or the *Harry Potter* saga. Williams decided to focus on the *film noir* aspect of *Minority Report* instead of the science fiction features that the film displays, in order to convey a darker atmosphere. Traditional *noir* elements are found in the soundtrack, such as the female singers during the scenes depicting the murder of Anne Lively. Soothing passages are found in the scenes featuring Anderton and his family. For the compiled score, Williams chose various pieces of classical music, that seem to be related to the concept of precrime, as they are often being played when Anderton is at work. The score to *A Scanner Darkly* was composed by Graham Reynolds, who integrated features of jazz, hip-hop, and electronic music in the score, underlining the “beat generation” aspect of the film, which is set in 1950s America.

Kalinak writes that film music “can contribute to the creation of emotions, sometimes only dimly realized in the images, both for characters to emote and for audiences to feel.”¹⁸² It appears that the score to the films underlines the characters’ emotions or state of mind. But music can generate meaning, again, and become more important than the images themselves. Chion writes that “Si nous voyons un visage neutre, et que nous entendons une musique d’un certain caractère marqué comme gai, méditatif ou tourmenté, le visage alors dans l’image va se colorer de ce qu’on entend.”¹⁸³ Bob Arctor’s face, hidden from other characters thanks to the scramble suit, seems to remain emotionless throughout the film. Keanu Reeves’ “monolithic” acting encapsulates his junkie character’s lack of emotional response. Yet, the score helps the spectator understand what happens to Fred/Arctor during the film. But music does not only generate emotion. It also appeals to other senses, and is not solely linked to hearing.

¹⁸¹ Chion, Michel. *La Musique Au Cinéma*. Paris : Fayard (1995): 244.

¹⁸² Kalinak, Kathryn M. *Film Music: A Very Short Introduction*. Oxford: Oxford UP (2010): 1.

¹⁸³ Chion, Michel. *La Musique Au Cinéma*. Paris : Fayard (1995): 206.

Musical effects that have been mentioned before, such as the impression of movement when using ternary rhythms, raise a theoretical issue: does music have any intrinsic meaning? François Delalande claims that this question divides critics into two categories: those who believe that music has meaning in relation to the world, and those who search meaning within music itself, as in internal referent. He quotes Jakobson and says that the latter considered music to be “a language that signifies itself.” Furthermore, Igor Stravinsky says that “music, in its essence, is powerless to express anything else: a feeling, an attitude, a psychological state, a phenomenon in Nature, etc.”¹⁸⁴ Although film scores are sold as separate records (often before the films’ releases in theatres), they cannot be separated from their original aim: to provide an auditory tapestry for the films. One can enjoy tunes from a film score without watching the film itself, and songs from film scores are sometimes more popular than the films themselves; one may think of the main theme from *The Good, The Bad and The Ugly* (1966), which seems to be known to nearly anybody. However, this song was intended as the *theme* to the film, and not simply a musical piece, but an audio-visual one. This song in particular is a good example of how music bears meaning in relation to images: Ennio Morricone invented the concept of a melody that relates to a particular character; in this particular case, three different melodies accompany the trio of protagonists throughout the film.

One particularly striking instance of the meaning of music is its relation to touch. The opening scene to *Minority Report* features a bass sound that becomes louder and louder as the first shot unfolds. The black screen dissolves into a frame featuring two characters kissing. The synthesizer sound seems to underline the growing passion of the characters, but also creates tension in the spectator’s mind. A quick and violent string sound is heard as the first shot dissolves into a frame featuring scissors and blood. This *orchestra hit* helps make the transition between the first two frames. The movement of the editing is therefore highlighted by musical movement. It seems that it is the music that brings about the second frame on screen. This is reminiscent of the *anacrusis*, a musical device which consists in playing notes before the beginning of a bar. The strings then linger on the same eerie note, while sound effects then changes according to the images on screen: water sounds, people screaming, etc. The same note is played as the cheating man is getting stabbed by the husband. One would expect a change in the melody at that point, but the music seems to play the same note relentlessly, indifferent to what happens on screen. Michel Chion calls this effect *anempathetic music*, and claims that:

¹⁸⁴ Delalande, François. “Sense and Intersensoriality”. *Leonardo*, Vol 36, No. 4 (2003): 313

Nous appelons d'autre part « anempathique » (avec le « a » privatif) l'effet non point de distanciation, mais d'émotion décuplée, par lequel la musique, lors d'une scène particulièrement éprouvante (meurtre, torture, viol, etc.), affiche son indifférence en continuant son cours comme si de rien n'était. L'indifférence est ici souvent marquée par une certaine régularité de rythme et une certaine absence de contrastes d'intensité, de fluctuations de niveau, de phrasé.¹⁸⁵

The scene peaks because of sound effect, but music remains largely slow and disorganized. The shot in which the cheating man gets stabbed is particularly striking: thanks to quick editing, the scissors go from the husband's hand to the woman's, whose victim is not human but a cardboard figure, in which she cuts off a pair of eyes. At that point, Agatha does not reveal any murder, but a later shot displays a quick overview of the actual stabbing itself. In any case, the first movement appears to be even more violent than the second, thanks to sound effects. As the scissor blade goes through the cardboard, a sharp sound equates the movement of the scissors through the cardboard with the future movement of the scissors through human flesh. As the scissors go through to the other side of the cardboard, it seems that they penetrate human skin and thus create pain. The shriek that ensues obviously recalls the stabbing, as the spectator understands that an actual murder took place. It seems thus that sound and touch are equated again, as the movement of the scissors is able to evoke pain. One might think of the many instances of this particular device in horror films, and one might recall the shivers that usually follow such a scene. As the character is stabbed, the spectator feels the scissors and shares his pain through the use of sound, but also on their skin; as hairs rise on people's arms, we understand that this phenomenon is not only visual and auditory, but also tactile. The same kind of phenomenon appears when Anderton disconnects Agatha from the tub where the precogs are "working." An eerie singing fades away as Anderton touches Agatha's skin. Again, an *orchestra hit* comes to create surprise among the audience. Anderton's fear and pain are shared by the spectator. This sort of effect even creates movement among the audience. One may think of the uniform motions of audiences while confronted to a terrifying *jump scare*, a device aimed at creating quick, instant fear and jolts of surprise in the audience. This phenomenon is therefore visual, auditory and tactile as well. The spectator is thus able to feel pain (nociception, as mentioned in chapter one) and share the characters' experiences.

