Title	Man as product and producer of vitreous optic: from the mirror phase to the monitor phase, with particular reference to Martin Jay, Bergson, Deleuze and Baudrillard
Authors	Bergamini, Andrea
Publication date	2019
Original Citation	Bergamini, A. 2019. Man as product and producer of vitreous optic: from the mirror phase to the monitor phase, with particular reference to Martin Jay, Bergson, Deleuze and Baudrillard. PhD Thesis, University College Cork.
Type of publication	Doctoral thesis
Rights	© 2019, Andrea Bergamini. - http://creativecommons.org/licenses/by-nc-nd/3.0/
Download date	2024-04-28 23:27:13
Item downloaded from	https://hdl.handle.net/10468/7313

Ollscoil na hÉireann, Corcaigh

National University of Ireland, Cork

Man as product and producer of Vitreous Optic: From the Mirror Phase to the Monitor Phase, with Particular Reference to Martin Jay, Bergson, Deleuze and Baudrillard.

Thesis presented by

Andrea Bergamini, BA, MA

for the degree of

Doctor of Philosophy

University College Cork

Department of Sociology

Head of School: Dr. Kieran Keohane

Supervisor: Dr. Kieran Keohane

January 2019

TABLE OF CONTENTS

Declaration of Academic Integrity

This is to certify that the work I am submitting is my own and has not been submitted for another degree, either at University College Cork or elsewhere. All external references and sources are clearly acknowledged and identified within the contents. I have read and understood the regulations of University College Cork concerning plagiarism.

ABSTRACT

Drawing an arc from Narcissus' encounter with his own reflection, tracking through varieties and modalities of glassy surfaces and technologies through history, from the mirror to the lens, microscope and telescope, camera obscura and panopticon, to contemporary techno-cultural phenomena of the 'digital age' the concern of this work is to determine how mirrors, lenses, screens and monitors have shaped our social and conceptual modes of existence. The four parts of this dissertation all illustrate how glass technology modalities of vitreous optic has contributed to the development of the various spheres of our life, and vice versa. The general hypothesis shows how intertwined we are with our material production beyond the reductive perspectives of technological determinism and social constructivism; and, more specifically, the thesis argues that the vitreous optics of the contemporary age –the computer game, the smartphone, social media platforms and networks- have profound ramifications that are redefining 'intelligence', 'things', and 'technology'.

INTRODUCTION

The purpose of this project is mostly inspired by Jean Baudrillard whose work, '*The Transparency of Evil*', states explicitly:

> "We lived once in a world where the realm of the imaginary was governed by the mirror, by dividing one into two, by theatre, by otherness and alienation. Today that realm is the realm of screen, of interfaces and duplication, of contiguity and networks. All our machines are screens, and the inter-activity of humans has been replaced by the interactivity of screens" (Baudrillard, 1993, 61).

Hence, my project aims:

- To specifically outline the metaphysical, symbolic characteristics of glass.
- To outline how peoples' thinking and social environments are greatly influenced by technical devices, materials, and technology, and to explore the attachments which can develop, often beyond the realm of the device's objective use.

Composed of various research attitudes, the project will include historical analysis of concepts, essentially focusing on those of Plato, Galileo, and Galilei. With inspiration drawn primarily from Martin Jay's work. Other important sources include social analysis (Baudrillard and Azuma), deconstructive method (Baudrillard), and theoretical approaches (Bergson and Deleuze).

The basis of my studies is found in selected works by Baudrillard (*The Transparency of Evil*, 1990, *Simulacra and Simulation*, 1981 and *The System of Objects*, 1968), Hiroki Azuma (*Otaku: Japan's Database Animals*, 2009) and Martin Jay (*Downcast Eyes*, 1993). These theorists, although belonging to the same historical period, come from various countries and therefore have different cultural contexts. I am going to examine their thoughts in my project as they directly approach many points of my proposal. The research of Baudrillard and Azuma individualize the characteristics of the screen both as symbol and instrument. Baudrillard also hints at differences and similarities, even more importantly, between the screen and his predecessor, the mirror. Martin Jay illustrates the history of ocularcentrism, the domination of sight within both society and philosophy since ancient history, and the underlying implications that technical enhancement had on this phenomenon.

However, Baudrillard's works concerning the passage 'from the mirror phase to the screen phase' do not address a specific argument on the metaphysical symbolic characteristics of glass, the vitreous optic, but they can be considered, as the essay of Azuma, a part of a more ample research studying the link between contemporary society and technology.

My scope comprises of two areas of study, which examine from multiple angles the prominence of glass, both symbolically and concretely, to underline how the specific development of intelligence and society since Ancient history has been strictly entwined with this actual item/material. The second objective is to briefly illustrate how glass has historically been the most representative instantiation of the strict connection between intelligence, technology, materials and objects but nonetheless contingent. I will also consider how different materials can instantiate such a connection with different outcomes, so as to leave a door open for future possibilities in human development.

Each part will correspond to a different phase, and a different method, in view of passing gradually from the introduction to the vitreous optic and its eventual deconstruction through a general redefinition of technology. This approach will be necessary to demonstrate the existence of a metaphysics of glass behind the concrete development of thought, intelligence and human action. Furthermore, it will comprehend, and ultimately address the arbitrariness of its course.

The first part of this project will expose the origin of the mirror phase in ancient history and the middle ages. By Plato's dialogue *Alcibiades* and the myth of Narcissus, I will demonstrate the first use of the mirror metaphor in philosophy and how the Greek thinkers afterwards conceived the functioning/thinking of the mind as a reflective mirror. In this regard, I will identify the connection between the first and basic philosophical ideas of conscience, the double, reflection and speculation, and the first form of the hidden glass metaphysics. For instance, I will outline how the mind (thus intelligence) has emerged and developed from the mirror metaphor. The latter has in fact posed criticisms of the metaphor of the mind; that big mirror that has more or less accurate representations of reality.

The second part will focus on the lens phase. This part will be presented from stages of the journey and execution of imaginary evolution and human technology concerning the use of glass from the mirror to the screen. The gradualness of this transformation and the co-existence of the various metaphors in human history will, therefore, be highlighted. The lens will be considered as an exhaustive symbol, and instrument of modern age society and philosophy. With particular attention to the interest of Spinoza, Descartes, Leibniz and other modern philosophers for practical applications of the lens, I will identify the characteristics of this new metaphor, related to modern thinking and will compare this phase with the previous one, the mirror. We will also demonstrate how the new instrument altered the technical performance of human intelligence, by indirectly changing the consideration of the body (as object) and the mind (as subject). Finally, I will detect the gradual passage from this phase to the next: the screen.

The third part will focus on the screen phase. I will refer to Deleuze, considering his philosophical interest in cinema (specifically *Cinema1: The movement image* and *Cinema 2: The Time-Image*), emphasizing a first manifestation of the screen: stage in which integration of man with the machine (adopting the expression of Baudrillard) had not been manifested yet: in which, however, the first great transformations and characteristics of this new technical instrument already appear. I will then analyze television (the second stage of this phase) and the post-World War II society which it contributed to shaping- referring to Baudrillard's insights on this matter.

The fourth part will focus on the contemporary phase of the vitreous optic: the monitor phase. In this regard, I will address Baudrillard when analyzing the increased integration operated by video games, computers and smartphones, due to their new haptic and interactive characteristics. Furthermore, I will demonstrate the aspects of this new phase, both in symbolic and concrete terms, by also referring to authors from game studies. Moreover, the analysis by the Japanese philosopher, Hiroki Azuma in *Otaku: Japan's Database Animals*, with references to Baudrillard (particularly in the discussion pertaining to the use of simulacrum by the Otaku online community) will help me with the part concerning the characteristics of the use of the computer in the Otaku culture, with, reference to the same physical characteristics of the monitor and how it is influencing the same way of living, conversing, and thinking of the more recent generations.

The Conclusions will reflect on what is revealed by this work and will be divided into two chapters.

The first chapter will detect and summarize the common characteristics of the entire vitreous optic, which are also some of the main features shared by all cultures since ancient Greece.

The second chapter will examine how technical manipulation is an essential characteristic of intelligence. In order to address this issue, we will refer to Henri Bergson's thesis concerning the genealogy of intelligence, that of *Creative Evolution*, and Bruno Latour's innovative view on things, materials, and technology, expressed in his texts *An Inquiry into Modes of Existence*, *Reassembling the Social* and in his short essay *Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern*.

By referring to the work of Latour and by addressing, through a specific study case (i.e. the history of the crafting of glass), the more general entanglement of practical interactions with materiality (e.g. production, crafting, use of objects), thought, perception, experience and collectives within history, this project is at the intersection of sociology, social studies of science and technology, and actor-network theory.

Moreover, this project offers a grand narrative, which is nevertheless displayed as an active, engaged, selective reconstruction of specific historical processes, expressed by the choice of focusing on a specific material. In other words, this research does not aim toward a completely exhaustive analysis of historical relationship between technology and 'human beings'. This thesis leaves open future possible studies concerning other materials, which had been relevant in the development of history, such as metal.

Finally, this thesis follows the return to materiality in the study of technology supported and somehow inaugurated by Friedrich Kittler (1943-2011), but it also avoids technological determinism and focusing merely on modernity. In this regard, the use of a non-reductionist and multidimensional methodology inspired to Latour's ANT (Actor-Network-Theory) has been fundamental to my research.

I MIRROR PHASE (FROM ANCIENT GREECE TO THE MIDDLE AGES)

A. MIRROR OF DECEPTIVENESS

1. The Deceived Narcissus

The mirror phase takes its first form mostly through Greek mythology, and philosophy, only later, enhances it. Greek myths feature the mirror as a powerful magical object, both deceptive and truthful, dangerous and helpful; it was in fact 'for centuries a rare object endowed with magical and often disturbing powers' (Bonnet, 2014, 9). For instance, there are three central myths that both denote and code the rise of the mirror symbolically and concretely: the myth of Narcissus, the tale of Perseus and Medusa, and the myth of Dionysus and the Titans. This chapter focuses specifically on these two tales mostly concerning the deceptiveness of the mirror. The latter tale will be discussed later in this chapter.

The story of Narcissus 'plays only a tangential role in Greek mythology' (Galinsky, 1975, 529). It was Ovid who rescued it 'from lapsing totally into an inane fairy tale' (Ibid, 1975, 52) by providing 'some motivation for Narcissus which would compensate for the improbability of the paradox. The motivation he provides is Narcissus' inability to go beyond himself. Because of this deficiency he destroys others and ultimately himself' (Ibid., 52). Summing up the notorious Ovid's version, 'Narcissus falls in love with his own shadow [reflection], which he sees in a fountain [well]; and, pining to death, the Gods change him into a flower, which still bears his name' (Ovid, 1876, 103). As recounted in the Metamorphoses: 'While he is drinking, being attracted with the reflection of his own form, seen *in the water*, he falls in love with a thing that has no substance; *and* he thinks that to be a body, which is *but* a shadow' (Ibid., III. 413-445). Narcissus later states: 'I wish that he who is beloved could enjoy a longer life. Now we two, of one mind, shall die in *the extinction of* one life' (Ibid., III. 445-480). 'In his grief Narcissus beats his breast with such force that it turns red and when he sees the effect of his flagellation in his reflected image, he collapses in an autoerotic paroxysm (480-7)' (Galinsky, 1975, 59).

'The misfortune of Narcissus, whose story has been retold so often since Ovid, was to have chosen the lowest degree of knowledge, that of his reflection. He was punished by

Nemesis for having scorned Echo's love, for having refused the mediation of the other in the construction of the self. There was certainly not yet a psychological implication to the fable in antiquity, but only the passing of a moral judgement on a young man overtaken by madness and excess, confusing illusion with reality and making himself his own aim rather than investing himself in the polis' (Bonnet, 2014, 106). The reason for Narcissus's own tragic demise is his *hybris*, that pride, arrogance, excessive self-confidence the entire Greek tradition has always judged as the worst possible vice, or rather the reason behind every excess and vice. Acting according to hybris meant defying the norms established by the gods and bringing about one's own downfall. Such conception is the religious and mythological counterpart of a social sphere still constituted as a community, by a strict sense of belonging toward the place of birth. The norms of the community, like the norms of the gods, constituted the basic perimeter of meaning for one's own existence. Breaking them for mere self-gain corresponded to suicidal behavior. The unencumbered self (as conceived by modernity) was inconceivable for both the Ancient History and the Middle Ages. The single individual was strictly determined and defined by his/her culture and tradition. There was not an abstract, universal and general concept for defining 'individuals'. A single individual could not exist without the community he belongs to, where he was born and where he had to be brought back once dead. In old heroic societies, as such as the Homeric one or in Celtic Ireland:

> 'The individual has a given role and status within a well-defined and highly determinate system of roles and statuses. The key structures are those of kinship and the household. In such a society a man knows who he is by knowing his role in these structures; and in knowing this he knows also what he owes and what is owed to him by the occupant of every other role and status' (McIntyre, 2007, 122).

It is true that Greek ethics, culminating in Aristotle's both ethical and political discourse, was teleological ethics based on the concept of selfhood, whereby the goal of each free adult male citizen of the polis was achieving happiness (*eudemonia*), conceived as self-flourishing. Aristotle defines it explicitly in his *Nicomachean Ethics* as 'a certain kind of exercise of the vital faculties in accordance with excellence or virtue' (Aristotle, 1893, 23).

However, the cultural context of the polis always determines the virtue (*arête*) necessary to achieve self-flourishing. In other words, the virtues that the Greeks take into account as necessary to happiness are not personal constructs, but they refer to the community itself.

Moreover, the fact that eudemonia refers to excellence makes it an objective judgment independent from one's feeling and knowledge. The excellence of man is also the 'excellence, not of body, but of soul; for happiness we take to be an activity of the soul' (Ibid., 30), whereby virtues correspond to the wellbeing of the soul.

Finally, Aristotle in his Nicomachean Ethics always refers to himself and his point of view by using the first person plural subjective pronoun 'we' instead of the singular 'I'. That 'we' corresponds to a common ethical tradition, a specific form of social agency instead of the 'I' of personal thought on ethics. In fact, "'What do we say on such and such a topic?' is a question that he continuously asks, not, 'What do I say?' Who is this 'we' in whose name he writes? Aristotle takes himself not to be inventing an account of the virtues, but to be articulating an account that is implicit in the thought, utterance and action of an educated Athenian" (McIntyre, 2007, 147-148). Aristotle unwarily viewed himself just as a portion of Athens, without which the existence his self and soul would have been utterly impossible.

In both Homeric and classical Greek traditions, the word 'soul' was a synonym for selfhood, describing mind, consciousness, and spirit altogether. Moreover, the soul was not conceived in mere individualistic terms: 'soul' and 'self' correspond to a unique concept and always refer to a community.

It is within this classicist cultural context and the older heroic social context of the Homeric world that the tale of Narcissus assumes the function of a warning and the mirror an instrument of temptation.

2. The Deceiving Perseus

The goddess Athena accompanied the hero and demigod Perseus in his quest to decapitate the Gorgon Medusa and retrieve her head. 'Now, the Gorgon Medusa had serpents for hair, huge teeth, protruding tongue, and altogether so ugly a face that all who gazed at it were petrified with fright' (Graves, 1960, 238-239). To help him succeed, Athena warned Perseus 'never to look at Medusa directly, but only at her reflection, and presented him with a brightly-polished shield' (Ibid., 239). Once in front of the Gorgon, the hero 'fixed his eyes on the reflection in the shield […] and he cut off [her] head with one stroke' (Ibid.) of his sickle.

This story corresponds to 'the contest for power between the Medusan gaze and its apotropaic antidote' (Jay, 1994, 33), which corresponds to 'the brightly-polished shield' wielded by the hero.

This myth dates to a time before Homer, and it thus embodies the dawn of Greek Heroic society, when the first triumph of a purported male rationality against female irrationality occurs. However, the first form of rationality expressed by pre-Homeric mythology differs quite notably from the Homeric one, and the later development of philosophy.

Various myths along the tale of Perseus exemplify the passage from a pseudo-matriarchal society to a pre-agricultural society, based mostly on hunting. All these tales share the same image: a beautiful male god, demigod or hero incorporates faculties and characteristics that are supposed to qualify untamed women. To accomplish this deed he must kill, eat or subdue a goddess or a female monster. The most evocative amongst these female skills was cunning, as archetypically illustrated by the myth of Zeus and Metis – the Greek word originally meaning 'magical cunning' and after that 'craft' or 'wisdom' as practical wisdom.

> "Zeus lusted after Metis the Titaness, who turned into many shapes to escape him until she was caught at last and got 'with child'. An oracle of Mother Earth then declared that this would be a girl-child and that, if Metis conceived again, she would bear a son who was fated to depose Zeus […]. Therefore, having coaxed Metis to a couch with honeyed words, Zeus suddenly opened his mouth and swallowed her, […] he claimed afterward that she gave him counsel from inside his belly. In due process, he was seized by a raging headache […] so that his skull seemed about to burst […]. [Zeus] persuaded Hephaestus to […] make a breach in [his] […] skull, form which Athene sprang, fully armed, with a mighty shout" (Graves, 1960, 46).