A similar device is used in *A Scanner Darkly*: in the opening scene, Charles Freck appears to be infested with bugs. His whole house, as well as his own body, are swarming with insects. Freck is moving about, scratching his head and other body parts, and then enters the shower and tries to clean himself. The insects are obviously hallucinations, even though the spectator only understands how they became real in Freck's mind later in the film. The scene

¹⁸⁵ Chion, Michel. *La Musique Au Cinéma*. Paris : Fayard (1995): 229.

is accompanied by a multitude of random notes played on a synthesizer. The notes do not seem to be governed by any kind of key, scale, or melody, and appear to emphasize disorder: they remind the spectator of the plethora of insects on Freck's body. A latent melody played on an electric guitar with a sharp, metallic sound, becomes, little by little, a distinct surf rock pattern that sets the atmosphere of the film. However, the two sound layers co-exist and create an uncanny ambience. Shafer Murray states that:

One general feature of insect sounds is of interest. More perhaps than any other sound in nature, they give the impression of being steady-state or flat-line sounds. In part this may be an illusion, for many insect sounds are pulse modulated or varied in other subtle ways, but despite the "grainy" effect such modulations create, the impression with many insects is of a continuous, unvarying monotony.¹⁸⁶

This "grainy" effect is underlined by the grainy sound of the score: the multitude of random notes echoes the multitude of insects, just as the same device echoes the rain in *Blade Runner*. The insects are felt by the spectator as a tactile sensation, and not only an auditory one. This phenomenon is underlined by the use of Freck's anti-bug spray which fills the screen with green gas. As seen previously, the colour green evokes both changes and the approach of danger. As the first sequence unravels, it informs the spectator of Freck's loss of sanity, and foregrounds what happens to Arctor throughout the film. Furthermore, the combination of insects and the colour green appear to convey olfactory memories in the audience's mind. Marks writes that:

Memory is a process at once cerebral and emotional, and this is especially evident with smell. Research suggest that we cannot remember an odor unless that odor is waved in front of our noses again. I would love to be able to dispute this, because it *seems* that I can remember just what a magnolia smells like, though this may be only the stirring of my other sense memories and associations around an empty center of magnolia fragrance. In any case, an audio-visual image evokes bodily associations, so when I hear crickets and see a magnolia I remember the prickle of sweat on my skin, and (nanosecond later) the words for the smell of a magnolia – *pungent, sap-like, always about to rot!* – emerge from the emotional associations I formed with magnolias when I did smell them.¹⁸⁷

It is unclear whether this multisensory phenomenon – the blurring of sight, hearing and smell – is a universal one. However, an association between those senses appear to be represented in the films. As the spectators watch and hear Freck battling with insects and scratching his body, memories of bad smell and disgust are called upon.

¹⁸⁶ Shafer, R Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester: Destiny Books (1994): 36.

¹⁸⁷ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 148.

3) Three-Dimensional Sound

It seems that music appears to “enrich visual space”, as Yi-Fu Tuan explains¹⁸⁸. But I would argue that music and sound effects actually create space. Even though Tuan states that “the organization of human space is uniquely dependent on sight”, he does concede that “sound dramatizes spatial experience. Soundless space feels calm and lifeless despite the visible flow of activity in it, as in watching events through binoculars or on the television screen with the sound turned off, or being in a city muffled in a fresh blanket of snow.” One might think of the scenes in space from *2001: A Space Odyssey* which would have certainly had a less powerful impact without the help of the score. I wish to go one step further and argue that it is often sound that defines a sense of space in the film. Michel Chion states that “sound perception and visual perception have their own average pace by their very nature; basically, the ear analyses, processes, and synthesizes faster than the eye.”¹⁸⁹ Hearing thus becomes a more effective way to build mental space. In Mark Steven Johnson’s *Daredevil* (2003), the main character is able to build space using only his sense of hearing, disregarding the fact that he is blind. He becomes able to locate every sound and creates a mental representation of the neighbourhood where he lives. A similar effect is used in *Blade Runner* and hearing becomes even more important than sight. During the unicorn scene, it appears that the animal’s entrance into the field and the sound it makes are simultaneous. Nevertheless, it seems like we can first hear the unicorn’s neigh before we can actually see it, again using a similar device as the *anacrusis*. Moreover, the sound recorded to reproduce the animal’s noise is very fleeting and it generates the impression that it is about to take off and leave the field, thus enabling the audience to imagine another space. In this particular case, it is the space of dreams that is generated by sound.

As Deckard snaps out of his daydream, he flips over the photograph (which creates a vertigo effect as the second screen we were focusing on has suddenly been turned upside down) and inserts the picture into an electronic appliance that seems to be an extremely powerful magnifying glass. Kevin McNamara argues that:

When Deckard analyses Leon’s snapshot, he enlarges sections of the print that should bear no information because they must be smaller than the grain of the film. Yet the photograph even becomes a three dimensional space as the analyser tracks and pans through it to discover information not available from the camera’s point of view. As the analyser’s lens navigates through photographic space, it discovers Zhora, another replicant, who had been obscured by an object in the foreground. A now three-dimensional

¹⁸⁸ Tuan, Yi-Fu. *Space and Place: The Perspective of Experience*. Minneapolis: U of Minnesota P (1977): 15.