This tale symbolizes the domination of Greek patriarchal society over matriarchal society, and thus the appropriation of female skills in what was the primary source of livelihood at that time: hunting. To be applied to this activity, rationality - exclusively attributed to men – required in fact the incorporation of cunning, an instinctual quality usually associated to women and corresponding to Metis' ability of camouflage.

The very ancient myth of Perseus belongs to this young age of Greek patriarchy, before the age of war heroes symbolized by the Iliad, lately the age of trading and colonization of the Odyssey and lastly the classical age of tragedy and philosophy. Perseus is still a hero of pre-Homeric mythology, whereby the narrative revolves around action more than characters' motivation and emotions. It is within this context that the truncated head of

Medusa turns into a weapon in the hands of the rational male hero: despite the Gorgon's demise, her sight can still petrify whatever living creature meets her eyes. Therefore, male rationality has once again subdued the female irrational and monstrous power to man's own will. A heroic feat achieved in this instance through the juxtaposition of mirror and shield: both a mirror used as a protection against and a shield employed as a mirror to reflect the sight of Medusa.

Throughout the story of Perseus and Medusa, the mirror appears as the model of a first metaphorical (and practical) conception of exclusively masculine rationality. A mirror that is not used to reflect one's image (Narcissus), and thus to construct selfhood, but to inhibit and then take possession of the objectifying and terrifying gaze of radical otherness, which corresponds from a patriarchal perspective to an aggressive, castrating and untamed femininity. The mirror thus becomes a means of, and a symbol for rationality, protection, and reflection, whereby rationality commutes man into a mere image, so as to protect him from an adverse world. In a purely Greek context, mythology already anticipates an idea mastered a few centuries later by philosophy: mind (intellect) is the mirror of nature, the antidote against that primeval *thauma* addressed by both Plato and Aristotle.

'Wonder' is the usual translation for this Greek word, and hence wrongly confused with intellectual wonder. However, a more suited translation for *thauma* is 'a mixed feeling of terror and wonder', a paralyzing state of shock that makes who is affected by it dizzy and speechless. It refers to the initial anguish felt once facing nature, which is conceived by the Greek as *physis*, the mutable reality that surrounds us. It also corresponds to the fear of the death and of the unknown. Both mythology and philosophy begin in wonder (as *thauma*), as confirmed by Aristotle in his *Metaphysics*:

> 'For from wonder men, both now and at the first, began to philosophize, having felt astonishment originally at the things which were more obvious, indeed, amongst those that were doubtful; then, by degrees, in this way having advanced onwards, and, in process of time, having started difficulties about more important subjects […]. But he that labors under perplexity and wonder thinks that he is involved in ignorance. Therefore, also, the philosopher […] is somehow a lover of fables, for the fable is made up of the things that are marvelous' (Aristotle, 1991, 928b).

It follows that both fables (mythology) and philosophy try to sooth this strong wonder-fear (*thauma*). In other words, they are both a remedy for it, even though not of equal

measure. Philosophy, in fact, replaces the older mythology as a more efficient, rational and radical remedy.

In the Theatetus, Plato also describes *thauma* as a state of dizziness and perplexity that introduces men to philosophy:

> 'THEAET. […] I often wonder like mad what these things mean; sometimes when I'm looking at them I begin to feel quite giddy.
> SOC. […] this wondering: this is where philosophy begins and nowhere else'
> (Plato, 1990, 156d).

Despite its disturbing aspect, the attitude of wonder was to let things be, especially from the perspective of pre-Socratic philosophy. Even the famous statement 'man as the measure of all things' of the sophist Protagoras belongs to this tradition. Protagoras still operated in fact 'with a concept of truth that was not yet representational, not yet based on the correspondence of object and mental image' (Jay, 1994, 272). It was the respectful and resigned passivity of wonder to have brought to the apprehensive and reverential immersion into nature (as flowing *physis*) still embodied by the Greek, even after Socrates and Plato. In this context, where no detachment from the world had reduced it yet to object, the term *theoria* was coined. This term means to contemplate, to behold, to view, and it is the same root shared by the words *theory*, *theatre* and *theorem*. This term shares the same ambiguity of the mirror as sight shares in all Greek tradition. Despite its etymology, *theoria* is not merely spectactorial and detached. Instead, as argued by the contemporary German philosopher Hans-Georg Gadamer, 'Theoria is a true participation, not something active, but something passive (pathos), namely being totally involved in and carried away by what one sees' (Gadamer, 1989, 124-5). In other words, viewer and viewed are intertwined.

The disregard of this 'sacral communion' in a pure act of *hybris* causes Narcissus' own demise. As already mentioned, he focuses so much on his individual reflected image that he forgets the mediation of any other being around him. On the contrary, the figure of Perseus anticipates the *theoria* of Greek philosophy by managing through visual reflection the petrifying sight of *physis*.

Furthermore, by turning the mirror outward instead of inward, the myth of Perseus thus reverses the deceptiveness of reflection displayed by the myth of Narcissus. By doing so, Perseus makes good use out of the mirror, whereas Narcissus's life ends catastrophically under its temptation. The good or bad use made of the deceptive character of the mirror

thoroughly explains its own ambiguity. These two myths together precisely point out how such ambivalence moved the first manufacturers of polished mirrors.

B. THE CONCRETE MIRRORS OF OPTICS

The employment of lateral vision by Perseus to evade being petrified illustrated by the myth, indicates the degree of knowledge already achieved in the study of reflection. During classical antiquity, this interest will be furthered by catoptrics (the science of reflection) and dioptrics (the study of reflection), the two main branches of optics, the most fundamental 'scientific discipline' to Classical Greece.

The big concern for Optics proves to be how Greek philosophy was not just metaphorically but also technically interested in mirrors and in the study of reflection. Aristotle also demonstrated a particular interest in mirrors in both his *On Dreams* and *Metereology*.

In *On Dreams*, he states:

> 'An example of the rapidity with which the sense organs perceive even a slight difference is found in the behaviour of mirrors […] [It] is quite clear from this instance that the organ of sight not only is acted upon by its object, but acts reciprocally upon it. If a woman looks into a highly polished mirror during the menstrual period, the surface of the mirror becomes clouded with a blood-red colour' (Aristotle, 1957, 357).

In the same text, he also utters:

> '[The] eyes set up a movement in the air. This imparts a certain quality to the layer of air extending over the mirror, and assimilates it to itself; and this layer affects the surface of the mirror' (Ibid.)

Both these views emphasize once again how the Aristotelian theory of knowledge configures images and how this configuration draws from the more general frame of Greek tradition. 'For the Greeks, the world of images had a tangible existence by reproducing and resembling the real; this realm was a precise imitation of the actual one, although of an inferior and altogether different nature' (Bonnet, 2014, 103).

In *Meteorology*, Aristotle affirms:

> 'Our vision […] is reflected from all smooth surfaces, among them air and water. Air reflects when it is condensed; but even when not condensed it can produce a reflection when the sight is weak. An example of this is what used to happen to a man whose sight was weak and unclear: he always used to see an image going before him as he walked, and facing towards him. And the reason why this used to happen to him was that his vision was reflected back to him; for its enfeebled

state made it so weak and faint that even the neighbouring air became a mirror and it was unable to thrust it aside' (Aristotle, 1952, 251).

This sentence refers to the extramission theory, a widely accepted conception by Greeks, mathematically formulated by Euclid in his *Optics* (ca. 330 B.C.) whereby visual perception occurs through rectilinear light beams emitted and received by the eyes.

Medieval intellectuals perpetuated such an interest in optics (rising to the highest rank), fuelled by their strong reference to Aristotelian texts and conditioned by the art of glassmaking dominant during the Middle Ages. "In his *Speculum Maius* (c. 1250 AD.), the thirteenth-century Dominican monk Vincent de Beauvais judged glass mirrors 'silvered' with lead to be superior to those of polished metal because 'glass is better receptor of light rays due to its transparency'" (Bonnet, 2014, 15).

A significant contribution to this field (and to its prominence) was given by the Franciscan theologians and philosophers from the school of Oxford, who since the twelfth century wrote optical treatises. Amongst these were Roger Bacon (1214-1292), Robert Grosseteste (1175-1253), and John Peckham (1225-1292), who specifically classified mirrors depending on their material, shape (e.g. concave or flat), and reflection they cause (e.g. feeble or strong, opaque or vivid), in his work on optics: *Perspectiva Communis*.

C. MIRROR OF SELF-KNOWLEDGE, AND TRANSFORMATION

Many Greek and Roman thinkers deemed the mirror as an active mirror of transformation, a tool for instilling temperance, moral self-knowledge and measure in those who were altered by their own excesses. It was not merely the passive mirror of imitation.

In his *Lives of Eminent Philosophers*, Diogenes Laërtius (c. 180 - 240 AD) recalls that Socrates 'recommended to the young the constant use of the mirror, to the end that handsome men might acquire a corresponding behaviour, and ugly men conceal their defects by education' (Diogenes, 1925, 165). In Plautus' play *Epidicus*, the character of Periphianes wonders:

> 'It would be good if people had mirrors not just for the sake of their faces […] but also mirrors with which they could see into […] the resources of their hearts; after examining them, they could then think about how they lived their lives long ago in their youth' (Plautus, 2011, 375).

In his *Natural Questions* (I, 17), Seneca The Younger (4 BC - 65 AD) affirmed that:

'Mirrors were invented in order that man may know himself, destined to attain many benefits from this: first, knowledge of himself; next, in certain directions, wisdom' (Seneca, 1971, 91).

In his *Apologia* (XIII, 5-14), Apuleius argued that the mirror is just a physical means for reflection, without any magical implication. He also praised the accuracy of this tool: 'For all representations that have to be handmade require lengthy effort, and even so the resemblance does not appear as it does as in a mirror' (Apuleius, 2017, 43).

The common metaphor of *the eyes as mirror of the soul* has is origin in the following passage of the Platonic dialogue *Alcibiades*, concerning the Delphic principle of self-knowledge:

> "SOC. […] - 'See thyself,'- how should we apprehend the meaning of the admonition? Would it not be, that the eye should look at something in looking at which it would see itself?
> ALC. Clearly.
> SOC. Then let us think what object there is anywhere, by looking at which we can see both it and ourselves.
> ALC. Why, clearly, Socrates, mirrors and things of that sort.
> SOC. Quite right. And there is also something of that sort in the eye that we see with?
> ALC. To be sure.
> […]
> SOC. And have you observed that the face of the person who looks into another's eye is shown in the optic confronting him, as in a mirror, and we call this the pupil, for in a sort it is an image of the person looking?
> ALC. That is true.
> SOC. Then an eye viewing another eye, and looking at the most perfect part of it, the thing wherewith it sees, will thus see itself" (Plato, 1964, 209-211).

To Plato, like the eye, the soul (the human essence) needs a reflection from a true mirror to see itself, corresponding to the eyes and soul offered by the lover or friend.

D. MIRROR OF MIMESIS

1. Looking either at or through the Mirror of Mimesis

Plato determined the way western culture relates to the mirror image, by referring to mirror (or rather the mirror's double) in a passage of Book X of *The Republic* to explain the very concept of *mimesis* with concrete examples and metaphors:

> "'If you are willing to take a mirror and carry it around everywhere; quickly you will make the sun and the things in the heaven; quickly, the earth; and quickly, yourself and the other animals and implements and plants and everything else that

was just now mentioned.' 'Yes, […] so that they look like they are; however, they surely are not in truth.'" (Plato, 1968, 596).

While discrediting the deceptive nature of reflection (considered as the lowest form of knowledge), Plato also concedes that its immateriality and resemblance allows for an alternative spiritual and analogical kind of mindfulness.

The mirror addressed by Plato in *The Republic* is the mirror of imitation, the model for any form of mimesis; and not the mirror of temperance and self-knowledge presented in the *Alcibiades*.

Plato divided reality into two realms by referring in both cases to the visual word 'image'. The hyperuranion is the realm of truth, embodied by perfect and autonomous *eidos* (or ideas), visible uncoloured forms, while our transient and passant world is only made of *eidola*, mere copies, the reflection of the *eidos*[1]. Our concrete world is merely the mirror of the other abstract and immutable realm. Our soul, including conscience, mind, selfhood and intellect, all in a unique spiritual entity, belongs to the Hyperuranion, whereas our body is part of the mutable reality. In other words, the body is just a reflection of our soul; it depends on it.

The Nous (the Greek term for intellect) was conceived as the highest amongst the three parts of the soul, which were, for instance, intelligence, spirit (or will) and appetite (or emotion). For all Greek epistemology, the rational part corresponded to a mind collecting images. Specifically, for Plato the intellect had the skill to 'see properly', to recognize the stable and unchanging ideas (or forms) behind their mutable and material copies, the *eidola*. In other words, the *nous* is the noblest part of the soul because the illusion of becoming does not affect it, but it sees through such deception and then through mere reflection. The mind, the *nous*, becomes with Plato the mirror that adequately reflects ideas (as clear images); the *nous* becomes henceforth the 'mind's eye' (or mind of the soul) addressed in the dialogue *Phaedo* (66e) and distinguished from the deceptive bodily eyes.

Although Plato groups the creation of sight 'with the creation of human intelligence and the soul' (Jay, 1994, 26), "in his philosophy, 'vision' seems to have meant only that of the inner eye of the mind. […] We see *through* the eyes, he insisted, not *with* them" (Ibid., 27).

---

[1] The word eidolon stems from the word *eidos*, and both refer to image.

As Rorty has remarked, Aristotle otherwise conceived the intellect (*nous*) as the Mirror of Nature, as "both mirror and eye in one. The retinal image is *itself* the model for the 'intellect which becomes all things'" (Rorty, 1980, 45). During the middle ages, this conception, as most of Aristotelian philosophy, will be incorporated by the theologian Thomas Aquinas (1225-1274) in his own thought and will become an essential part of Thomism, which is the philosophical school inspired by the latter.

Both Aristotelianism and Thomism developed a hylomorphic epistemology whereby the 'eye of the mind' and the 'eye of the body' are the same entity. Aristotle has in fact "resisted dualism by thinking of 'soul' no more ontologically distinct from the frog's abilities to catch flies and flee snakes ontologically distinct from the frog's body" (Ibid., 40). However, this did not prevent him from deeming the intellect as an exceptional immaterial faculty endowed with 'the power of receiving the form of, for example, froghood' (Ibid., 40), a mirror reflecting the general characteristics, the idea, the *ideos* - which is the Greek word for image - of a particular being.

2. Aristotelian Theatre

As already noticed by Baudrillard, the theatre was created after the imagery of the mirror. In this regard, Aristotle in his Poetics defines theatre as it follows:

'Epic poetry and the composition of tragedy, as well as comedy and the arts of dithyrambic poetry […] are all […] imitations' (Aristotle, 1996, 2 47a). Aristotle mitigates the Platonic critique of the mimetic arts, by evaluating the imitative function of art as a technique. Moreover, he deems imitation as a natural human disposition: 'Imitation comes naturally to human beings from childhood […]; so too does the universal pleasure in imitations' (Ibid., 3 48b). Each form of theatrical performance imitates a specific set and class of objects in a specific manner, as accounted by Aristotle. 'Tragedy is an imitation of a complete, i.e., whole, action, possessing a certain magnitude' (Ibid., 5 50b); 'Comedy is an imitation of inferior people' (Ibid., 3 49a-49b); epic poetry is also an imitation of admirable people as such is Tragedy. 'But they differ in that epic uses one verse-form alone, and is narrative' (Ibid., 3 49b).

However natural, imitation appeared to Aristotle, it was only with the development of Greek society as a city-state (*polis*) that *mimesis* replaced rituality.

In ritual performances "through the painting, masking, and reconfiguring of the physical body, the actors […] seek not only metaphorically but literally to become the text, their goal being to project the fusion of human and totem, 'man and God,' sacred and mundane" (Alexander *et al*, 2006, 39). Moreover, everyone belonging to the community must participate in the ritual, without any distinction yet between observers and attendees. Simple social organization (as such as tribes) were and are always based on this fusion of elements, which also formed the composition of their performances.

Such ritual models also perpetuate in more complex but rigidly organized societies to maintain a strict hierarchical order, as exemplified by pharaonic Egypt:

'A state imposed by force and coercing its subjects to pay taxes and perform civil and military service […] could hardly have maintained itself, if it had not rested on a core semiology that was as persuasive as the state itself was demanding' (Assmann, 2002, 74).

As noted by the American sociologist Jeffrey Alexander, it is only with the development of Greek democracy and with its internal social differentiation that theatrical performance emerged from the ritual performance:

> 'Greek theatre emerged from within religious rituals organized around Dionysus, the god of wine […]. As Greek society entered its period of intense and unprecedented social and cultural differentiation […], the content of the dithyramb gradually widened to include tales of the demi-gods and fully secular heroes whom contemporary Greeks considered their ancestors. The background representational system, in other words, began to symbolize – to code and to narrate – human and not only sacred life.' (Alexander *et al*, 2006, 47).

The elements composing performance starts de-fusing, whereby the symbolic realm ceases being juxtaposed to the social and to the material spheres. 'The social, organizational and cultural background to these developments were crucial […] as the emergence of dramatic performance fed back into social and cultural organization in turn' (Ibid., 46). Therefore, theatre, polis and philosophy are in Greek society, three interconnected phenomena whose synthesis Aristotle represents at its best.

"When post-ritual drama emerged in ancient Greece, Aristotle […] explained that a play is 'an imitation of action, not the action itself'" (Ibid., 57). While the ritual is an action where all the elements of society are fused in one stable community, theatre separates through its mimetic nature between audience (observers) and actors, who imitate the action of different kinds of people (from the inferior to the most edifying). In other words, in ritual performances, everyone is an actor, involved in a process without any mimetic process. The community actually is its rituals instead of being represented by them. On

the contrary, the theatre is a space of reflection, where actors imitate the citizens of the polis; in turn, the citizens of the polis assist with such imitative performance and judge its accuracy. The theatre is nothing more than a mirror and Aristotle its first codifier. 'His *Poetics* makes the natural artificial, providing a kind of philosophical cookbook, instructions for meaning-making and effective performance for a society that had moved from fusion to conscious artifice' (Ibid., 49). The artifice of theatre replaces the natural dimension of the ritual, as the artifice of philosophy (as did the post-Socratic one above all else) by differentiating the soul/self from the body, ideas from the world, etc. Both theatre and philosophy replicate the reflection of the mirror: they are both artificial means, like the mirror, which arbitrarily create a strict separation between two classes of objects. Nonetheless, such separation does not exclude a relationship between the two classes, a relationship that is always of submission and imitation of one specific kind of object to the other (see above).

To summarize, reflection/*mimesis* always corresponds to a relationship between separation and participation, whereby vision is both divisive and communal, as indicated by the term *theoria* (see above), from which the word theatre also stems. Theatre is in fact a space of communion amongst citizens, but it is also a space of separations, as illustrated above. Moreover, the ideal forms of the Greek art, with the perfect proportions of their statues and temples, is also expressed by their deep involvement in theatrical performance. Herein the imitation of human acts is never a mere reproduction, but an exemplary embellishment.

In conclusion, the reflective scopic regime of the mirror phase, and ancient history still implies, even if in limited terms, a participative relation, while the hegemonic lenses of the modern age will allow only for a relationship of pure control, and then separation and distance. In this regard, since the Eighteenth Century, *modern* aesthetics will question the concept of mimesis applied by Aristotle to art, replacing it with emotion and passion as the new drivers of art. The shift from the classical objective model of beauty to subjective aesthetic judgment (Kant's *Critique of Judgement*) and intimacy (Rousseau) will move art (including theatre) from being a form of imitation that follows precise and static rules to a spontaneous form of expression and creation. Romanticism will even emphasize this new conception through the figure of the *genius*, whose essential elements will be imagination and an acute disinterested perception.

E. EIDOLA: REFLECTED IMAGES

In book VI of *Dionysiaca*, the Greek epic poet Nonnus, who dates back approximately to the late period of the Roman Empire (4th or 5th century AD.), recounted the cardinal orphic myth of the Titans' dismemberment of Dionysus-Zagreus:

> 'The Titans cunningly smeared their round faces with disguising chalk, and while he [Zagreus] contemplated his changeling countenance reflected in a mirror, they destroyed him with an infernal knife. There where his limbs had been cut piecemeal by the Titan steel, the end of his life was the beginning of a new life as Dionysos' (Nonnus (2014), *Dionysiaca Books 1-15*, translated by Rouse W.H.D. Cambridge, Massachusetts: Harvard University Press, VI: 169).

Zagreus was often identified with the orphic-Dionysus, although the ancient Greek and Hellenistic religion known as Orphism had never addressed him with this name. This first version of Dyonisus had as mother Persephone instead of Semele, and his dismemberment was celebrated during the orphic practices as a rite and a symbol of death and rebirth.

In the *Fourth Ennead*, Plotinus (204/5-270 AD.), the major Neo-Platonist philosopher during the Third Century Roman Empire, combines the figure of Narcissus with the figure of Dionysus:

'But the souls of men see their images as if in the mirror of Dionysus and come to be on that level with a leap from above: but even these are not cut off from their own principle and from intellect. For they did come down with Intellect, but went on ahead of it down to earth, but their heads are firmly set above in heaven' (Plotinus, 1984, 3:12).

To Plotino, the universe is hierarchical: everything emanates from the 'Supreme', the soul of the world, the transcendent undivided One. 'Plotinus considers the tangible world as a reflection emanating from the world of eternal forms and the body as 'a reflection that the soul makes visible when it encounters matter, exactly in the same way as a human being makes a reflection when it meets a polished surface' (Ibid., 109). He thus applies his emanativist conception of the cosmos to a Platonic two-world view. The irrevocable separation between spiritual and corporeal spheres, the many and the one, present in Plato's philosophy is replaced:

Within Plotinus' view, 'Narcissus represents a moral and spiritual state, the result, after the constitution of the sensible world, of what transpires when the soul *directs its attention toward the body*' (Hadot, 1998, 10). What Narcissus suffocates is his own soul, by

identifying himself only with his body, through a love embrace. From a Plotinian and, more generally, Neoplatonic perception, Narcissus 'fails to see that the reality of the body comes from the soul' (P 10) and by default from the Supreme 'One', in the process of continuous reflection of one superior level to another. Each soul is generated as a reflection of the 'One', a mirror on which the light of the Supreme is reflected, as the body is just a reflection of the soul on the mirror of sensible reality. Multiplicity only derives from Unicity through a play of mirrors: mirror as the producer of diversity and diversity as a mere reflection.

Neoplatonism (Plotinus) and Gnosticism defined both copies and reflections such as bodies, with the term *eidola*. For instance, *eidola* were, in ancient Greece, the statues representing gods and goddesses since copies, reproductions of ethereal entities. *Eidolon* (the singular form of *Eidola*) also meant shadow in Greek.

The Greek philosopher Democritus and the Roman Philosopher Lucretius also referred to *eidola*, but only in atomistic (early materialistic) terms as very fine corpuscles, and to develop an explanation of reflection opposite to the hegemonic Euclidian theory of extramission. In *De Rerum Natura* (*On the Nature of Things*), Lucretius argues:

> 'whatever similitudes we see in mirrors, in water, in any bright surface, since they are possessed of the same appearance as the things, must consist of images thrown off from those things. There are therefore thin shapes and like semblances of things [*eidola*], which singly no one can perceive, yet being flung back by incessant and unremitting repulsion give back a vision from the surface of mirrors'.
> (Lucretius, 1924, 285).

F. SPECULATION

1. Speculation and Medieval Tradition

Mirrors were so relevant to classical antiquity, and the birth of philosophy. They contribute to the development of a discrete amount of scopic regimes, as such as *reflection* and s*peculation*. Both reflection and speculation correspond to visual interpretation of thought processes and to optical methods of thinking.

Speculum is the Latin word for mirror that stems from the root *spec,* as many other Latin words with visual connotations[2].

---

[2] Like the verb specio (to see, to look at) - as in conspicio (to observe, to face), respicio (to look back at, to gaze at), inspicio (to examine) -, specula (observatory) species (image, appearance), specimen (mark).

The Latin *Speculum* is not a passive surface on which the image is reflected, but it is instead the object that actively reflects the image, as proved by its derivate 'spy'.

Moreover, the Latin word *speculationis* (speculation), and thus the corresponding specular tradition, particularly in the Middle Ages, emphasized that 'sacral communion' already present in the Greek *theoria* (see above) and put aside the distinction between subject and object implied by *contemplatio*, which is the Latin translation for *theoria*. In fact, according to the twentieth century German philosopher Martin Heidegger:

'*In theoria* transformed into *contemplatio* there comes to the fore the impulse, already prepared in Greek thinking, of a looking-at that sunders and compartmentalizes […] normative in knowing' (Heidegger, 1977, 166).

Speculation was otherwise an absolute self-reflecting and thus self-referential mirror, addressed by the medieval tradition through two approaches:

- The rational approach following the Neoplatonic and Aristotlelic heritage addressed speculation as the eye of the mind with its privileged, clear, and distinct access to pure abstract forms. Thomas Aquinas was the finest expression of this 'approach':

  'For Thomas Aquinas, speculation coincides with the necessity of philosophical thought as such, to the extent that philosophical reflection transcends the factual given and moves toward its ultimate determining grounds. Such speculation, since it was tied to the scholastic and theological form of philosophical thought, was of course restricted to the interpretation of all finite substances as deriving from the one divine substance' (Gasché, 1986, 42).

- The irrational approach of mysticism addressed speculation as the ecstatic vision of the seer, dazzled by the light of God.

2. *Speculum Inferius* and *Speculum Superius*

'[The] positive value accorded to mirrors was so great that manuals for devotion were sometimes called specula because they were assumed to reflect the truth. Christian theologians in fact often resorted to the mirror to solve their most troubling questions: Why did a perfect God descend into an imperfect world of matter? How could He love a creature less perfect than Himself?' (Jay, 1994, 37).

This medieval *speculum* was a survey summarizing all knowledge and urging humanity toward absolute reflection (speculation), such as the *Speculum Doctrinal*[3] of the already mentioned Vincent de Beauvais.

---

[3] originally subdivided in three parts: *Speculum Naturale* (Mirror of Nature), *Speculum Doctrinale* (Mirror of Doctrine) and *Speculum Historiale* (Mirror of History).

Other notable metaphorical mirrors recurrent in literature since Early Middle Ages until the Renaissance were the 'mirror of princes' (*principum specula*), which constituted of 'a moralistic genre in which readers were invited to look upon an ideal model for their behaviour' (Bonnet, 2014, xi).

The medieval Christian tradition also emphasized the ambiguity of the mirror, and along with it the ambivalence of the visual, on two different levels. Firstly, both medieval texts and iconography envisaged the mirror image as either "'an idealized vision or a pejorative projection,' either a reflection of God or an instrument of the devil'' (Ibid., 108). Secondly, medieval Christianity distinguished between material mirrors and divine mirrors, insofar as humanity and the creation were themselves conceived as secondary physical mirrors subordinated to the mirror of the Trinity, capable of reflecting the light of God and its eternal truth.

Such ambiguity of the mirror persisting in the Middle Ages, and the medieval understanding of the mirror have their explanation in the two passages of the New Testament.

The first passage is within *The General Epistle of James*:

> 'For if any be a bearer of the world, and not a doer, he is like unto a man beholding his natural face in a glass:
> For the beholden himself, and goeth his way, and straightway forgetteth what manner of man he was' (James 1:23-24).

The second is within *The First Letter of Paul the Apostle to the Corinthians*:

'For now we see through a glass, darkly' (1 Corinthians 13:12).

St James' mirror is a warning against the foolish and inconsistent vanity of man, who risks losing sight of God by focusing exclusively on his image. St Paul's mirror is a partial and indirect knowledge, necessary as starting point to achieve the superior knowledge of revelation. This notion becomes a relevant conceptual frame for Dante's *Paradiso* and scholasticism.

For instance, Dante's journey through paradise is a transition from the *speculum inferius* representing the multiplicity of created things (St Paul's 'glass') to the *speculum superius* of spiritual illumination.

The second canto focuses on material mirrors through an optical experiment proposed by Beatrice to Dante:

> Three mirrors shalt thou take, and two remove

> Alike from thee, the other more remote
> Between the former two shall meet thine eyes.
> Turned towards these, cause that behind thy back
> Be placed a light, illuming the three mirrors
> And coming back to thee by all reflected.
> […]
> The image most remote, there shalt thou see
> How it perforce is equally resplendent.
> (Dante, 1867, II: 97-105)

By following the light of divine rays Dante moves from the secondary mirrors of creation, passing through all spheres of the Heavens and he finally looks 'upon Him thou penetrate as far as possible through his effulgence (Dante, 1867, XXXII: 43-44). The position of the concrete mirrors (*specula inferiora*) of Beatrice (in the second canto) echoes and foresees the last three circles of Heaven: the circles of the Trinity (*specula superiora*). In fact, at the end of the poem Dante stares at Beatrice's eyes as they were looking-glasses reflecting the divine light. All of a sudden, 'unto the Eternal Light [his eyes] turned' (Ibid., XXXIII: 43). 'Unlike the material mirrors, the circles are not separate reflecting surfaces, but inseparable images of each other. The second circle is reflected from the first, and the third from the first and second.' (Miller, 1977, 266).

The two kinds of mirror between which Dante's Paradiso is deployed, also correspond to the two different meanings of the word 'esperienza' (experience). The material mirrors of Beatrice (*speculum inferius*) correspond to experience as a scientific experiment; a partial knowledge, which is necessary only as the first step to achieve ultimate truth. On the contrary, the circles of the Trinity (*speculum superius*) correspond to experience as spiritual experience; ultimate truth achieved through revelation. Therefore, material mirrors (the mirror of creation) are just impure mirrors representing physical multiplicity, reflecting the light of God, only as an appearance, whereas the divine mirrors of the Trinity (the truthful mirror of God) are pure mirrors, showing the light of God as it is. 'Creation [itself] becomes a hierarchy of mirrors, each casting an image of God. The farther off the individual mirror is from God, the smaller the image of Him it reflects, but his brightness never diminishes' (Ibid., 266).

Dante's Cosmology especially reflects the thought of the Italian Franciscan theologian and philosopher Bonaventure (1221-1274 A.D.) and Thomas Aquinas, assigned to the Heaven of the Sun (Cantos X-XIV) by Dante himself. Inspired by the hylomorphic

conception of Aristotle (see above), Thomas Aquinas regarded the human mind as an inferior transient mirror, only capable of partially reflecting the superior 'mirror of eternity'. In *De veritate* (*On truth*), he remarks:

'[God] sees [everything], as it were, from a great distance, in the mirror of eternity[4]. However, it might also be called fore sight because of its relation to other things in whose regard what He knows is future' (Aquinas, 2008, 2: 12).

Bonaventure interpreted creation as a hierarchical subdivision of *speculum inferius* into three subordinate mirror and thus reflections, a shared concept amongst theologians[5] since the twelfth century:

- First level: God as the most perfect creature, and hence the only one capable of creating from nothing. He generates light and then spreads it all over the creation.
- Second level: Angels, so perfect, immutable and immaterial that they directly reflect and diffuse the light of God.
- Third level: Man, who can reflect the image of God through his rational soul and thus achieve partial access to ultimate truths, limited by his body, and its implicit finiteness.
- Forth level: soulless material things, thusly incapable of reflecting clearly the light of God.

To Bonaventure, human soul can ascend to superior mirrors through contemplation, starting from beholding the 'material nature', secondly looking at himself and finally achieving superior knowledge by staring at the divine light itself.

3. Speculation as Double and Unity at Once

As mentioned previously, speculation attempted to unify conflicting poles, in a purely totalizing conceptual space beyond any practical and material reference. It was 'designed to reveal the same amidst all apparent diversity' (Jay, 1994, 32). However, it also shared with all kind of mirrors (physical, ideal, inferior, superior, etc.) an inevitable implicit duality, in a constant cycling movement between unity and double. On this regard, "Nietzsche claimed that mirrors defeat the ideal of specular sameness. In aphorism 243 of *Daybreak*, he writes, 'When we try to examine the mirror in itself we discover in the end nothing but things upon it. If we want to grasp the things we finally get hold of

---

[4] In the same text (12: 7), Aquinas nonetheless highlights the mere metaphorical attributes of God as an eternal mirror.
[5] like Alain de Lille (c. 1128-1202 AD)

nothing but the mirror. -This, in the most general terms, is the history of knowledge'" (Nietzsche, 1992, 141, cited in Jay, 1994, n31-32).

The figure of the double and the related human fascination for her/his own image was already present in several cultures since prehistoric times, mediated by pools of water, one's own shadow or shiny stones. However, it is with the production of small lead mirrors with a polished surface that it was possible to achieve a bright image of oneself. Furthermore, it is with the myths of Narcissus and Perseus that the double finds its first proper representation. Before Plato, 'the reflection was an animated and living form, a double, luring Narcissus from the bottom of a pool' (Bonnet, 2014, 101-102).

The Greek world *eidolon*, standing for double as a synonym of appearance, copy, reflection of an original entity (specifically the Platonic idea) is the same used for shadow, but also for idol, image, and likeness (see above). In this regard, Baudrillard argues that the double is not a prosthesis, a mere extension of ourselves. On the contrary, it is somewhat 'an imaginary figure, which just like the soul, the shadow, the mirror image, haunts the subject like his other, which makes it so that the subject is simultaneously itself and never resembles itself again, which haunts like a subtle and always averted death' (Baudrillard, 1994, 99). In the Greek literature, *eidola* were in fact ghosts, phantoms, spirit-images of dead people - often not adequately buried - that could appear to the living – usually acquaintances of theirs - just as mere shadows of what they once were.

The coexistence of unity and double, unity and multiplicity in mirrors, their inherent ambiguity illustrated through this entire chapter, and the influence they had on both ancient history and the Middle Ages, did not yet lead to the radical distinction between subject and object. The mirror phase is the first artificial distinction operated in the human world; it is the first strong result of our entanglement as intelligent beings with glass, over any other material. However, this distinction, the double of mirrors, has still a tendency toward a unification that which before was 'natural' and unmediated.