¹⁸⁹ Chion, Michel. *La Musique Au Cinéma*. Paris : Fayard (1995): 229.

record of a single moment in time, the photograph also unfolds a significant past that Deckard can use in plotting his pursuit of the replicants.¹⁹⁰

Giuliana Bruno argues that “The photograph is decomposed and restructured visually through the creation of new relations, shifting the directions of the gaze, zooming in and out, selecting and rearranging elements, creating close-ups of what is relevant.”¹⁹¹ It thus seems that the two dimensional photograph becomes a three dimensional space. However, the image alone does not seem to be able to fool the spectators’ sense of balance. I would argue that it is the beeping sounds that the machine creates that help us enter this new three dimensional space. The scene becomes a dialogue between Deckard who speaks directly to the machine (yet again another comment on human/machine relations) and asks it to “enhance” the photograph, thus enhancing our appreciation of the blurring of the senses. The pointer on the screen moves vertically and horizontally and because of the sounds it generates, the spectator is under the impression to dive into the monitor. The editing alternates between the screen and Deckard seen in a medium close shot. The machine sounds can also be heard during the close ups of Deckard’s face. As Michel Chion argues, “Synchronous sound does impose a sense of succession.”¹⁹² The audience is still immersed into this new three dimensional space even during the alternate editing thanks to the help of sound effects. Deckard’s eye is drawn to a detail from the photograph. Barthes says that: “In this habitually unary space, occasionally (but alas all too rarely) a “detail” attracts me. I feel that its mere presence changes my reading, that I am looking at a new photograph, marked in my eyes with a higher value.”¹⁹³ This detail seems to change Deckard’s perception of the photograph, as we can notice in the way he looks at it. Then again, the actor’s performance and the emphasis on his eyes are foregrounded. Deckard notices a mirror inside the photograph, and seems to be able to recognize a human body in the reflection. This complex mirroring effect underlines the different levels of reality present in the scene and in the film. Deckard notices a necklace made out of snake scales, reinforcing the play on kinaesthesia. He then asks the computer to “pull back and go right”, and then again the spectator is under the impression he is navigating through this photograph like one would in a videogame or an augmented reality. The computer screen is reflected in Deckard’s eyes, and the image blends with his pupil. Galeyev argues that “for a long time musicologists have used the notion of "perceptive" (in the present case, "audile") space, where a sounding body moves along various

¹⁹⁰ McNamara, Kevin R. “Blade Runner’s Post Individual Worldspace”. *Contemporary Literature*, Vol. 38, No. 3 (1997): 426.

¹⁹¹ Bruno, Guiliana. “Ramble City: Postmodernism and Blade Runner”. *October*, Vol. 41 (1987): 63.

¹⁹² Chion, Michel, Claudia Gorbman, and Walter Murch. *Audio-vision: Sound on Screen*. New York: Columbia UP (1994): 13.

¹⁹³ Barthes, Roland. *Camera Lucida*. New York: The Noonday Press (1981): 42.

invisible trajectories.”¹⁹⁴ In this particular case, it appears that the sounding body, which is the pointer on the Esper machine, moves along a trajectory defined by Deckard. Sound effect helps create the illusion of depth, of a sounding body materialising on a two-dimensional screen. The same sequence with no sound would have a very different effect on the spectator. This scene is a key passage to understand how the world of the replicants function. McNamara claims that:

Taking the problematizing of spatiality and history one step further, the space within Leon's snapshot exists not simply within the photograph, but within a mirror within the photograph; the scene Deckard interrogates is an image of an image brought to three dimensions.¹⁹⁵

The play on the mirror within the snapshot is reminiscent of the replicants' artificial life. The sound of the Esper machine, paradoxically, gives them depth and the illusion of life. Even though Zhora is only the representation of something fake (the photograph of an android) in this picture, and an immobile object, the Esper machine transforms her into a moving object. Vivian Sobchak writes that:

A film may be considered as more than a merely visible object. That is, in terms of performance, it is as much a *viewing subject* as it is also a *visible* and *viewed object*. Thus, in its existential function, it shares a privileged equivalence with its human counterparts in the film experience. This is certainly *not* to say that the film is *human* subject. Rather, it is to consider the film a *viewing subject* – one that manifests a competence of perceptive and expressive performance *equivalent* in structure and function to that same competence performed by filmmaker and spectator.¹⁹⁶

Sobchak's argument appears to be all the more relevant when applied to the Esper machine scene. The pointer, and therefore the spectator's gaze, exists as a visible subject within the film. The movement of the pointer, which is made possible through sound effect, is thus felt by the spectator. Although one can argue that the spectator's eye has to move around the frame, I would posit that sound generates more than a movement of the eye. The spectator engages with the machine's motion with all his senses. Chion writes that:

Le son peut être considéré comme bi-sensoriel - donc avec un impact accru - par effet de redoublement sensoriel, à chaque fois qu'il s'adresse à la fenêtre d'écoute en même temps qu'il touche le corps par co-vibration, ce qui est le cas de très nombreux phénomènes audibles: les sons vocaux (éveillant des micro-réactions nerveuses au niveau du larynx de l'auditeur), les sons puissants avec de fortes basses, etc... Il nous semble que cette formulation de la bi-sensorialité du son (de certains sons en tout cas) permet de lever des malentendus et des débats sans issue du genre: "entend-on ou n'entend-on pas avec "tout le corps".¹⁹⁷

¹⁹⁴ Galeyev, Bulat M. Evolution of Gravitational Synesthesia in Music: To Color and Light!". *Leonardo*, Vol. 36, No. 2 (2003): 130.