With the development and extensive application of lenses during modern ages, the soft dualism of reflection and its inner unitary function - which is to see oneself, even though it is through a reflection - will be subordinated, and replaced by the extreme distance of the subject-object distinction.

II LENS PHASE (FROM THE REINASSANCE TO THE NINETEENTH CENTURY)

A. RENAISSANCE: THE RISE OF PERSPECTIVE

Italian Reinassance constituted a turning point, the end of the mirror and the beginning of the lens phase, caused by a set intertwined transformations:

- The typical rigid proximity between art and technique of Italian Renaissance[6], which will characterize all Early Modern Age (specifically 17th century Dutch art).

  Italian art was developed in artisans' workshops known as corporations. These corporations were mostly workplaces where the words "artist" and "artisan" referred to the same person and where the romantic concept of self-expression had not yet been developed. Moreover, each workshop had a different specialization, with an inner differentiation between masters and pupils, one who was already acquainted with his job and the other who was only at the beginning of his experience as artisan/artist. Finally, these corporations were always in need of customers and patrons to finance their activities. It is in this specific work environment that the Albertian perspectival theory was practically developed.

- The advancement in glass making occurred in Sixteenth-century Venice.

  A large-scale production of a great variety of glass vases and mirrors began, so its exportation to all European courts. Glass became a luxury and an artistic and not merely functional item. Finally, this is the first technical innovation in the early modern age to extend the range and accuracy of the ocular apparatus.

- The beginning of that process of detextualization so fundamental for the subsequent scientific revolution and thus the modern age. Such tendency was common to all Italian Renaissance: 'In the medieval tradition the story was often illustrated, scene following scene […]. During the Renaissance the narrative sequence disappeared' (Berger, 1972, 49) in favour of single moments in mythology and religious stories (the Albertian istoria). Therefore, the construction of meaning stops being the main reason behind painting and becomes mainly its pretext. For instance, the fascination of Leonardo for sight as a physical

---

[6] Although, it was already present in Greek philosophy, which linguistically refers to both as *techne*, demonstrating the purely practical origin of every form of art.

mechanism brought him against the former medieval painting: he tried to emancipate the pictorial from the textual, images from words.

- The strong commitment of the Italian tradition to mathematics, reflected in both Alberti's idea of painting and later Galileo's idea of how the new science should be developed.

    However, it is important to recall how the latter was deeply involved in the study of the Dutch applications of the lens and how this interest brought him to perfect the telescope (essential for his later discoveries). Still, Galileo remained firmly seated in the Italian tradition, where priority was given to mathematics. In his tradition, the world was interpreted as a book written by God in geometrical and arithmetical types.

- The use and refinement by painters (like Leonardo da Vinci) of the camera obscura, a 'dark box' with a pinhole on one side projecting an inverted image on the opposite wall.

    This instrument was already used since antiquity to observe safely solar eclipses. However, it is only in the Reinassance that it became a help for both art and science, insofar as it was implemented with a lens instead of the pinhole.

- The related codification and application of the first and most relevant scopic regime of the lens phase: perspective.

Leonardo da Vinci (1452-1519) embodied the passage from the mirror to the lens phase. On the one hand, he was 'one of the first to propose the camera obscura as its model' (Alpers, 1983, 46), and thus to conceive the eye as a similar instrument. On the other hand, he considered the mirror as a model for the mind, echoing that hylomorphism already developed by Greek philosophy, particularly by Aristotle, and recurring during the Middle Ages (see above). As a result, the works of Leonardo (both writings and painting) always oscillate between seeing and looking attentively, a reflection of the world as it is and a mental, abstract and artificial eye. Italian Renaissance will follow the second conception, which had been codified by Leon Battista Alberti (1404-1472) in his *On Painting* (1436) as *perspective*[7].

---

[7] From the Latin word *perspicere*, meaning 'to see through'.

Incidentally, Alberti influenced the artisan world as much as the latter influenced him. Not by chance, he built his aesthetic theory on a vitreous metaphor. He used the window metaphor:

'First of all, on the surface on which I am going to paint, I draw a rectangle of whatever size I want, which I regard as an open window through which the subject to be painted is seen' (Alberti, 2004, 66-67).

Once again, in Italian culture, a metaphor with a concrete referent is soon overtaken by a mathematical instance: perspective is indeed a mathematical representation of reality, based on a geometrical structuration of subjective perception. On this basis, Alberti formulated the method of one-point linear perspective, which marks a turning point in the development of naturalistic representation.

Perspective worked similarly for both the new artistic order and the new scientific order. In fact, it would definitively become the representative optical effect of a naturalized visual culture after the separation of aesthetic and religion operated by the Reformation. Perspective would also contribute to the eradication of narrative from the scientific cognitive method, which produces eternal truth regarding an objective and mechanical external reality.

The perspectival subject has a frozen gaze on the world, the same as the one who draws maps in the modern era. The Albertian painter perfectly embodies such a notion, as the model of artist it builds abstracts himself from his actual body positioned in the world. Here the world is out there, beyond the window that protects us from any direct influence. Therefore, such frozen gazes exclude any form of sincere desire, as opposed to a mobile glance (a scopic regime that will inversely characterize the impressionists, strictly engaged by the invention of photography).

> 'The convention of perspective […] centers everything in the eye of the beholder [the subject]. It is like a beam from a lighthouse - only instead of light travelling out, appearances travel in. The conventions called those appearances *reality*. Perspective makes the single eye the centre of the visible world. Everything converges on the eye as to the vanishing point of infinity. The visible world is arranged for the spectator as the universe was once thought to be arranged for God' (Berger, 1972, *Ways of Seeing*, 16).

The monocular unblinking fixed eye of the lens at the center of a flat world and detached from it replaces the two stereoscopic embodied eyes immersed in a world full of depth.

Behind perspective, there is a mathematical conception of reality, still embedded into a certain religious background, where God finds his embodiment in the subject.

The Italian invention and application of perspective also affected the relationship between the subject and object. This technique sharply distinguishes between the point of origin and the scene, which make up the two sides of the pyramid, at the basis of Albertian linear perspective theory. The pyramid itself is a structure of geometrical and thus mathematical nature.

> 'Now the participatory moment in *theoria* [see above] […], was lost as the spectator withdrew entirely from the seen (the scene), separated from it by Alberti's shatterproof window. No longer did the painter seem as emotionally involved with the space he depicted; no longer was the beholder absorbed in the canvas' (Jay, 1994, 55-56).

- Perspective consequently contributed to the Cartesian notion of space as regularly ordered and homogenously inserted within an objective, uniform and purely extensive grid.

  In fact, Cartesian plans, where ordinates and axis crossed each other indefinitely, recalls Alberti's 'velo': 'a veil loosely woven of fine thread, […] divided up by thicker threads into […] many parallel square sections […], and stretched on a frame. I set this up between the eye and the object to be represented' (Alberti, 2004, 65).

  This reduction of space to objective plans and coordinates, and the priority of space over the objects in it, facilitate the domination of the planet. Here is where the Cartesian notion of *res extensa* comes from: the world as a purely visual field, as overseen from a very high spot, and flattened to be well managed. Moreover, the abstract positions outlined by the Albertian and Cartesian grid replaced the substantive and varying meaningfulness of places, typical of the tribe, the polis and the medieval community. As a result, space overshadows the objects in it.

- The mentality of exploration and the first phase of colonization (16th century), dominated by centralized absolute monarchies as such as Spain and Portugal. In this context, exploration represents both an act of constant observation and mobilization. The same distance developed by perspective substitutes the direct relationship with the world, making it prey for conquests. Finally, perspective is based on an active external subject looking at the horizon of reality, like the explorer scanning through its telescope the ocean around him to find new lands.

- The subsequent scientific revolution (see above).
- The birth of capitalism:

> "Separate from the painter and the viewer, the visual field depicted in perspectival paintings could become such a detached commodity available for capitalist circulation. Moreover […] only the exaggerated capitalist separation of the spaces of production and consumption permitted a radical disjunction between working the land and merely viewing it from afar, as an aesthetically 'pleasing prospect', which was the real estate version of perspectival art" (Jay, 1994, 58-59).

B. NEW 'VITREOUS' INSTRUMENTS: THE MICROSCOPE

In the early Modern Age, 'As technically-limited and amateur-infested as it was, the microscope thus had a conceptual role to play' (Willson, 1988, 89). In fact, many scientists and philosophers, from rationalists to empiricists, occultists to non-occultists and so on, charged the microscope with both expectations and suspicions. Leibniz and Hooke had high hopes that its use would demonstrate and sustain their own philosophical views, while Locke was quite sure on the practical uselessness of such instrument:

'if by help of […] microscopical eyes […], a man could penetrate further than ordinary into the secret composition and radical texture of bodies, he would not make any great advantage by the change, if such an acute sight would not serve to conduct him to the market and the exchange' (Locke, 1846, 192).

Locke belonged to a large group of detractors of the microscope, who regarded it as a useless wonder produced by the new mechanical age, meant to show passively a 'new world' that could not be exploited in any possible way.

'The microscope constituted an actual impediment to knowledge in the seventeenth and eighteenth century because it revealed things that were beautiful, but which could not lead to the acquisition of any new theoretical information, or which suggested to observers theories of the wrong sort […] and made a quantitative handling of phenomena seem impossible or unimportant' (Wilson, 1988, 106). It is, in fact, interesting to notice how, at the beginning of its history, some scholars regarded the microscope as a means to prove the existence of 'occult' effects as such as magnetism. There were very few texts portraying the microscope as a debunker of occult approaches. Therefore, the entanglement between visibility and invisibility, between scientific view and occultism were the underlying themes driving interest and development of the microscope, at the time of its invention.

The microscope divided opinion. On the one hand, there were philosophers who saw it as a threat: George Berkeley (1685-1753) thought that the use of this instrument could shatter the divine character of nature by reducing all varieties proper to the world we behold unassisted to undifferentiated particles:

'The like may be said of all the clockwork of nature, great part whereof is so wonderfully fine and subtle as scarce to be discerned by the best microscope' (Berkeley, 2005, 52).

On the other hand, some scholars found possible assimilation between the divine characterization of the world and microscopic 'investigation'. The microscope was, in fact, exploited by several physic-theologists (like Sir Thomas Browne) to see into tiny things (as such as insects, seeds and leaves) a common underlying, subvisible structure connecting the microcosm with the macrocosm and interpreted as proof for the existence of a 'God-intelligent designer'.

Moreover, intellectuals like Robert Hooke (1635-1703) and Henry Power (1623-1668) overturned the negative impressions of Locke and Berkeley with a positive one: they thought the microscope allowed to look into the 'new visible World' portrayed by Bacon. This newly revealed microscopical world, pure, uncontaminated and free from any intellectual speculation, was just ready for innumerable discoveries, as much as the New World beyond the Atlantic Ocean. Furthermore, Power considered this optical enhancement useful to liberate humanity from many superstitions:

'Our Modern Engine (the Microscope) will ocularly evince and unlearn their opinions again: for herein you may see subtil divider of matter Nature is' (Power, 1966, b 2).

To demonstrate once again how wrong the point of view of Locke[8] might have been, in the seventeenth century Dutch painters were 'reproducing exactly, often with the help of the lens, the surface textures of cloth, mirrors, glasses, insects, fur, and feathers' (Willson, 1988, 100). Similarly, the first microscopists were interested in studying and replicating the appearances of ordinary objects.

However, along with the debate amongst supporters and opponents, another argument over the microscope broke out amongst its strongest devotees. The supporters had, in fact,

---

[8] In this lack of interest, Locke exhibits his liberalist view even on the microscopical world, which is the conceptual base for any form of exploration and colonialism: a new world is of certain importance (and use) only if exploitable through labor and appropriation. It is not the case with microscopic world, for:
- it is not an explorable place but only a too far observable land;
- it is not exploitable, which means it does not ensure any actual resources and then labours necessary to obtain them.
- it will never be a property due to its too small size.

developed two main explanatory theories, which were both meant to generate a first mapping of the 'new invisible world'. These two conceptions of the very small were obviously in competition with one another, and both embodied some specific expectations.

The first was the corpuscular-mechanistic conception of the micro-reality, represented by Cartesian philosophy. The second was the monadic conception of the micro-reality, conceived by its most committed supporter Leibniz.

Descartes-whose thought showed once again its strong link with the optical advances of early Modern Age-supposed purely deductively (and without any empirical basis) that matter was composed of fundamental, indivisible particles, which would mechanically cause motion through their interaction. This theory (particle theory) is the microscopical application of the general Cartesian view on extensive, purely spatial matter, the so-called *res extensa*. It even shares the same mechanistic background for two reasons:

- the 'Cartesian conception of the body composed of invisible sub-machines'[9] (Ibid., 102).
- The relationship between the different particles that altogether constitute reality, is a causal one relationship, the same which applies also to their motion: physical extensive movement (applying only to *res extensa*) is only transmitted from one body to another.

While Descartes directed his curiosity toward all optical instruments, Leibniz was mainly fascinated by the microscope. He has, in fact, been regarded as a microscopist himself: the 'smallest things' are the central point of his entire philosophy.

Furthermore, Leibniz is one of the first thinkers to address infinity, two centuries before this concept became central with the diffusion of idealism and romanticism. While his contemporaries (Descartes primarily) often represented only the finite, the opposite goal also attracted his attention: representing the infinite (which was to be the project of Hegel too, even if developed on a very different scale). He did so by approaching the infinitely small (and not the infinitely large, as Hegel would later do), to transcend the organic (the

---

[9] The corpuscularism of Descartes was quite similar to atomism but not identical. What distinguishes these two positions is that the former maintained that there could be no vacuum, and all matter was constantly swirling to prevent a void as corpuscles moved through other matter.

finite). Therefore, he chose to represent openness, the unformed instead of the formed and the figural:

Leibniz demonstrated for the microscope an enthusiasm so great to overwhelm even his interest for telescopes:

> 'Observatories are founded to look at the stars, and these structures are founded to look at the stars, and these structures are spectacular and require a great [deal of] apparatus, but telescopes are far from being as useful and from revealing as many beauties and varieties of knowledge as microscopes' (Leibniz, 1988, 53).

Such enthusiasm matches with Leibniz' combined application of both analysis and analogy:

> 'We also find order and marvels in the smallest whole things [...], when we are capable of distinguishing the parts and of seeing the whole at the same time, as it appears in looking at insects and other small things in the microscope' (Ibid., 51).

To Leibniz, this entanglement between parts and the whole, and the infinite subdivision of matter disclosed by the microscope and proving the divine and spiritual character of reality confirm his theory of monads. Therefore, Leibniz represents a counter-tendency in a time dominated by a mechanistic imaginary in both empiricist and rationalist viewpoints[10]. However, 'had the microscope actually revealed atoms [...], Leibniz could have hardly become such an enthusiastic supporter' (Willson, 1988, 104).

Leibniz was far more dedicated to the new micro-world than Descartes. While the latter applied his mechanistic view to the microscopic universe to reinforce its general notion of motion and objectified space, the former, as already mentioned, deployed the very idea of infinitely small as the base of his philosophy. To sum up, while the microscope and the smallest belong only to the suburban areas of Cartesian Philosophy, being merely secondary components of his philosophical system, they are of paramount importance to Leibniz as they are central to the very construction of the entire monadic theory[11].

---

[10] The adversity of Leibniz toward mechanism does not concern only the microscope and the new world of micro-universe, but it also represents a quarrel between the rationalists. In fact, both Leibniz and Descartes are rationalist philosophers, in opposition to the empirical position of thinkers as such as Locke and Hobbes. On one side, we have the privilege of thought, logic and deduction upon experimentation, external reality, and induction and on the other side the overturning of the same position. However, many times this approach differed only methodologically, while converging on many points, as proved by comparing Descartes and Hobbes, or the former and Locke, for all three of them were supporting mechanism. There had even been divergence within the same school of thought, as demonstrated through the quarrel between Descartes and Leibniz on the smallest things.

[11] The specific context of this work is not suited to examine precisely the monadic theory of Leibniz and what a monad is. Concerning this philosopher, what is of interest to us is only the implications of the invention of the microscope within his thought.

Indeed, Leibniz imagined a microcosm that could be endlessly zoomed in by microscope lenses, a microcosm that has no limit to its subdivision:

'Every portion of matter […] is actually sub-divided without end, every part divided into smaller parts. […] Every portion of matter can be thought of as a garden full of plants or a pond full of fish. But every branch of the plant, every part of the animal (every drop of its vital fluids, even) is another such garden or pond' (Leibniz, 1991, 10). This infinite divisibility of things informed Leibniz's conception of nature in panpsychist terms, and thus bodies (a word that here stands for 'physical entities') as deprived of every substantiality, fluid and in pre-established harmony between each other: 'without this infinite dividedness it would be impossible for each portion of matter to express the whole universe' (Ibid., 10).

Finally, a non-mechanist universe not composed of any fundamental particles requires that every part of nature, from smaller to larger, 'has some motion of its own rather than having only such motion as it gets from the motion of some larger lump of which it is a part' (Ibid., 10).

The Cartesian and Leibniz's reaction to the microscope shaped the Modern Age's perception of a new visible world and possibilities which had been ignored until that time (with the exception of the Greek philosopher Democritus and the Roman Lucretius, whose atomistic intuitions remained an uninfluential episode, being deprived of any real technical and thus effective counterpart).

In conclusion, 'What the microscope did, in revealing layer after layer of articulate structure was to restore the solidity and accessibility to the understanding of an otherwise atomized and mathematized world' (Willson, 1988, 107). In its early days, the microscope 'gave sense to the idea of a non-occult interpretation of nature, so binding knowledge to power in a way which the irredeemably fictional mechanical models, as well as the search for linguistic essences, had been unable to accomplish' (Ibid., 108).

C. PHILOSOPHY AND CAMERA OBSCURA

While the microscope inspired Leibniz' philosophical system, Decartes' philosophy found his technical counterpart in the camera obscura. This optical device led to the invention of the photographic camera and influenced the thought of many modern philosophers, not only Descartes but also John Locke:

> 'Dark room. […] external and internal sensation are the only passages I can find of knowledge to the understanding. These alone […] are the windows by which light is let into this dark room: for, methinks the understanding is not much unlike a closet wholly shut from light, with only some little openings left, to let in external visible resemblances, or ideas of things without: would the pictures coming into such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight, and the ideas of them (Locke, 1846, 94).

Through this passage, Locke put forward the basis of the human understanding of the darkroom metaphor: the mind is a *tabula rasa*, an empty tablet that passively records any external objects that come into its sight, without the help of any personal deduction and/or intuition. This interpretation of the camera obscura, meant to define the mind, takes the opposite direction of the Cartesian one, which views the dark room as both a physical proof and metaphor of the distinction between the subjective mind and the objective world, of the immateriality of the former and the pure passivity of the latter. To sum up, for Locke, the camera obscura highlights the flexibility of the mind in its relationship with reality, while for Descartes the camera obscura highlights the absence of proper extension to subjectivity and thus to the mind.

What both Descartes' and Locke's analogies share is the belief in the soul-mind as an immaterial subject. It does not matter if this ethereal sphere passively depends on external reality, or if it has a certain independence from it. Both these two thinkers (and the *philosophes* influenced by Locke too) imagined the relationship between our mind and the external world through the metaphor of the camera obscura. For instance, Decartes' adoption of a perpectivalist painter approach, reproducing the observed world through a camera obscura, makes him an ideal visual philosopher.

Decades before, Kepler had compared the apparatus of the eye to the camera obscura, providing a mechanistic explanation of vision coherent with an immaterial conception of the soul.

All seventieth-century philosophical reflection endorsed this separation between material processes of sensation, and conscious perception of the soul. Mechanics of the eye and cognitive activities of the mind as the darkroom provided such a fruitful model of vision without threatening the prevalent metaphysics of the soul, even though the camera obscura metaphor left many questions regarding the interaction of the body and the soul unsolved.

Furthermore, self-reification is another effect of the dark room on Cartesianism and modern thought more generally. This phenomenon:

> 'was at the root of the typical Cartesian problem of wondering how inverted and reversed images on the retina can be turned into normal sight. The camera obscura version of sight assumed by this question was based on a fallacious attempt to reconcile the eye as an object, whose functioning could be compared to a camera lens […], and the subjective experience of seeing' (Jay, 1994, 290).

It is this view which would lead three centuries later, to Sartre's accusation that all the Cartesian tradition has 'considered a dead eye in the midst of the visible world […]. Consequently, how can we be surprised later when consciousness, which is absolute interiority [for Descartes], refuses to allow itself to be bound to this object?' (Sartre, 1993, 305). Seen from this point of view and the already examined analysis of John Locke, the camera obscura contributed to the objectification and alienation of the concrete person. Furthermore, the darkroom also evaporates the individual from the world: up to the nineteenth century, the atemporal, incorporeal and transcendental order of the camera obscura dominated the realm of the visible. Leon Battista Alberti in art theory and Descartes in philosophy found in this device, the concrete model for their perspectivalist scopic regime:

'All beholders would see the same grid of orthogonal lines converging on the same vanishing point, if they gazed through, as it were, the same camera obscura' (Jay, 1994, 189). The mechanism of surveillance, which had been developed during the entire arc of modernity (and which will be the focus of one of the next chapters) had a certain resemblance to the mechanism of this instrument: 'The camp was to the rather shameful art of surveillance what the dark room was to the great science of optics' (Foucault, 1991, 172). Both the camp and the darkroom represent hierarchized, empty, flat and impersonal spaces build to be crossed passively by an absolute gaze. The subject-mind-soul embodies such gaze, where the eye ('I') works as a bridge between physical and immaterial. Through technical development, spirituality itself assumed a new form, utterly different from the medieval one: it seeks a scientific, rational and sure foundation.

Finally, the camera obscura *a priori* prevents the observer from seeing his or her position as part of the representation, which means that the subject is incapable of self-representation as both subject and object. 'Thus, the spectator is a more free-floating inhabitant of the darkness, a marginal supplementary presence independent of the

machinery of representation'[12] (Crary, 1990, 41). The dark room operated as a threat to the previous mirror phase, by inspiring the passage from a self-reflecting phase to a phase orientated towards an unqualified exterior.

D. FROM MIRROR TO LENS: FROM EYE OF SOUL TO EYE OF MIND

The eye/lens of the Modern Age coincides with the 'I', with the ego, with the subject. While the Ancient age, as the age of the mirror, sought the self: for the creation of an 'I', Modernity developed itself from an already constituted and well-constructed concept of subjectivity to organize the 'external world' according to its invisible and ethereal stare. Henceforth, the difference between world and subject became a standard philosophy throughout the seventeenth century, albeit through a great variety of different forms.

In one view there is the 'eye of the soul' conceived by Plato, the eye that reflects our inner state in search of our *daimos*. Conversely, the eye of the mind, which means to represent and behold reality; to frame it into a particular representation. Therefore, the German word *weltanshauung*, which stands for 'worldview' corresponds to the most advanced conceptual definition and instantiation of this modern eye of the mind.

Ideas themselves stop corresponding to the platonic *eidos*, in other words, to the timeless, abstract objective entitites external to the subjective mind. For instance, Descartes and later Voltaire "used 'idea' to refer to an internal representation in human consciousness, an image in the eye of the mind' (Jay, 1994, 84). Voltaire and Descartes thus shared a dualism of a-spatial consciousness and purely extensive matter although, unlike the latter, the former continued the sensationalist tradition of empiricists as such as Francis Bacon, John Locke, and Isaac Newton. Voltaire was in fact critical of innate intuition, convinced that ideas originate exclusively from the perception of external objects. As a result, with the rise of sensationalism during the Enlightenment, observation came to replace speculation even further, where the latter corresponded to a Cartesian notion of perception (and thus sight) as an active replication of the object through a clear mental image. On the contrary, observation or rather sensationalist seeing "is the passive blunting of light rays on opaque, impermeable 'physical objects' which are themselves passive and indifferent to the observer" (Ibid., 84). This visual supremacy of observation over

---

[12] A shift of the same dimension in the field of geographical representation will occur only after four centuries with the composition of the global satellite system, something we are going to examine further in the next part**.**

speculation followed the removal of the residual active functions assigned by Locke to the mind. David Hume, Étienne Bonnet de Condillac, and other *philosophes* contributed to such deletion.

Nonetheless, the concept of the mind as camera obscura was still supported by both the rationalist progenies of Descartes and the empiricist progenies of Locke. Therefore, the lens of modernity is the realm of chiasmus, both expansion, and division, while the mirror for ancient Greek is the realm of depth and intensity. The eye itself, both metaphorically and realistically, mutates its function along with the tool to which it is applied (see above).

E. DISTANCE BETWEEN SUBJECT AND OBJECT, *RES COGITANS* AND *RES EXTENSA*

As previously suggested the camera obscura is the technical counterpart of the Cartesian distinction between two different kinds of substance: *res cogitans* and *res extensa*, mind and matter.

This kind of divide is also present in Locke's thought, even though it is framed by a different approach. Apart from the fascination this English thinker had for dark rooms, (see above) he also built a political-philosophical system where matter and mind occupy very different planes (the very concept of private property echoes such distinction, as exposed below). Although in Locke's political system the subject still holds a prominent position it does not have the metaphysical characteristics of the Cartesian res cogitans. In fact, Locke conceived the mind as an empty box capable of absorbing as much data as possible –the very concept of *tabula rasa*- all extrapolated from the external world without any inner intuitions or deductions as espoused by Descartes. Therefore, in Lockean theory subject (mind) is also separated from the object (matter), not as a result of strict isolation and self-sufficiency from the latter, but by virtue of its skill of possessing and elaborating the latter. In other words, while for Descartes the mind/subject can create data independently of the so-called external world, Locke interprets the mind as being capable of constructing images –which etymologically and even conceptually correspond to *ideas*- only as copies of perceived external 'objects'. In other words, the mind builds itself only through its perception and experiences, thus through its relationship with the external/extensive/objective/sensible world. Such a conception of subjectivity (also echoing the camera obsura mechanism), inevitably applied itself to the concept of private property: If the subject is formed through its relationship with a nonetheless distant and separate outside (objectivity), then such relationship is an

unequivocal relationship of possession and appropriation, which can be achieved only through labour. In fact, a Lockean subject owns an item, a place, an intellectual creation only by its work on it. The consequence of such statement is another very liberal (early capitalist) concept: production.

Despite their formal differences, both Descartes' and Locke's philosophy shared the same visual regime: the gaze. In fact, only such a way of conceiving sight can be brought to the theory of the dichotomy between the subject/object (and by proxy mind/matter), and as already mentioned technological achievements have strongly influenced our perception of this divide as being prominently visual, thanks to the beautiful scopic nature of the lens. In fact, telescopes, microscopes, and dark rooms, all require and develop the distinction between an invisible, transcendental and immaterial entity (finally defined subject) on one side of the device and a visible, static, flat, strictly spatially determined object on the other side (finally defined object).

The philosophical outcomes of such concrete use of optical tools based on the lens are the very modern concepts of mind and matter. In Cartesian terms, the *res cogitans* corresponds to an observer, while *re extensa* is the domain of the observed and corresponds to the space in which we observe things.

There are also two less philosophical and more sociological reasons behind the development of subjectivity and objectivity in early modernity which both evolved from the manufacturing of new optical instruments and exploration, which by emancipating individuals from their community facilitated the flourishing of various subjectivities (a topic that will be specifically addressed in chapter H). However, such endeavours led to the discovery of new sources to trade and exploit, where things and environment were no longer conceived as elements that define a community, and hence an individual, but rather as entities, void of any meaning and meant only to be taken and used: objects (in terms of the anonymous *res extensa*). The visual regime of the gaze made possible by the new optical tools of that age contributed enormously to the achievements of colonization.

F. LENS IN POLITICS: MONARCHY, REVOLUTION, AND BONAPARTISM

The seventeenth century had been the scene for different events that altogether contributed to the decline of the Church, of its institutions and hegemony throughout the entire continent. Moreover, these events brought about a more general secularisation of the entire European society, politics, and power:

- Reformation, counter-reformation and the wars between Catholics and Protestants;
- The scientific revolution, mostly through the shift from a geocentric conception of the cosmos to a heliocentric one
- The emancipation, in general, of modern philosophy from theology and religion. Along with secularisation and all its causes, the seventeenth century had other phenomena which helped it to develop a still centralized but more rational conception of power;
- The crisis of the feudal system due to a new and more efficient way of organizing the territory, along with new agricultural techniques, and the transfer of power from castles, rocks, and fortresses to cities and mansions;
- The discovery of new lands and their following colonization by the most prominent European states, with the ideological support of the new liberal theory of private property (John Locke);
- The development of the State (parallel to the dismantling of the old feudal system), supported by the new political theories of philosophers as such as Hobbes.

All these events contributed to the reinforcement and centralization of Monarchy and State, whose entanglement constituted the dominant political model of the following three centuries. This phenomenon needed an aesthetic counterpart to grant it prestige and further cement the political power of the king:

> 'In a century that also saw rapid material advances in the manufacture of plate glass, eyeglasses, and interior lighting, the very ability to look and to be seen in a social setting was markedly improved. When Jean Baptiste Colbert smashed the Venetian monopoly on mirrors, the way was open for Louis XIV's unprecedented Galerie des Glaces at Versailles, as well as the so-called *glaces à repetition* or vista mirrors with their infinite reflections, which became a staple of aristocratic interior decoration' (Jay, 1994, 88).

Within this context, glass transcends the function proper to the lens and finds a new application, and thus a new form. It becomes, not only an instrument for the improvement

of sight, but a luxury, and symbol of the visibility of power. This alternative application highlights the importance glass had in human history, especially during modernity, on a variety of levels, even though the lens remains the glassy archetype of the Modern Era. However, the previously mentioned luxury goods and lenses both share and demonstrate the scopic relevance of glass, and how this material shaped different scopic regimes coexisting during the same historical period.

As mentioned before, Versailles perfectly exemplifies the impact vitreous design had on monarchy: surrounded by the dazzling sight of his Court the king became a God-like figure, the sun itself. He represented both the absolute gaze and the source of all light. Therefore, the secularization mentioned previously did not work to achieve the partial departure of religion and God from this world but assisted in moving God down to Earth. Besides, the new heliocentric theory (whereby the Earth orbits around the Sun and not vice versa), at first refused, became itself a symbolic instrument of the renovation of European society towards centralization in the hands of few.

The image of Napoleon represents the enhancement of the visual economy proper to all the modern world. Napoleon eliminated all the weaknesses still present in the kings of the *ancient regime* and of the old hereditary European monarchies:

Napoleon's reign was the transitional moment, when the emperor:
> 'combined in a single symbolic, figure the whole long process by which the pomp of sovereignty, the necessarily spectacular manifestations of power, were extinguished one by one, in the daily exercise of surveillance, in a panopticism in which the vigilance of intersecting gazes was soon to render useless both the eagle and the sun' (Foucault, 1991, 217).

Bonapartism symbolized the perfect union of revolutionary ideals with those of the Enlightenment, and an increased and more efficient idea of surveillance, insofar as the revolutionaries themselves created an imaginary as oculacentric as the *Ancien Régime*. The Apollonian imagery of the revolution replaced the Sun King, by keeping him now under strict surveillance. Henceforth, Napoleon improved this new face of the heliocentrism that characterized both the science and the politics of all Modern Age. This shift was possible as French Revolution was not a rebellion against the old regime, but only an enhancement of an already developing new system of control. In turn, Bonapartism was the ideology which ushered in the modern way of managing surveillance: Panopticism was applied to every social and political sphere.

This new ideology would involuntarily influence the entire nineteenth century, despite the attempts of the old monarchies to erase it through the *Restauration*. In late 18th/19th century society, the fall of the monarchic system, centred on an absent spectator, the king, in favour of the rise of the bourgeois, made of observed spectators, would cause the rise of Human Sciences, and thus humanism.

> "[The] absent sovereigns, visible only in their reflections in the small mirror on the back wall of the painter's studio, are the ones who 'see' the picture in front of us. But in this doubled space of representation, the seeing subject can only be inferred, not perceived directly' (Jay, 1994, 404).

This phenomenon resembles the already mentioned way of working of camera obscura: the subject is not visible and not reducible to an object because not representable. The second phase of Modern Age sees this assumption fully undermined by what Foucault defined the rise of Man (along with the rise of human sciences):

> 'man appears in his ambiguous position as an object of knowledge and as a subject that knows; enslaved sovereign, *observed spectator*, he appears in the place belonging to the king […] but from which his real presence has for so long been excluded' (Foucault, 2002, 340).

G. FROM REFLECTION TO OBSERVATION

New technologies-not only vitreous but also typographic (the invention of print)-led to 'Modern individualism (the eye = I), the depersonalization of the external world, and the glorification of observation as the only valid way of knowing the world' (Jay, 1994, 67). Observation was predominantly linked with materiality, after the enhancement, and large-scale use of telescopes and other devices based on lenses. Therefore, this scopic regime entirely belonged to the new lens phase and aligned with the typically modern reduction of the world to an objectified space: the visual world replaced the visual field. Moreover, the centrality of observation was inevitably supported by the recent development of science, whose birth was strictly related to the invention of several new optical instruments:

> 'The science was a far more active and interventionist enterprise than the contemplation of the ancients. As such, it roughly paralleled those other great exploring ventures of the early modern era, the voyages to unknown lands, which were themselves fuelled in large measure by visually charged curiosity' (Ibid., 63).

Amongst the several modern wonders of technology, the telescope-more than the camera obscura- is the reason behind observation, as much as observation is the reason behind the telescope. This relationship is the same as that occurring between science and

technology: as the great process of modern technological enhancement required the development of a new methodology (science) based largely on experimentation and induction, so this new methodology found in its technical application, its true *raison d'être*. This last sentence means that:

- First, the material enhancement or invention of practical research instruments are necessary to improve or even establish science as such;

- Second, the entire enterprise of science finds its essence, not in knowledge, but technology, in the effective reduction of nature to a mere source to exploit. The curiosity that identifies this new kind of knowledge completely diverges from the passive wonder of ancient times.