¹⁹⁵ McNamara, Kevin R. "Blade Runner's Post Individual Worldspace". *Contemporary Literature*, Vol. 38, No. 3 (1997): 426.

¹⁹⁶ Sobchack, Vivian C. *The Address of the Eye: A Phenomenology of Film Experience*. Princeton: Princeton UP (1992): 22.

¹⁹⁷ Glossaire par Michel Chion, visited 18 November 2015, <http://www.lampe-tempete.fr/ChionGlossaire.html>

According to Chion, the fact that sound is felt by the spectator through vibrations of the body connects it to touch. Sound is therefore bi-sensory, at least. On the same topic, Murray Shafer adds that:

Touch is the most personal of the senses. Hearing and touch meet the lower frequencies of audible sound and pass over to tactile vibrations. Hearing is a way of touching at a distance and the intimacy of the first sense is fused with sociability whenever people gather together to hear something special. Reading that sentence an ethnomusicologist noted: "All the ethnic groups I know well have in common their physical closeness and an incredible sense of rhythm. These two features seem to co-exist."¹⁹⁸

Similarly to sight, hearing appears to be a way of touching from a distance. Laura Marks claims that "we cannot literally touch sound with our ears."¹⁹⁹ I disagree with Marks because, as shown before, sounds *are* perceived through vibrations of the body and the internal ear in particular. Sound (beeping sounds in this particular case, and film music in general) thus allows the spectator to build mental space, and is closely linked to touch. It is thanks to sound that the audience is allowed to share the movements of the characters, as well as the movements of the cameras, and the editing. The score in the film not only creates various science-fiction worlds, but it also generates mental space for the spectator to journey within.

¹⁹⁸ Shafer, R Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester: Destiny Books (1994): 11.

¹⁹⁹ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 183.

C) Haptic Visuality

1) Touching with One's Eye

Sound appears to be closely linked to touch, but it is not the only sense that has a deep connection with kinesthesia. In this next part, I will argue that sight is also strongly associated with touch. It seems that metaphorical associations between the realm of sight and the realm of touch have pervaded the English language: we speak of making eye contact when looking into someone's eyes. A synesthetic link is thus established, but it remains metaphorical. What about strong synesthetic experiences that mix sight and touch? In *The Skin of The Film*, Laura Marks claims that "All of us hold knowledge in our bodies and memory in our senses. Experimental and mainstream narratives cinema are increasingly interested in representing these kinds of knowledge and memory."²⁰⁰ Even though her arguments focus more on experimental cinema, I will argue that the four films I have chosen display instances of what she calls *haptic visuality*, a term she borrows from Deleuze. She states that:

Haptic *perception* is usually defined by psychologists as the combination of tactile, kinaesthetic, and proprioceptive functions, the way we experience touch both on the surface of and inside our bodies. [...] In haptic *visuality*, the eyes themselves function like organs of touch.²⁰¹

Eyes are thus not only organs of sight, but also allow the spectator to touch the cinematic object. Marks claims that this kind of vision shares features of kinesthetics, as well as proprioception, that is to say the ability to touch, on the one hand, and the ability to locate one's body in space, on the other hand. As mentioned before, when Deckard uses the Esper machine to enhance Leon's snapshot, the spectator's gaze is projected into the pointer and the audience is allowed to move with the pointer on screen. McNamara argues that:

If the scenes that matter exist only in photographs, and if the photograph Deckard analyzes does not reveal its sought-for subject directly but only through reflection, the photographs and the process of reading them remind us that history is never total and objective; it is constructed from a perspective that illuminates some things and conceals others. These scenes also remind us that our knowledge of the past is always mediated through representations (even our memories are mediated), and that we must interrogate them to reveal the ideology that subtends the apparently natural.²⁰²

The idea that memory is mediated through representations is evocative of Marks' argument: she posits that memory is located in our senses, and not only in our intellectual knowledge. Rachel's past is stored in the memories she has of her mother. Even though the photograph she

²⁰⁰ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): xiii.

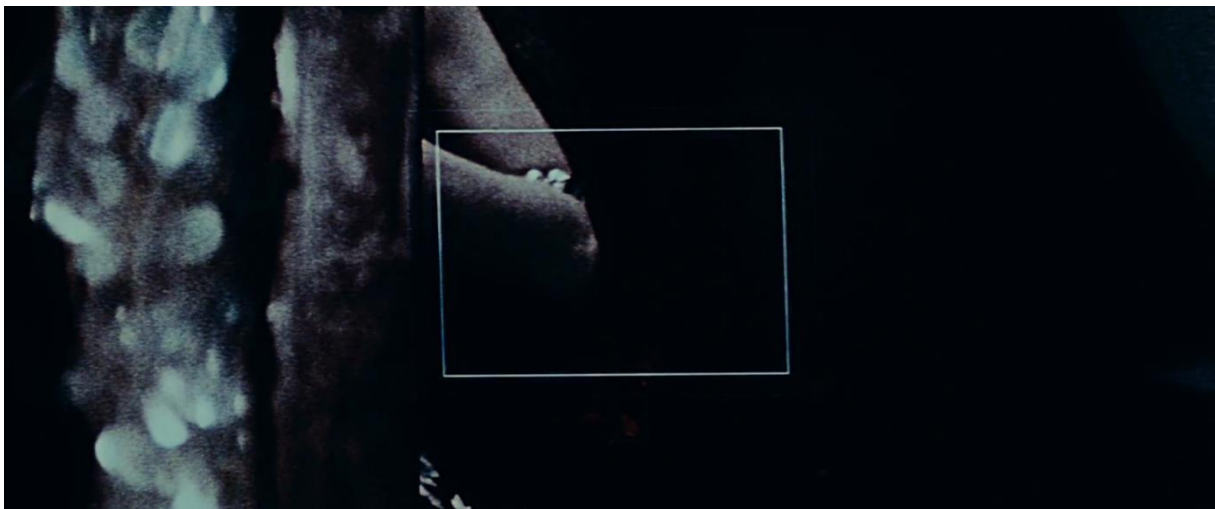
²⁰¹ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 162.