The latter point finds its first theorization in the sixteenth/seventeenth century English philosopher, Francis Bacon, who is probably the thinker who embodies most vividly the active and aggressive nature of observation, due to his empiricist advocacy of the scientific method.

Bacon first underlined how knowledge comes only from observation, and not from theory:

> 'Man, being nature's servant and interpreter, is limited in what he can do and understand by what he has observed of the course of nature - directly observing it or inferring things from what he has observed. Beyond that he doesn't know anything and can't do anything'.
> (Bacon, 2017, 4)

Several times in this aphorism the entanglement of 'knowing' and 'doing' is underlined, whereby both terms rely intensively on sight. However, Bacon, in the following passage of his most important book (the *Novum Organum*) argues that observation does not work alone, but needs artificial support: 'Not much can be achieved by the naked hand or by the unaided intellect. Tasks are carried through by tools and helps' (Ibid., 4).

Furthermore, Bacon supported once again the idea that knowledge should be irreducible to a powerless contemplation -as it was in ancient times- but be conceived as an enhancement of actual power:

'Human knowledge and human power meet at a point; for where the cause isn't known the effect can't be produced. The only way to command nature is to obey it; and something that functions as the cause in thinking about a process functions as the rule in the process itself' (Ibid., 4). 'Operation' replaces contemplation: knowing the causes of

phenomena helps to know how to operate on nature itself and have control of it. Therefore, observation comes to be an instrument to tame and even transform nature[13].

In several other aphorisms of *Novum Organum*, Bacon also highlights the importance of experimentation over theory, of trying new ways of action lying idly on the old, hence 'invention' above all:

> 'If something has never yet been done, it would be absurd and self-contradictory to expect to achieve it other than through means that have never yet been tried. […] Moreover, the works that have already been achieved owe more to chance and experiment than to disciplined sciences; for the sciences we have now are merely pretty arrangements of things already discovered, not ways of making discoveries or pointers to new achievements' (Ibid., 4).

This sentence vividly expresses the critique of speculation typical in Bacon's thought, whose major aim is indeed to support direct observation as a more fitting substitute: 'Nature is much subtler than are our senses and intellect; so that all those elegant meditations, theorizings and defensive moves that men indulge in are crazy - except that no-one pays attention to them'. (Ibid., 4). Moreover, 'A syllogism consists of propositions, which consist of words, which are stand-ins […] for notions. So, the root of the trouble is this: If the notions are confused, having been sloppily abstracted from the facts, nothing that is built on them can be firm. So our only hope lies in true induction' (Ibid., 5). The entire Modern Age would follow the tendency expressed by this aphorism; the tendency toward an increasingly stronger separation between words and images, a no longer textual interpretation of the world. Consequently, language is reduced to the functions of description and communication, and no more symbolic and entangled with reality:

'When a language-drawn line is one that a sharper thinker or more careful observer would want to relocate so that it suited the true divisions of nature, words stand in the way of the change' (Ibid., 12).

Sight and hearing do not match anymore in the modern world, all in favour of the former: 'I admit nothing but on the faith of eyes, or at least of careful and severe examination' (Bacon, 2012, 25). Observation through new optic devices as such as microscopes and telescopes stand firm in supporting such statements on the supremacy of sight over the other senses.

---

[13] The German word for observation, Betrachten refers the Latin tractare, to handle, manage and manipulate.

This optical hypertrophy found itself strictly linked to curiosity, which came to substitute the Greek concept of *thauma* (see above), and then became the *Stimmung* of modern scientific revolution. While *Thauma* (wonder) let things be, curiosity dissects them, expressed the desire to know how they work, so to reduce natural entities to exploitable machineries and thus support the triumph of a mechanistic worldview. Curiosity achieved this relevance during the modern era only after a long process of liberation from that traditional medieval demonization started by Saint Augustine of Hippo (354-430 AD). To him curiosity was in fact a vice, a 'disease' affecting society, and a perverse entertainment.

As curiosity was the drive for the birth of techno-science and its inventions, so to specifically cause and increase curiosity were 'the powers attributed to [observation] since Bacon and the technical improvements introduced in it by the invention of the microscope' (Foucault, 2002, 136) (see above).

In conclusion, it is notable that the enhancement of sight and development of observation, the scientific revolution and, finally, curiosity are three entangled phenomena constitutive of the Modern Age and lens phase.

H. EXPLORATION, INDIVIDUALISM AND MODERN PHILOSOPHY

As demonstrated by Foucault, the birth of individualism is strictly related to the birth of observation. The Cartesian distance between subject and object, the strict subdivision of duty proper, to industrialization, required the constitution of separate entities charged with precise responsibilities. This latter concept assumed the characteristic of functionality henceforth: different kinds of responsibility corresponded to the different functions that each person has in society.

However, another phenomenon that concurred to create individualism was the time of exploration, whose beginnings correspond to the discovery of America by Christopher Columbus: 1492.

In the Modern era, exploration meant facing death and risking one's own life. It represented the passage from the ancient communitarian way of living, to the modern and subjective way of living. In modern times, a man could be considered free only by his ability to distinguish himself from the others. Exploration was both cause and effect of self-realization.

Through this very notion of position, space ceased being the signifying one of community, and became the objective and meaningless space of geography and maps. The result is the passage from the imaginary of the *genius loci* to the representation of space through Cartesian plane; from the feeling of being part of a specific place to the reduction of space to cartography, a space submissive to the movement of explorers and *conquerors*. This transition from stasis to movement means, once again, passing from a communitarian set of values to a subjective one.

Exploration embodies the 'explosive' tendency of modernity-which inverts during the Contemporary Age (see above) into implosion-, a tendency that brings the inner, subjective states toward a pre-supposed and distant outer world. To a certain extent, many philosophers of the sixteenth century have helped Colonization to build its basic ideology:

- Descartes constructed the concept behind any form of observation: the telescopic distance between *res cogitans* and *res extensa* and the fundamental grid for mapping the latter and putting it under the control of the former;
- Locke conceived the idea of private property, which corresponds to the reduction of land to something purely visual and without significance. The territory is dismissed by its semiotic and symbolic relationshipship with its inhabitants, in favor of the development of the State and the individual. Labour (and, after that, production) is, in such a context, inevitably viewed as the only possible relationshipship between a pre-supposed subject and the physical world. An individual works on a particular lot and hence he deserves it as his property;
- Francis Bacon had incepted into the modern world the idea that humankind has to force Nature into sharing its secrets with humanity..

Several other theories (as such as Darwinism) would come centuries later, during the last phase of the Modern Age, in support of a more organized form of Colonialism. However, only the previously quoted philosophies can be considered as the background to the unleashed development of an aggressive explorative enterprise.

I. DUTCH GOLDEN AGE: THE RISE OF MAPPING

During the 17th century, Dutch artists introduced mapping, a new form of objectification of space alongside the already established perspective and its renewed Cartesian version. This new scopic regime, like the older perspective (see above), was the result of the intertwinement of craft, art and natural knowledge, with a special regard to the new optical instruments. In fact, the Dutchmen were renowned for their proficiency with lenses and mechanical aids to vision. For instance, the philosopher Spinoza ground lenses; Huygens (a major figure of the scientific revolution) built a refractor telescope; the spectacle-makers Hans and Zacharia Jansen invented the microscope. Moreover, by spending part of his life in Holland Descartes grew such an interest for the new optical instruments, particularly for the invention of the telescope, to write *La Dioptrique* (1637). This short treatise presented detailed instructions to build these devises.

However, the guilds of the Dutch Golden Age did not mathematize optics as the corporations of the Italian Renaissance did. On the contrary, they had a more pragmatic approach toward the use and craft of lenses, privileging measuring and experimentation over geometry. Such skills explains their exceptional talent as cartographers and merchants, which was proved by the rise in the 17th century of Dutch maritime supremacy and decline of Spanish and Portuguese armadas, and by the subsequent transformation of colonization into a means for trade (as proved by the United East India Company) instead of exploitation and political power.

Continuing a process started by the Renaissance (when painting was an instrument of both knowledge and possession), 'the Dutch mixture of trade with art' (Alpers, 1983, 100) definitively made objects into mere properties and exchangeable goods. Increasingly after the 17th century, paintings also became commodities, defining the social status of their client. In fact, Dutch painters soon became 'the purveyors of luxury goods to the rich' (Ibid., 115).

Oil painting, available in Northern Europe since the fifteenth century, supported this proto-capitalist mentality along with Dutch descriptive attitude.
Firstly, 'the period of the oil painting corresponds with the rise of the open art market' (Berger, 1972, 88).

Secondly, 'Due to its ability to reduce 'everything to the equality of objects' (Ibid., 87), with its impact on colors and textures, an opaqueness and solidity spread on the canvas, this specific technique came to define what we still mean by pictorial likeness.

Consequently, the Dutch art was descriptive instead of prescriptive. It was more concerned with still life, landscapes, and domestic scenes than the idealizing religious and mythological themes of the Italian Renaissance. 'The Dutch art [...] [added] actual viewing experience to the artificial perspective system of the Italians' (Ibid., 27). Its approach was less hierarchical and static, and more concrete and vivid: it placed the beholder inside the scene as a mechanical automaton. A dissecting mechanical eye, which is altogether with the world it observes, replaced the abstract distant eye of the mind. The single objects were once again relevant, and not only the space were they in. However, there was no participatory relationship with them as there had been with the Greek *theoria* (see above).

'Northern artists characteristically sought to represent by transforming the extent of vision onto their small, flat working surface' (Alpers, 1983, 51), avoiding the direct relationship with an external viewer created by the fictional third dimension of perspective. As a result, the canvas surface contained a self-sufficient complete semblance of the world, democratically including different coexisting views without any hierarchical deep focus. In contrast with Italian painting, the patterns are usually asymmetrical, there is no prior frame and the viewer is position within and not outside the representation. In fact, the mapping and concretely descriptive technique characterizing Dutch art, tendentially decentralizing pictures.

Such democratic way of seeing was also the result of the peculiar historical situation of 17th century Holland. The bloodshed of the Reformation had not stained the Netherlands, explaining its incomparable religious tolerance, along with the Spanish-Dutch Peace Treaty of Westphalia signed in 1648. Moreover, Holland was the commercial center of Europe, characterized by a sizeable urban middle class, and gathering merchants from every part of the continent.

Dutch descriptive attitude of mapping, oil painting and ability with cartography increased the detextualization and objectification of space started by the Italian perspective. In fact,

mapping extended the commodification of reality and thus that search for possession already inaugurated by the Albertian imposition of an abstract and geometrical grid on space.

Consequently, the birth of modern geography is not only an epistemological and cognitive revolution, but it also represents a new proactive and interventionist approach toward the planet, based on both mapping and perspective.

Furthermore, both perspective and mapping would influence the centuries to come in their method of conceiving the organization of power and society. The new political entity of the state would enhance these two optical techniques by applying them to the mechanism of surveillance.

Ultimately, Dutch mapping would contribute as much as Italian perspective already did (see above), to the emerging capitalism. In fact, to constitute private property and to reduce the Earth to a resource to exploit as it occurs in a liberal conception, the world has to be described objectively through maps and distantly observed through telescopes.

J. LENS SOCIETY: PANOPTICON AND SURVEILLANCE

In the second half of the modern age, the Panopticon was to society, what the observatory was to science.

In fact, the observatory and the Panopticon were both invented in the late eighteenth century, under the lens phase, and under the same 'telescopic' visual regime. The Panopticon itself worked as a social observatory and as a model for any other social observatories, like schools:

'The school tends to constitute minute social observatories that penetrate even to the adults and exercise regular supervision over them' (Foucault, 1991, 211).

The 'designer' of the Panopticon was the Philosopher and Jurist Jeremy Bentham, who lived between the second half of the eighteenth century and the first half of the nineteenth. This structure for social reformation was supposed to be a prison building designed as follows:

> 'The building is circular. The apartments of the prisoners occupy the circumference. […] These *cells* are divided from one another, and the prisoners by that means secluded from all communication with each other, by *partitions* in the form of *radii* issuing from the circumference towards the center […]. The apartment of the inspector occupies the [central tower] […]. It will be convenient […] to have a vacant space […] all round, between such centre and such circumference. […] Each cell has in the outward circumference, a *window* […].

The inner circumference of the cell is formed by an iron *grating*, so light as not to screen any part of the cell from the Inspector's view' (Bentham, 1843, 40-41).

Through this new social device, discipline and observation were closely linked.

The spreading of the lens and its enhanced applications changed society drastically. Armies, schools, the State, prisons, and other institutions assumed observation as the primary model of action.

As mentioned before, all modern philosophy, mostly deriving from Descartes and Bacon, had developed observation over the ancient *theory* and *contemplation* to give to it all the conceptual instruments it needed. Cartesian plan and Cartesian subdivision in *res extensa* and *res cogitans* are the symbolic and subliminal level of a world based on lens, and thus on beholding.

Panopticism meant disciplining and thus coercing through observation social life outside the disciplinary spaces, which is also the indirect scope of Cartesianism: mapping, categorizing, distributing and individualizing. Such worldview accepted no blurring *masses* and thus resulted in the 'production' of individuals.

It is now of paramount importance to distinguish between two concepts: subject and individual.

- As already mentioned, the subject was a conceptual product, and a necessary conceptual tool of the 17th century. It worked as the cultural counterpart for the new technical innovations, as such as the telescope and the dark room, and for the new figure of the explorer/*conquistador*. The subject specifically corresponded to the invisible observer behind the lens.

- As previously discussed, the individual is a social product of the 18th-century application of the scientific observatory to the detention system, and then to the entire society. In fact, Bentham conceived the Panopticon not only as a development of the prison system, but as a more general model of social reformation.

This giant telescope/observatory, instead of simply creating a subject of power was imposed on the development of individuals. As the prison was the first place where this *machine* was built and used, so inmates were the first examples of individuals. In a panoptical regime a convict is permanently visible, and never aware of 'whether he is being looked at any one moment; but he must be sure that he may always be so' (Foucault,

1991, 201). These two properties, which could also apply more generally to individuals, assure the automatism and homogenising effect of power. Through panopticism:

> 'The crowd, a compact mass, […] is abolished and replaced by a collection of separated individualities. From the point of view of the guardian, it is replaced by a multiplicity that can be numbered and supervised; from the point of view of the inmates, by a sequestered and observed solitude' (Ibid.).

While, as already analysed, power before the 18th century was mostly embodied by a subject or few (i.e., conquerors and kings) gazing from above towards the objectified world or 'lower level people', the same telescopic sense of power after this century starts being less subject-centered and more depersonalized. Power stops being a personal property and becomes an impersonal, specific and rational arrangement of gazes and illumination, surfaces and bodies, which determines the formation of individuals. The sovereign power becomes obsolete, and with it all its rituals, ceremony and so forth. We could hence state that while the first half of the Modern Age focused on the subject who beholds through the telescope, the second half dismissed the seer, to focus on the other side of the telescope, the observed individuals. From the invisible soul who gazes at everything and everyone (subject/mind) to an organized and mapped series of differentiated and individualized bodies. This internal change occurring into the lens phase probably occurred once the usage of optical instruments (microscope in particular) was extended to humankind itself and not only to the world. Such an extension signals the birth of the very concept of humanity, a concept that, along with *individuality*, does not correspond only to a mere objectification/reification of our species. Otherwise, they both underline the interchangeable character of these two ideas: single individuals and the whole of humanity are now gifted with the possibility of switching between being objects and being subjects, depending on the situation.

This form of self-observation and self-surveillance operated by panopticism does not refer to self-reflection and mirroring. It is more a form of self-alienation, or rather the basis of the entire phenomenon of alienation.

Observation, discipline, and individuals work together as parts of a unique mechanism, the so-called mechanism of production. Referring to lens it is arguable that the contemporary birth of science and construction of the first lenses allowed for the institution of a disciplined world subdivided into single and isolated cells (individuals).

There is also a strong relationship between space and discipline:

> 'This enclosed, segmented space, observed at every point, in which the individuals are inserted in a fixed place, in which the slightest movements are supervised, in which all events are recorded, in which an uninterrupted work of writing links the centre and periphery, in which power is exercised without division, according to a continuous hierarchical figure, in which each individual is constantly located, examined and distributed among the living beings, the sick and the dead – all this constitutes a compact model of the disciplinary mechanism' (Ibid., 197).

Here the Cartesian space based on objective coordinates finds its application.

The main objective of the panoptic system of surveillance was not political power but the social efficiency necessary to improve productivity, and consequently economic conditions and standards of education. Surveillance corresponded only to the mechanism of the Panopticon and not to its function. Surveillance was necessary to generate production itself, whereby the Panopticon, instead of favouring the tyranny of few subjects, worked as a democratic means through its inner mechanism of reciprocal surveillance. Panopticism constituted individuals through this advanced disciplinary mechanism:

> '[The] Panopticon, subtly arranged so that an observer may observe, at a glance, so many different individuals, also enables everyone to come and observe any of the observers. The seeing machine was once a sort of dark room into which the exercise of power may be supervised by society as a whole' (Ibid., 207).

In this passage from *Discipline and Punish* by Michel Foucault the metaphor of the camera obscura appears again as fundamental for the entire modern world.