²⁰² McNamara, Kevin R. "Blade Runner's Post Individual Worldspace". *Contemporary Literature*, Vol. 38, No. 3 (1997): 447.

shows Deckard allows her to visually witness (and (re)present to Deckard) a frozen instant in time which she thinks she has lived, it is her sensory memory that truly allows her to keep believing in her humanity. Tyrell's Nexus 6 models are not "more human than human" because they know so, but because they feel human. Rachel remembers being scared of spiders; she also remembers how the wind went through her hair. As Deckard looks at the photograph, a slight breeze sound creates the illusion of witnessing Rachel's memory from her point of view. She has, however, never actually lived that moment. It appears that Rachel is thus not just seeing the photograph with her eyes, but also touching it with her eyes. On the subject of haptic visuality, Marks adds that:

The difference between these two ways of seeing is startling. I realize that the tape has been using my vision as though it were a sense of touch; I have been brushing the (image of the) fabric with the skin of my eyes, rather than looking at it. [...] The switch between what I will term haptic and optical vision describes the movement between a relationship of touch and a visual one. This experience of looking, together with Beharry's compelling words, makes us reflect that memory may be encoded in touch, sound, perhaps smell, more than in vision. The disparity between the searching movements of the camera and her wistful voice on the sound track, between visual and audio, creates poignant awareness of the missing sense of touch.²⁰³

Marks underlines the fact that the dichotomy between *optic* visuality and *haptic* visuality does not necessarily mean that the two concepts are independent. In fact, haptic visuality seems to be a consequence of sight. Images are first seen with the eyes, then decrypted with the surface of the eyes. This idea is particularly important when focusing on texture in the films. When Deckard enlarges sections of the photograph, he stumbles upon what appears to be snake scales, and discovers a clue that will lead him, as the *noir* detective figure, to find one of the replicants.



The Esper machine reveals a garland made of snake scales, which Deckard will later bring to a specialist of artificial animals in order to uncover the serial number found on the scales, which

²⁰³ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 127-129.

leads him to confront Zhora. When presented with the enhanced image of the scales, the spectator is using his sense of touch to “brush the fabric of the skin”, as Marks puts it. After journeying through the picture, using our senses of touch and proprioception, as mentioned above, our gaze is fixed upon this particular shape. Marks states that:

Haptic visuality is distinguished from optical visuality, which sees things from enough distance to perceive them as distinct forms in deep space: in other words, how we usually conceive of vision. Optical visuality depends on a separation between the viewing subject and the object. Haptic looking tends to move over the surface of its object rather than to plunge into illusionistic depth, not to distinguish form so much as to discern texture.²⁰⁴

The photograph is first seen by Deckard and the spectator as a distant, two-dimensional object. As Deckard uses the Esper machine to pan, tilt and zoom on the photograph, small objects – which were only microscopic details in Deckard’s hands – become the main focus of attention and fill the frame. The audience is then invited to use their sense of touch with their eyes: focusing more on the texture of the scales than on the images themselves, the audience partakes in Deckard’s sensation of touch. Marks writes that: “haptic images may also encourage a more embodied and multisensory relationship to the image in films that use haptic imagery in combination with sound, camera movement, and montage to achieve sensuous effects.”²⁰⁵ It seems that the association between sound and space, in particular, gives way for the spectator to touch the surface of the screen, in that particular scene. Marks deals with the hand motif in relation to haptic cinema, and claims that Deleuze uses the term haptic in relation to the sense of touch, focusing on filmic images of hands to establish a connection with touch. Marks states that looking at hands evokes touch through identification (with the “organs” of touch), but she posits that haptic cinema transcends this idea of identification.²⁰⁶ As mentioned in the second chapter of this work, senses can indeed be evoked (or invoked) when focusing on sensory organs. But Marks’ argument goes beyond the process of identification. Even when Deckard’s hand (or human skin) is not shown on screen, the spectator is invited to experience the filmic image using haptic visuality, especially in scenes that focus on texture. Quoting Jacinto Lejeira, who discusses films by Atom Egoyan, Marks explains that:

Egoyan uses different processes, such as speeding up video footage in the film, enlarging the grain, and creating *mises-en-abîme* of video within film, to create a more or less optical or haptic

²⁰⁴ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 162.

²⁰⁵ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 172.