Another concept highlighted by the 20th-century French philosopher is that the Panopticon worked as the reference for every relationship with power, by taking as its model the telescope itself:

> 'Side by side with the major technology of the telescope, the lens and the light beam, which were integral parts of the new physics and cosmology, there were the minor techniques of multiple and intersecting observations, of eyes that must see without being seen; using techniques of subjection and methods of exploitation, an obscure art of light and the visible was secretly preparing a new knowledge of man' (Ibid., 171).

Henceforth, lenses, knowledge, and power were developed as an untied unit which rendered gaze and observation the bases for the epistemological order behind modern society.

Observation geometrically shaped society, as it did with the Earth: calculated disposition of individuals to maximize efficiency and results. Panopticon, as a social observatory, yet an observatory, was a geometrical machine itself, a concrete example of strict geometric architecture.

Observation and then panopticism (its 17th century by-product) would prepare the way for industrialization, for a relationship with the thing based on *production*:

'As the machinery of production became larger and more complex, as the number of workers and the division of labour increased, supervision became ever more necessary and more difficult' (Ibid., 174).

The scopic regime of surveillance, which includes also supervision, and more generally the lens phase with all its different components (from social to technological to philosophical to epistemological), would find in Paris its culmination *in an urban context*.

K. PARIS, CITY OF SURVEILLANCE AND MAPPING

The late days of Modern Age were testimonies of the expansion of the lens phase in new fields and new forms of expression, phenomena which brought about its internal differentiation and ultimately its future demise. Previous chapters have examined how gaze, reflection and observation corresponded to the primary forms of perception developed and enhanced by the technology of the time. The focus having been overwhelmingly on the visual the way lenses inevitably engender. Furthermore, we have examined the typologies of society and institutions devised by this technological apparatus: centralized and hierarchic, spreading out through exploration, but with a tendency toward the levelling of the class system.

This chapter will investigate how many of the mechanisms proper to modern society, embodying the lens phase, contributed to the complete reshaping of Paris in the 19th century.

Paris in the 19th century, became the representation of panopticism, mapping and gaze applied to a city. All the technical, philosophical, political and social changes of Modern Age were interlinked in the French capital. Hausmann was the planner of such an urban version of the lens phase:

'In 1859, six years after becoming the Prefect of the Seine, Baron Georges-Eugène Haussmann began his massive rebuilding […] of the capital. […] One of his ancillary goals was to render Paris less obscure, less opaque […]. Here, we might

say, the Cartesian perspectivalist scopic regime seemed to find its perfect urban form-a judgement symbolically supported by the fact that only in 1853 was Paris as a whole surveyed and definitely mapped for the first time' (Jay, 1994, 117-118).

Paris became the urbanistic application of the geometrical theories at the basis of the objectification of space. One aim of such a deed was the improvement of the surveillance on citizens. In fact, the old medieval neighborhoods, tangle of narrow streets, were destroyed and replaced by long, linear, wide roads, the *boulevards*, which created 'long and broad corridors in which troops and artillery could move effectively against future barricades and popular insurrections' (Berman, 1988, 150). The transformation of French people from king's subjects to citizens acquired over French Revolution required the modification of the specific city where that event started. The city was mapped, which means that it was considerably reduced to an ordered, flat and qualitatively invariable locus.

However, as argued by Marshall Berman (1940-2013) in *All That is Solid Melts into Air* the actualization of Hausmann-Napolon's town plan also:

> 'opened up the whole of the city […] to all its inhabitants. Now […] it was possible to move not only within neighborhoods, but through them. Now, after centuries of life as a cluster of isolated cells, Paris was becoming a unified physical and human space.
> The Napoleon-Haussmann boulevards created new bases-economic, social, aesthetic-for bringing enormous numbers of people together. At the street level they were lined with small businesses and shops of all kinds, with every corner zoned for restaurants and terraced sidewalk cafes. […] Haussmann's sidewalks, like the boulevards themselves, were extravagantly wide, lined with benches, lush with trees. Pedestrian islands were installed to make crossing easier, to separate local from through traffic and to open up alternate routes for promenades. Great sweeping vistas were designed, with monuments at the boulevards' ends, so that each walk led toward a dramatic climax'. (Berman, 1988, 151).

Therefore, the post-Haussmann Paris was not just a city embodying the dominant visual regimes of mapping and surveillance, but it also displayed a visual spectacle which anticipates of few decades new optical devices (Lumiere's invention of cinema) and kinds of visuality (impression and spectacle).

L. MECHANICAL AUTOMATA

As already mentioned, one of the events which expressed a new degree of technical enhancement was the invention of the first machines, the so-called *automata*, an event strictly linked to new philosophical conceptions.

The term *Automaton* (the singular form of *automata*) –which stands for 'acting of one's own will' - was coined by the Greek in reference to all –even mythological- devices capable of self-motion once activated – from the fantastic artificial man of Bronze Talos forged by the god Hephaestus to the actual mechanical devices produced quite often in the Hellenistic world. It denotes moving machines developed before the advent of electronics (see above) whose movement was based on laws of mechanics, hydraulics, and pneumatics. Although their purely scientific and impractical use and invention during Hellenism, derives from the Renaissance It was during the Seventeenth century that they became increasingly popular and diffused throughout European Courts, but especially the French. In this early modern time, automata mostly corresponded to clockwork and mechanical toys with elaborate features of animals which were made for the amusement of the aristocracy. Nonetheless, automata became also the conceptual standard of comparison for Nature and the organism, thanks to the Cartesian use of the word *automata* to define animals as purely extensive and not thinking entities. In fact, Descartes argued that their bodies were only complex machines, whereby every organ could have been replaced with mechanical pieces like cogs, pistons, and cams.

It is curious to notice that a very young Louis XIV had miniature horses along with footmen, page and a lady within a coach designed by an artisan named Camus; all these figures exhibited a perfect mechanical movement. It is even more curious to notice that a more mature *Roi Soleil* would make his court in Versailles a place with plenty of such wonders, but on a much broader scale. Such a relationship between the French monarchy (the ideal model for any European monarchy during the late seventeenth century) and *automata* does not only echo the 'philosophical machines' of Descartes, but also hints to a political application of this both modern and French interest in automata.

Meanwhile Descartes theoretically distinguished entities between thinking and purely extensive, the French king (the utmost modern absolutist king) created a political division between himself and his subjects. Mechanical automata, animals from the Cartesian perspective and the subjects to a king occupy the same ontological space: they are all philosophical zombies, tools capable of acting by themselves only once activated by an

entirely independent and free entity. What lies beneath such a picture is the very modern idea of a strict division between who controls and who/what is controlled, between emancipated subjects and reified/alienated subjects (or objects), between automata and puppet masters. The relationship between control and subjection that makes possible such division corresponds to the purely visual and one-sided one existing between observers and observed which finds in the lens its actual medium, expression, and symbol. In fact, haptic interactions are always avoided between a subject and an object, king and subjects, artisans and their automata. Otherwise, the division would be overtaken and no gaze would be possible, because every relationship of control is based on the visual regime of the gaze.

Lastly, the *automaton* worked also as a standard for a renewed conception of God. In fact, the rise of a mechanistic image of the world during the Seventeenth Century -which found in these same machines both an application and an inspiration- brought to the next century the development of a very innovative religious conception: Deism. God was then conceived as an artisan and the world (humankind included) as its automata, like clockwork (an image used by Voltaire); once activated, reality can act autonomously but only under a strict deterministic mechanical law. Such an interpretation of God had already been outlined by Thomas Hobbes, whose merit had been to link in a very rigid and accurate scheme all the factors constituting the modern conception. This scheme – which finds in the Leviathan its representation – coherently assembled modern politics, society, theology, philosophy and scientific worldview in one system, all under a mostly mechanist vision. In fact, through the prominent figure of the *Leviathan* Hobbes had constituted a machine that runs itself through a strict, parallel, vertical relationship between God, the king, the state, the individual subject and Nature (understood in mechanical terms). The stability of each of these five figures requiring constant and specific interaction with the others:

- God ensures the royalty of the King and makes possible the movement of the nature-clockwork;
- The subject, whose selfishness is a characteristic that Nature gifted him/her, needs the institution of the State and the remission of any freedom to one sole King to have granted its safety;

- The King needs both the blessing of God to see its special status justified and a contract with his subjects to represent fully and legally the entire State (the Leviathan);
- The State is formed by subjects, unified through the figure of a common ruler (the King) ,and works as a whole; on the other hand, it grants the security and peaceful existence of those same subjects;
- Nature (the external world) is ruled by a strict mechanical law and also corresponds to a state of the constant reciprocal struggle between the creatures that constitute it. Such a condition together with the existence of independent subjects is what makes necessary the institution of the State and the centralized control of the latter under only one ruler.

Even though Hobbes' system is probably the first and best compendium of all the constitutive elements of modernity, the *automaton* standard would in the next century up to the twentieth century, see other more progressive and evaluated instantiations in political, social, scientific, philosophical, religious and technical terms. *Automata*, once toys and clockworks, were to evolve within a century, into the engines of the Industrial Era, the last phase of the broader Modern Era. The gaze of the king and the State, the ghost in the machine, will change features: the entrepreneur on one side and the labourer, on the other would perpetuate the modern difference between mind and body, subject and object that finds in the automaton its actual archetype. Marx, and all movements and philosophy inspired by him denounced alienation and reification, because of the reduction of people to *automata* (a better and more specific term than the term 'thing') operated by the various industrial revolutions. Only the development of electronics would overtake such a hierarchic relationship through a significant transformation in the way machines are built and work (see above).

M. PHOTOGRAPHY: LAST STEP AND TWIILIGHT OF THE LENS

Photography, arguably a later evolution of the camera obscura, best represents the century of its own invention (the nineteenth-century), the apex and the crisis of the lens phase and its dominant scopic regimes (i.e. representation and perspectivalism).

Photography firstly appeared as the apex of an entire epistemic conception. The public reaction to its presentation at the Academy of Science on August 19, 1839 was

enthusiastic, mostly because of its ability to reproduce accurately reality moment by moment. This self-evident charactersitic inspired the Realist reaction to Romanticisim in every intellectual and artistic field, and it also corresponded to the commonplace view. As perspective and mapping inaugurated the denarrativization of reality in the fifteenth/sixteenth centuries, so the photographic image was viewed as 'a message without code' for all the nineteenth century; a century witnessing:

'a series of stages in the thrusting progress of a vast aspiration which emerges as the quintessence of the bourgeois ideology of representation' (Burch,1981, 5). As consequence, this 'plagiarism of nature' (as critically stated by the poet Alphonse de Lamartine in 1858) deprived art and philosophy were deprived of their primary way of describing reality.

However, emerging suspicions concerning the realism of the camera since its outset revealed puzzling implications of photography, and predicted its imminent contribution to the crisis of traditional perspectivalism in the 19th century.

First, photography became from an instrument of knowledge of both society and nature to its opposite for the following reasons:

- The mid-1840s discovery that photos could be retouched or combined, whereby nature is not only recorded but also improved.
- 'With the onset of motion photography, artists who were immersed in the ideology of realism found themselves unable to express reality and obey the photograph's verdict at the same time' (de Duve, 1978, 115).
- 'The camera isolated momentary appearances and in so doing destroyed the idea that images were timeless. […] What you saw was relative to your position in time and space' (Berger, 1972, 18).

Second, in addition to the 'active force' of this new device, there are also several differences, noticed by Joel Snyder, between the image it produces and our embodied experience of sight, as there were between the latter and perspective:

- 'Our vision is not formed by a rectangular boundary' (Snyder, 1980, 505);
- 'Even if we were to close one eye and place a rectangular frame of the same dimensions as the original negative at a distance from the eye equal to the focal length of the lens (the so-called distance point of perspective construction) and

then look at the field represented in the picture, we would still not see what is shown in the picture' (Ibid.);

- "The photograph shows everything in sharp delineation from edge to edge, while our vision, because our eyes are foveate, is sharp only at its 'center'" (Ibid.);

- Moroever, 'the photograph shows objects in sharp focus in and across every plane, from the nearest to the farthest. We do not-because we cannot-see things this way.' (Ibid.).

- Finally, the 'eye has neither shutters nor exposure time, yet the visual system allows us to see a moving object clearly, whereas a still camera would register blur. In addition, the shape of the projection surfaces are different. […] The photograph, the canvas, and the sketch pad are flat; the retina conforms nearly to a section of a sphere' (Cutting, 1986, 16-18).

Third, photography came lastly to work against individuality itself, instead of embodying it in a perfect form, and representation along with its distinction between subject and object. This new technical innovation manifested itself as a possible way out of alienation, an integral part of modern representation and an inevitable side effect of subjectivity on both the single human being and society as a whole:

> 'So far as photography satisfied a wish, it satisfied a wish not confined to painters, but the human wish, intensifying in the West since the Reformation, to escape subjectivity and metaphysical isolation-a wish for the power to reach this world, having for so long tried, at last hopelessly, to manifest fidelity to another' (Cavell, 1979, 21).

Forth, as stated by Benjamin:

'It is through photography that we first discover the existence of this optical unconscious, just as we discover the instinctual unconscious through psychoanalysis' (Benjamin, 1999, 510). In other words, photography freed visual experience, and it did so by underminging the following limitations of the Cartesian perspectivalist scopic regime:

- For Descartes it was the subject as *res cogitans*, as non-material substance, to see, and not the two physical eyes. Therefore, sight was neither a means for the accurate representations of objects, nor a mechanical apparatus but it rather provided a non-material geometry. Photographic images lacked of such natural geometry constituting Cartesian perspectivalism.

- The photographic camera discredited the camera obsura, which was paradoxically its technical ancestor and the model of visual experience for the entire pespectivalist tradition (see above). It did so by reintroducing and ratifying

Kepler's notion of *pictura*, the real perceived image impressed on the retina, without referring to any Albertian and Cartesian regularly ordered space.

- After this invention, it 'was no longer possible to imagine everything converging on the human eye as on the vanishing point of infinity' (Berger, 1972, 18) of classical perspective.

Finally, photography brought from the Dutch descriptive art (see above) to the Impressionist definitive break with perspective. In fact, photography ambiguously brought two scopic regimes parallel: an enhanced version of representation on one side and the birth of impression, on the other side. Impression definitely weakened representation insofar as it makes the visible an elusive, incessant flux.

The slow but firm passage from representation to impression, along with the development of cinematic camera from the photographic camera both anticipate the end of lens phase and the birth of a new one.

III SCREEN PHASE (FROM LATE NINETEENTH CENTURY TO THE FALL OF THE BERLIN WALL)

A. CINEMA

During the lens phase, the dualism image-movement expressed the telescopic difference between the observer and the observed, where images are representations, and things are the objects of these representations. It also corresponded to the dominant Cartesian dichotomy between *res cogitans* (images) and *res extensa* (movement), consciousness and thing, quality and quantity, absence of extension and extension. During the lens phase, this dichotomy was supported and developed in two very opposite ways:

- Movement over images: empiricism earlier and materialism later tried to explain consciousness as a mechanical and physical phenomenon.
- Images over movement: rationalism earlier and idealism later tried to reduce the entire material universe to organizing, totalizing mental ideas.

At the turn of the nineteenth century, train and cinema together contributed to change this old perception of movement:

- Passengers of trains saw for the first time images in movement under the effect of the 'optical flow'[14].
- Cinema advanced the fusion between images and movement, by inserting the latter into the former.

Moreover, these two inventions are so intertwined, that the very first cinematic image, shot by Lumière brothers in 1896, was a train coming toward unexpecting spectators. This event sums up the dreadful effect the two new technologies had on humanity: the transformation of the world in its own image. However, at its outset cinema was still based on a fixed point of view, on a transcendental subject.

At the beginning of the twentieth century, there were two reactions to this undeveloped, uncertain cinema, still attached to a specific point but already threatening 'normal' anthropocentric perception, which were also reactions to the crisis of the dualism image-movement:

---

[14] The apparent movement of objects caused by relative motion, blurred when close to the track, and slower when distant.

- Husserl and the movement of phenomenology he founded epitomize the conservative reaction against the revolutionary aspect of Cinema. This reaction is conservative because Husserl only reformed the old Cartesian dichotomy by defining 'consciousness [as] consciousness *of* something' (Deleuze, 2015, 64), where the perceiving subject is now anchored in the world, opened to it, but still not reduced to a mere physical thing. Therefore, Phenomenology still works under a regime of objects as if it were under the lens phase. The subject still focuses on specific points through its visual tools; he is still intentional since he decides what to look at and what to exclude from his view. Therefore, sight is still modelled after heliocentrism and perspective as a light radiating from the subjective eye, a clear objective vision, capable of removing all the darkness that surrounds things. The world is still a vast horizon (the Albertian vanishing point) posed in front of us that cannot be reduced to an image but works as the setting from which we can abstract images..

Such reactive attitude inevitably condemns Cinema (and thus the rising of the screen phase) for it transforms the world into a tale by eradicating the two normative coordinates of perception: intentionality and the horizon.