²⁰⁶ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 171.

sensation. [...] [T]hese visual variations are not formal matters alone but have implications for how the viewer relates bodily to the images.²⁰⁷

During the Esper machine scene, footage is not technically accelerated, but the photograph is digitally enlarged and the scene introduces a literal *mise-en-abyme* as well as a metaphorical one. The depth created by sound effect (as shown before) – together with the nesting rectangles that gradually become smaller and smaller as the machine “enhances” the photograph – create a screen within a screen. Furthermore, this scene represents the act of watching a film, as Deckard becomes the spectator of the Esper machine screen. The Esper machine scene allows Deckard, and the spectator, to focus on “grain”, which is a major element of photography:

Film grain is a repeating noise pattern that is an order of magnitude larger than the fundamental image particles. Film resolution is directly related to the size and distribution of silver particles in an emulsion. The noise pattern tends to obscure detail rather than define detail. The pattern is superimposed over the image, not the source of the image.²⁰⁸

Grain is therefore defined in kinesthetic terms, and not only in visual terms. It seems to add depth to a photograph, as the end of the quote suggests. Marks claims that “an important source of video tactility [is] its electronic manipulability. The tactile quality of the video image is most apparent in the work of video makers who experiment with the disappearance and transformation of the image due to analog and digital effects.”²⁰⁹ In that scene, Deckard himself becomes a video maker and experiments with the photograph. Marks states that using haptic images is a way to disengage with the narrative, or delay the spectator’s engagement with the narrative, by focusing on the image and its texture, and forcing the spectator to rely on their sensory memory. As Deckard scans through the photograph, the audience focuses on the replicants’ lack of history (and therefore their lack of narrative) and on a frozen instant in time. Using such techniques allows the spectators to focus on what Barthes calls the *punctum*, the detail that paradoxically fills the whole picture.²¹⁰ Haptic images therefore invite the spectator to touch the screen with their eyes, brush the surface of the picture instead of simply looking at it.

²⁰⁷ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 171.

²⁰⁸ Cool Conservation, visited 16 September 2016,

http://cool.conservation-us.org/coolaic/sg/emg/library/pdf/vitale/2007-04-vitale-filmgrain_resolution.pdf

²⁰⁹ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 176.

²¹⁰ Barthes, Roland. *Camera Lucida*. New York: The Noonday Press (1981): 45.

2) Mimetic Effect

Mimesis is “the representation or imitation of the real world in a work of art, literature, etc.”²¹¹ Marks states that:

Tactile epistemology involves a relationship to the world of mimesis, as compared to symbolic representation. Mimesis, from the Greek *mimeisthai*, “to imitate”, suggests that one represents a thing by acting like it. Mimesis is thus a form of representation based on a particular, material contact at a particular moment. [...] each time a story is retold, it is sensuously remade in the body of the listener. Auerbach was describing the relationship between reader and written text; we might expect the relationship between “viewer” and the more physical object of cinema to be more convincingly mimetic.²¹²

Marks posits that there is a clear distinction between “symbolic representation” on the one hand, and mimesis on the other. This dichotomy is reminiscent of the difference between weak and strong synaesthesia, which we developed before. Symbolic representations of the senses exist in the four films on a metaphorical level, and are easy to identify: when Deckard is first presented eating, the image calls upon the sense of taste, on a metaphorical level. As Marks mentioned, shots depicting hands evoke the sense of touch, but they do not necessarily act as haptic images. Marks suggests that mimesis implies a similar action. The power of haptic images comes from the spectator’s ability to use their sense of touch and not only their vision. They are therefore acting *like* the characters in the films. In film especially, the dialogue between spectator and image, or what Sobchak describes as the relationship between subject and object, is necessarily a sensuous one. Marks deliberately uses the word sensuous instead of sensory, so as to make a subtle transition to what she calls *haptic erotics*. Although the two words bear different connotations, I use them both to describe associations relating to the senses. Marks claims that stories are “sensuously remade in the body of the listener,” that is to say that sensations felt by characters and mediated through film need to be echoed in the spectator’s body. She adds that “mimesis presumes a continuum between the actuality of the world and the production of signs about that world. [...] Mimetic representation, then, exists on a continuum with more symbolic forms of representation.”²¹³ One of the best examples to illustrate this idea is undoubtedly the rotoscope imagery in *A Scanner Darkly*: the first film (shot with real actors then edited) is a symbolic representation of 1950s San Francisco. But, as Julien Achemchame mentioned, the rotoscoped image that was superimposed above it acts as a haptic rendering of the first film. Haptic qualities of this second layer were mentioned before, such as the lack of depth which creates a blurring effect in the spectator’s mind. As Arctor’s

²¹¹ Oxford English Dictionary, visited 7 July 2016, <https://www-oed-com.nomade.univ-tlse2.fr/>

²¹² Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 141.

²¹³ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 139.

senses gradually betray him, the spectator becomes less and less *in touch* with his sensory faculties. Paradoxically, the audience is detached from its senses, a process which underlines Arctor's evolution in the diegetic world of the film. Marks states that:

If one understands film viewing as an exchange between two bodies – that of the viewer and that of the film – then the characterization of the film viewer as passive, vicarious, or projective must be replaced with a model of a viewer who participates in the production of the cinematic experience. Rather than witnessing cinema as through a frame, window, or mirror, the viewer shares and performs cinematic space dialogically.²¹⁴

Marks insists in the idea that the viewer acts in the cinematic experience. Bob Arctor is not only an *actor* in the surveillance process (even though he is a passive target on the screens), he is also spying on his house and constantly watching and re-watching tapes from Arctor's house. The relation – or dialogue, as Marks puts it – between Arctor and his surveillance screen is therefore linked to the dialogue between the spectator and the cinema screen. This *mise-en-abyme* underlines the idea that the audience shares Arctor's sensations, not only on a metaphorical level but also on a mimetic level. Marks adds that:

Through mimesis we can not only understand our world, but create a transformed relationship to it – or restore a forgotten relationship. Mimesis shifts the hierarchical relationship between subject and object, indeed dissolves the dichotomy between the two, such that erstwhile subjects take on the perceptive and knowledgeable qualities of objects, while objects take on the perceptive and knowledgeable qualities of subjects.²¹⁵

The relationship between spectator and the diegetic world of the films is thus transformed; this process blurs the boundaries between the cinematic space and the spectator's reality, as well as the boundaries between what the films represent and what the spectators experience. In *A Scanner Darkly*, Bob Arctor's life on the surveillance screens witnessed by Fred slowly becomes Fred's reality. Because of his abuse of Substance D, Fred/Arctor is no longer able to establish a clear distinction between what he sees on screen and what he experiences, what he can actually touch. The cinematic experience is similar, thanks to the help of mimesis. The spectator shares the character's ability to sense the world around him using touch, and is therefore invited to become the object of cinema, as cinema itself becomes an acting subject, in Sobchak's words.

²¹⁴ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 150.

²¹⁵ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 141.

3) Identifying with the Senses

In *Cinema and Spectatorship*, Judith Mayne deals with “the thorniest and most difficult question raised by institutional theories of the cinema”²¹⁶: identification. She claims that it is inaccurate to limit this process to identification with characters. Quoting Laura Mulvey’s psychoanalytic theory of “visual pleasure”, she reminds the reader that male spectators are able to identify with male protagonists, inferring that gender plays a role in the whole process. Gender also plays an important role in studies of synesthesia, since it appears that more females were found to possess strong synaesthesia than male test subjects. Women could therefore be more likely to identify with the senses of film than men. Mayne later states that other critics have tried to define identification: Metz distinguishes between what he calls primary and secondary identification. Before spectators can identify with characters, they identify with the projection itself.²¹⁷ I would argue that the spectator is able to identify with the characters’ senses, more than the characters themselves. Even though identification with a character is still possible, I posit that there is a form of identification that takes place before. Spectators engage with senses before they engage with sense; sensations are primary, while intellectual interpretation is necessarily secondary. Furthermore, I would argue that sensory identification is necessarily a multisensory experience. Quoting Bergson, Marks states that the image must be multisensory since Bergson’s model, upon which Deleuze relies, engages all senses:

“When Deleuze writes, toward the end of *Cinema 2*, that cinema cannot give us a body, but it can give us “the genesis of an ‘unknown body’, which we have in the back of our heads, like the unthought in thought.”, he suggests that cinema may indeed be capable of bringing us to our senses. Given the nature of memory, the audio-visual images necessarily evokes other sense memories, perhaps even memories that belong to that “unknown body.”²¹⁸

She then uses the example of close-ups of magnolia flowers in *Her Sweetness Lingers* (1994), which remind her of “how they feel and how they smell, the buzzing of insects [and] the heat of summer.”²¹⁹ Even though she posits that images are multisensory, she concedes that her experience is a personal one, and that other spectators are likely to feel different things. However, she shows that images call upon senses other than sight, and that she is able to use her olfactory memory, in this particular example, when presented with an image. Although it is not physically possible to remember a smell, as mentioned before, she experiences strong synaesthesia when her sense of smell is called upon by the cinematic image. She therefore

²¹⁶ Mayne, Judith. *Cinema and Spectatorship*. London: Routledge (1993): 26.

²¹⁷ *Ibid.*

²¹⁸ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 148.

²¹⁹ *Ibid.*

identifies with a sense, not with a character on screen. Marks states that “the cinema reproduces the aesthetic hierarchy between the distance senses of vision and hearing and the proximal senses, such as touch, taste, and smell.”²²⁰ She argues that those last three senses are regarded as “minor” in the cinematic experience, but can therefore be “cultivated aesthetically.” Identifying with the senses allow the spectator to share sensory experiences, as the cinematic object becomes able to represent non-audiovisual experiences. Marks claims that “the simplest way for movement-image camera to appeal to the viewer’s senses is through narrative identification.”²²¹ But I posit that this form of identification is, again, secondary. She states that “it is common for cinema to evoke sense experience through intersensory links: sounds may evoke textures; sights may evokes smells. [...] These intersensory links are well termed *synesthetic*.”²²² Marks uses the term *evoke*, but I argue that the relationship between sounds and texture, for instance, is far stronger than evocation. I would state that sounds in film are able to *invoke* texture, that is to say calling upon the sense of touch when playing music or using sound effect. As shown before, ternary rhythms in Vangelis’ score to Blade Runner evoke movement, because of the history of ternary music (one may think of waltzes and their famous choreography), but it is more importantly able to call upon our sense of touch and create mental space. Movement (and therefore kinaesthesia) is not simply evoked, but it is invoked, or called upon, as the spectator experiences the movement (of the flying car, in this particular example) in their whole body. Marks states that “cinema is a mimetic medium, capable of drawing us into sensory participation with its world even more than is written language.”²²³ The cinematic image therefore allows the spectator to use all their senses, and participate in a complete synesthetic experience. As they brush the surface of the image with their eyes, spectators are able to mix kinesthetics with vision. As characters on screen uses their hands to manipulate images, spectators are once again invited to associate touch and sight. They experience this relationship with their own senses. As warmth, pain, or vertigo are represented through the use of color or sound effect, spectators become capable of experiencing those sensations with their sensory organs. They do not only hear warmth, pain and vertigo in the score: they actually experience those sensations.

²²⁰ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 211.

²²¹ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 213.

²²² *Ibid.*

²²³ Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham: Duke UP (2000): 214.

CONCLUSION:

Philip K. Dick once said: “reality is that which, when you stop believing in it, doesn’t go away.”²²⁴ The American writer devoted his life to writing dystopian universes in which the boundaries between the real and the virtual are blurred. The main literary device he uses to represent this confusion is a blurring of the characters’ senses. Many of his novels and short stories have been adapted for television and the cinema, and directors needed to address that particular issue. Even though various filmmakers use different techniques to render Dick’s distorted realities on screen, it seems that all the four films upon which this thesis is based share a common feature: they all represent a mixing of the senses. The aim of this work was to define the concept of synaesthesia and analyse how it operates in films, and in Dick’s adaptations in particular. I tried to define the phenomenon of synaesthesia in my first chapter. The Aristotelian model of the five senses, which is still used today, served as a basis for this study. Starting with the senses of sight, hearing, touch, smell, and taste, I decided to add equilibrium perception (balance), proprioception (locating one’s body in space), thermoperception (warmth), as well as nociception (pain). This nine senses model is now thought to be more accurate than Aristotle’s five senses model. This thesis offered a brief summary of the obscure history of the study of the senses and synaesthesia. Even though metaphorical synaesthesia has been used and studied for centuries, it seems that clinical (strong) synaesthesia has only been dealt with for the past two hundred years; it thus remains quite an obscure phenomenon. However, weak synaesthesia was discovered in Ancient Greece when Aristotle suggested a connection between music and cosmology. A number of artists, including poets, have since then tried to convey a mixing of the senses in their work. Some of them experience strong synaesthesia and channel it into their work. Numerous writers and painters are able to *hear colours*, notably. Experiments by Kandinsky were particularly crucial in the study of artistic synaesthesia. Before moving on to the films, I tried to analyse how intersensoriality was used in Dick’s writing, which often convey this blurring of the senses.

The second chapter of this work was dedicated to the emphasis on the senses in the films. I was then concerned with how senses are represented and mediated in cinema. Starting with the eye motif, which seemed to be the most obvious point to begin with, I showed that the films present a dichotomy between real and artificial eyes, which already blurs the boundaries

²²⁴ Brain Pickings, <https://www.brainpickings.org/2013/09/06/how-to-build-a-universe-philip-k-dick/>, visited September 21st 2016.

between reality and virtuality, on a sensory level. Focusing on *Blade Runner* and *Minority Report* in particular, I showed that the motif of the eye is always linked to the question of life and reality. I then argued that the eye motif is always a representation of the spectator's gaze. The audience is reminded that they are a part of the cinematic experience. I then developed the idea that memory is represented as a kind of sense, even though it is not technically a sense. Starting with the argument that memory is represented as a fragmented experience in *Minority Report*, I pointed out that Agatha's experience of memory is an embodied one, and is therefore sensory. The theme of memory was associated with that of identity, especially when analysing *Total Recall*. Memory in this particular film is also presented as an embodied experience. I then detailed how memory is mediated in *Blade Runner*. The use of the sense of touch, in particular, creates a multisensory experience for the replicants and already foregrounded a mixing of the senses. I also dealt with the films' texture, showing how colour plays a role in the cinematic experience and how it is connected to touch. I also tried to show how the rotoscope imagery from *A Scanner Darkly* created a peculiar kinesthetic experience for the spectator, and therefore how touch was related to sight in the cinema. The four films are thus able to call upon different senses, and synesthesia works on a metaphorical level.

Finally, the last chapter of this thesis focused on how synaesthesia works in the film, and in particular how sound calls upon other senses. The intersensory experience of cinema was put forward and analysed using the four films as illustrations. I tried to begin my demonstration with the "minor" senses, which are usually left out of those kinds of endeavours. I tried to show how using the sense of touch when watching a film allows the spectator to share experiences of vertigo in the films. This particular effect is also made possible through the use of sound and acute sounds in particular. It seems that kinaesthesia plays a major role in the appreciation of the films' textures, which leads the spectator to uncover hidden truths, such as the true nature of Rick Deckard in *Blade Runner*. I then dealt with smell and taste, which are the most complicated senses to represent on screen. Even though touch is often called upon and used in the cinematic experience, smell and taste remain minor elements of the synesthetic experience of film. However, it is possible to evoke smells and tastes, but as I have shown, the intersensory experience is not complete. As the human brain is incapable of remembering actual smells, other senses fail to completely bring back the memory of smells and tastes, and the experience remains partial. My next focus was the building of space using sound and film music. As I have demonstrated, the score from *Blade Runner* not only creates a science fiction atmosphere, but it actually creates mental space in the spectator's mind. Music generates meaning and allows

the audience to visualize the trajectories of several objects on screen. The two-dimensional images appear as three-dimensional thanks to sound effects. Music in *Minority Report* and *A Scanner Darkly* also creates multisensory experiences for the spectator: sound is clearly linked to touch, as it creates fear and pain in the spectator's mind. Hearing becomes a way of touching from a distance. I then used Laura Marks' concept of *haptic visuality* and tried to apply it to the four films. She argues that it is possible to brush the surface of an image using our eyes. I developed this argument and showed that certain images do appeal to the kinesthetic function of sight. Sight and touch are thus equated, and the spectator is invited to share the characters' ability to touch. However, I argued that the use of touch in the film goes beyond simple mimesis and identification with the characters. Synaesthesia in the films allows the spectator to use all their senses and experience different sensations: vertigo, pain, warmth, etc.

My aim in this endeavour was to show how synaesthesia functions in science fiction films, and Dick's adaptations in particular. I tried to demonstrate how sight and hearing are capable of calling upon other senses, and allow the spectator to participate in multisensory experiences. However, this experience is not complete, since the senses of smell and taste, which I have not investigated as much as touch, are not strongly evoked. Further research could therefore focus specifically on those "minor" senses and show how smell and taste are evoked using images and sounds. Further research could also focus on synaesthesia in other film genres (such as horror films, where it also seems to play an important role) and in cinema in general. In-depth analyses of images that do not seem to possess haptic qualities could lead to discover new properties of haptic visuality. Using Marks' idea and going one step further, one could show how all images call upon our sense of haptic visuality, and therefore mix sight and kinesthesia.

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