- Otherwise, Henri Bergson epitomised the radical reaction against the limitation of cinema at its outset, as argued by Deleuze. This reaction is radical because it completely subverts the telescopic, Cartesian dichotomy still present in phenomenology. For instance, Bergson radically considered 'every consciousness [as] something' (Ibid.), merging consciousness and world, images and movement into an acentered, continual flux. Consequently, he firstly criticized cinema because it was still bent toward a centred and subjective way of perceiving by its fixed viewpoint, with a consequential spatial and strictly immobile shot. Secondly, in his *Creative Evolution* (1907) he condemned cinema for it spatializes time, reducing movement to a reconstructed, abstract, homogeneous succession of selected images (Zeno's paradox), or rather 'snapshots […] of the passing reality' (Bergson, 1998, 306). As argued by Deleuze, early cinematography was responsible of such false movement because it was still based on an apparatus for shooting combined with the apparatus for projection.

To reveal the real potentialities of cinema and to bring it closer to Bergson's conception would be the 'montage, the mobile camera and the emancipation of the point of view,

which became separate from projection' (Deleuze, 2015, 3). Now cinema does not just see movement but it does move, filling the last gap it had with the train. So, the 'movie camera [demonstrates] that there [is] no centre' (Berger, 1972, 18). The image now is mobile and deframed, and the shot becomes a temporal category. As poetically expressed by John Berger's imaginary talking movie camera:

> 'I'm an eye. A mechanical eye. I, the machine, show you a world the way only I can see it. I free myself for today and forever from human immobility. I'm in constant movement. I approach and pull away from objects, to creep under them. […] I fall and rise with the falling and rising
> bodies. This is I, the machine, manoeuvring in the chaotic movements, recording one movement after another in the most complex combinations. […] My way leads towards the creation of a fresh perception of the world. Thus I explain in a new way the world unknown to you' (Ibid., 17).

Even more successfully than the train, cinema has finally completed its implicit task: merging image and movement, or rather transforming the world in its own image.

Moreover, Cinema redistributes light over the images. As result, a diffused light replaces the beam of light of the lens, without any reflection or filter. 'There are not yet bodies or rigid lines, but only lines or figures of light. […]. In other words, the eye is in things, in luminous images in themselves' (Deleuze, 2015, 68).

Finally, the introduction of montage subtracts ideality from a film, by making it discontinuous and constituted by several different shots. However, movies also become a whole, a single sequence shot, because of the synthetic function of montage, including selection, coordination and linkage of parts.

In conclusion, cinema signals the beginning of the screen phase. It is in fact the first example of how screens reduce reality to an image, how they overtake the distance of the lens, the difference between subject and object, observer and observed, spiritual and material. The screen is the membrane where two opposite forces, two different spheres collide and became the same undistinguishable multiplicity (for Deleuze) or sameness (for Baudrillard). The screen is where movement and image coincide, where reality and consciousness lose their substantiality.

B. TELEVISION

1. The End of the Panopticon

During the Cold War, TV eradicated the panoptic absolute gaze, replacing surveillance with deterrence. As a result, the screen becomes also the membrane where active and passive collide.

Being a subject of right, a subject that has control of his existence and being, or on the contrary, subdued to someone else were essentially the two possible human conditions during the time of monarchy, exploration, and colonization; on one side a person and the other side a savage or an animal. The Cartesian subject or *res cogitans* and the mechanical body without thought (and thus soul) of animals. However, this telescopic relationship between an active subject and a passive object represented by the absolute gaze of the Panopticon system and modern monarchies is entirely dismantled by the television. Pure inflection replaces the focal point of perspective, and subsequently the mechanism of surveillance.

The collapse of any traditional poles, followed by the *implosion* of meaning and truth, occurs because the screen does not represent, does not have any referentiality between objective reality and subjective imaginary, as the lens and perspective had. Screen exclusively transmits, and therefore television and satellite systems together correspond to a pervasive diffusion of media that is more effective than cinema, newspaper, and radio used to be. Therefore, after the crisis of perspectival space, *circulation* is the second transformation concerning space perception that occurs with television diffusion.

There is firstly the ancient time of community and penury, followed by the modern time of adventure and personal affirmation and finally the contemporary time of self-insurance, of travel without risk, of tourism. Tourists, like commuters, do not undertake journeys, but move within the circular trajectory of safely tested routes.

Exploration meant betting on the existence of undiscovered virgin lands to achieve self-enrichment, even if that meant risking one's own life. On the contrary, tourism is only possible in a globalized world such as the contemporary one, where the entire planet has already been discovered, mapped and dwelled in and where circulation is the only movement that remains available. Moreover, tourism fits with insurance since every new journey must be safe and thrilling, whilst also a simulated one, like in amusement park. It follows Baudrillard's comparison of the globalized word to Disneyland:

'a place of the regeneration of the imaginary as waste-treatment plants are elsewhere, and even here. Everywhere today one must recycle waste, and the dreams, the phantasms, the historical, fairylike, legendary imaginary of children and adults is a waste product, the first great toxic excrement of hyperreal civilization' (Baudrillard, 1994, 13).

Circulation links with recycling, with an unceasing relocation of things on a globalized world. Not only is any sense of belonging to a place abolished. This abolition was in fact already occurring in modern time (see above). Yet, position itself meets its end, and this is the third significant change of spatial conception. Space is not anymore, an objective one, instituted by a superior, distant and ascetic gaze, the gaze of a recognized observer.

The spatial coordinates are brought to their ultimate dismissal by the synchronized diffusion of television and the enhancement of satellite systems. The earth that once could be represented only through cartography is now a visible globe. The telescope could give just a direct but blurred vision of extra-terrestrial space; the earth was still a mysterious place to be discovered. Through calculation and trigonometry, it was only possible to give an approximate, fragmented and abstract representation of it. On the contrary, after satellites and television's invention, the earth is visible in its full global shape. Earth is now naked but still through artificial means: satellites that transmit images from their orbits to our TV monitors. These images are direct and not just representations, yet they are also indirect for being filtered through technological devices; this is the simulative character of television, where every image transmitted is filtered meanwhile it appears as real.

The fourth spatial transformation concerns the substitution of height with an orbital conception of space. During the time of the Panopticon, the modern age, the top of a tower, of a castle or a palace or the peak of a mountain were symbolically and effectively considered as the best spots for a perfect view. The *top* was considered as the place par excellence for having the most accurate absolute gaze, the furthest from the ground and then the most stable position. The Panopticon perfectly matches with this description: an isolated tower built at the centre of the prison, so to control the criminals. Absolute monarchies followed this very model: a central power that overlooks its land from a privileged and isolated fortified spot as a castle. Therefore, the modern world drew an image of space constituted by a centre and a periphery, a highest and absolute gaze and an objective world to observe and whose constitutive law is the gravity law. The modern

world did not just discover gravity, but it established it to institute a system based on a higher and central control power. Gravity also ensured the relevance of an entire geographic conception of reality, where the earth was still a flat land, even if its approximately spherical shape was theoretically already known (only theoretically). To draw a map meant representing a specific part of the earth as if watching it from a higher point of view. The contemporary world successfully twisted such a conception through satellite and television: 'The first orbital space flights marked the completion of the process of globalization, but also the moment when progress itself became circular, when the human universe was reduced to a vast orbital machine' (Baudrillard, 1993, 31).

Orbital space dismisses any form of centrality; every object becomes peripheral through its expulsion out from the atmosphere. Since televised images are neither utopian visions nor representations of reality, they are also the expression of the orbital era, in which everything could turn into an endlessly circulating satellite. Since gravity does not affect outer space, any law of attraction toward a unique point loses its effectiveness with a consequential abolition of height. The contemporary world thus appears as a secular world deprived of any hierarchy, included the hierarchy of meaning, a world deprived of any division between a high class and a low class, deprived of the difference between signified and signifying.

Weight is the other feature to be stripped away from objects. If height is the feature of hierarchy, weight is also a feature strictly related to meaning and depth. If height matches with the absolute gaze, with the possibility of abstracting oneself from an objective kind of reality, weight is the feature corresponding to the attraction to the centre of the earth; it is the feature of fall and tendency toward a centre. The loss of gravity defines an era of weightlessness, where everything becomes eccentric to the human body.

> 'It is as though our model were a niche in space whose kinetic energy cancels our Earth's gravity. The centrifugal force of our proliferating technologies has stripped us of all weight and transferred us into an empty freedom of movement. Freed of all density, all gravity, we are dragged into an orbital motion which threatens to become perpetual' (Ibid., 34).

This self-ejection similarly experienced in shopping malls and expressed by the phenomenon of gentrification. In fact, the diffusion of hypermarkets and so-called *new towns* is the empirical example of the contemporary tendency toward decentralization. Before the orbital era, hence globalized era, the vital part of the city was the city centre,

with its commerce and his monuments (physical expressions of meaning), with its castles and palaces, symbols of actual power. Moreover, in modern times every building was a representation of a specific function in a specific social system, delimited by walls, which represented the urban version of the division between an internal and an external world, intimacy, and objectivity. In the contemporary world, walls are either destroyed or restored for touristic consumerism, so that they are stripped of their function and become pure simulacra under the circulatory movement of tourism. This dismantling of urban defences inevitably corresponds to the end of the double of inside and outside that follows screen phase's affirmation.

However, not only walls, but also the entire city centre is eradicated by transforming it into a tourism resource, by stripping away from it any meaning, any density, and any weight. The historical relevance of city centres is secularized and then reduced to a simulation under the regime of tourism circulation, which means that the city does not represent anything anymore.

Its history, and meaning is archived and therefore reduced to data; it is reduced to a satellite ejected into space, whereby the centre itself is not a gravitational point attracting toward it anymore but has also become peripheral. New cities assume a suburban character by abolishing the difference between periphery and centre, beyond and inside the walls and by assuming a model of flexible multifunctionality.

These new metropolitan areas are satellites moving along the orbit traced by the hypermarket.

The traditional market was monofunctional, interdependent with the other facilities with specific functions, as such as palaces and town halls, and it was placed in the urban core. On the contrary, the shopping centre is multifunctional, *satellites* the new cities through a programmed traffic network that services the hypermarket itself and finally convert the entire population of a region into suburban commuters constantly moving from and to it. Therefore, hypermarkets echo not just the transformation of the Panoptic gravitational space into the orbital space of television, but also expresses the circulatory movement of TV and hence of screen age. In addition, the hypermarket reflects another mentioned change in space conception, which is the crisis of Renaissance perspective: 'No relief, no perspective, no vanishing point where the gaze might risk losing itself, but a total screen where, in their uninterrupted display, the billboards and the products themselves act as equivalent and successive signs' (Baudrillard, 1994, 75). With television, there is no

external reality anymore, but just an earth that has fully revealed its global shape by losing the flatness that maps projected on it. It is an earth where everything has been discovered and thus where there is no more vanishing point; an earth completely visible through satellites and spaceships.

The fifth change in spatial conception and perception is the passage from a space of surveillance and thus repression to one of deterrence. Shopping centres exemplify this new kind of space through the persuasive effect of both the circuits of surveillance cameras and the huge billboards. The cameras only allude to repressive measures and mostly communicate security to customers, while the billboards invite them to buy in complete relaxation and calm. This double oriented system of deterrence constitutes a closed world within the shopping centres, where buyers are neither dwellers nor travellers, trapped by the self-assuring gaze of the security cameras and by their own view of themselves on the 'policing' televisions.

Screens[15] as such as TV, security monitors or billboards act all as a system of deterrence, which greatly contribute to the formation of a globalized world. In this context, new towns and hypermarkets constitute different scales of the same kind of world: a crystalized self-sufficient one, an apparatus without references, where observed and observer coincide.

A self-sufficient deterrence system is a dense, non-mediated, homogenous space of direct manipulation, which gathers together men and things without distinction. The manipulation occurring, in this case is the self-manipulation by an entire system without external reference and so, without any interiority. This space of deterrence is a transparently visible, multivalent space of contract and consensus, unified by a constant fictional threat to safety.

During the lens phase, telescopes were also the symbol of the only possible relationship with the space beyond our atmosphere, a relationship based on the observation from below to above, that was based on gravity, weight and height, like those established by king, Panopticon and modern territorial right (nation, state and territory). Hence, the modern world was a world of control even from below to above.

---

[15] Which still do not include the same interactive skills that video games and computers, even more effectively, will feature.

However, with television and satellites, with billboards and security cameras, deterrence replaces surveillance by making control bidirectional and then circular instead of unidirectional as it was under the lens regime.

2. Implosion, Nuclear Power, and Television: The Cold War

The television here addressed does not refer only to the physical specific technological devices but to an entire set of concepts, social coordinates, and languages, etc.; it refers to the cold war era. This era does not encompasses only the time of TV, satellites, highways, new towns and hypermarkets (see above) but also the time of nuclear energy and nuclear threat; thus, a time of deterrence, as stated previously. The Cold War's technological environment is still active nowadays in its entirety even after the advent of the monitors, such as video games and especially computers and having undergone several changes. In fact, the globalization, which started after the World War II as consequence of TV and satellite diffusion, is itself still ongoing and under development.

During the lens phase, the sky was the symbol of macroscopic and including space, of totality, of *res extensa*, of external reality, 'the starry sky above me' (Immanuel Kant, *The Critique of Practical Reason*) in contrast with the inner realm of morality. However, with the Cold War, the sky loses this representational function along with reality, for the new age is an age of challenge for orbital conquest.

Whereas the Panopticon was an instrument of direct control, both an evident and hidden central presence, where space moved concentrically from it, satellites are decentralizing so that the space race is one toward the periphery, toward globalization. Power is no longer in a central and transcendent place as it was with the Panopticon, the tower, the castle or the palace, but it is now dispersed and in constant circulation.

Furthermore, while the lens phase unconsciously featured a world of central stasis and external movement, television is a technical expression of a world of orbital circulation and internal implosion.

Following the discourse of Baudrillard, it should be stated that television has impressed on our world two different directions, two primary tendencies, parallel to the bidirectional character of contemporary control (which coincides with deterrence): an implosive tendency toward the inside and a centrifugal tendency toward the outside. The centrifugal force substitutes gravity whereas explosion, revolution, and dialectic by implosion. While

gravity is the force that constitutes a concentric space with an attractive common centre, centrifugal force escapes the centre and moves toward the periphery, the one toward the multitudes; satellites circulating in a space deprived of any attraction toward a unique centre, transmitting information without any concern for its meaning.

The modern lens society was characterised by exploration and thus expansion, which corresponds to the explosive tendency toward the outside, the same tendency that defines revolutions, reactions to a state of alienation. Even the gaze had an explosive tendency, the one experienced by the observer through the vanishing point of the horizon and parallel to a subjective constitution of meaning.

With the advent of the contemporary screen society of television, the world becomes an implosive one, a self-referential simulacrum where accelerated circulation has replaced discovery of new territories. Whether every land on earth is known and visible through satellites, the only way left to experience the unknown is through new levels of speed, hence acceleration; highways built exclusively to satisfy this need. However, while with exploration to be satisfied was the subject now to be satisfied is the mass, a circulating mass without an actual destination.

In a system of deterrence, such as in our globalized world, the need for speed is paradoxically associated with the one of commodity. Huge parking lots tie the hypermarket and the highways into a symbiotic system (see above). The inside of cars provide a self-sufficient commodity system like a shopping centre. Every car is not just a transport means, but also a comfortable, multifunctional and closed place. It disposes of window frames that protect us at best, in case of a crash and that acoustically isolate us from the outside; it is provided with several security devices as such as security alarms. Moreover, it filters external air through internal air conditioner, thus regulating the temperature at one's will and adapting the air to the cabin (as in a spaceship). Its tyres isolate us from static electricity and thunder; its shock absorbers make our journeys smoother. The music and voices played on car radio reduce our driving stress. Finally, sitting on the soft car seats with leather covers relaxes us, as if we at home on our sofas. However, cars are also a means of acceleration and hence instruments of transgression and excitement: speedometers designed to exceed the speed limits of freeways, tempt us to accelerate without any inhibition. Meanwhile, speed cameras work like soft deterrents for such transgressions, as do the security cameras in hypermarkets.

To summarise, automobiles are the most representative example of the coexistence of security and excitement in an implosive world based on the insurance policy. Masses of drivers, whose cars are all insured against every kind of damage, that circulate through freeways are persuaded to transgress by their speedometers, meanwhile aware of being monitored.

On the contrary, so hazardous was modern time exploration (and without any insurance system) that only a dreamlike meaning could have supported it. It was not a simulation at all, but an actual leap into an unknown otherness that could have brought even death. Therefore, only proper subjects could have undertaken an expedition toward the sea; the act of stepping out from one's community, from one's territory, corresponded to the formation of an actual subject.

Insurance, like the satellite system, makes exploration ineffective and superfluous; the same occurs consequently to subjects, which are all reduced to a single mass of circulating people and products (as if they are all interchangeable); the earth effectively becomes a self-reliant globe unaware of any form of otherness. The planet itself is *spatialized* through the model of security, which corresponds to the insurance system. Earth assumes the same homogeneity, neutrality and autonomy as amusement parks, freeways and hypermarkets. Every action under the regime of insurance is just a transparent simulation whose results have already been calculated and prognosticated; future entirely loses its meaningfulness and probability replaces it. Every action under the regime of insurance is reversible, which means that it does not make any practical difference; subjective deeds that distinguish a person form all the others are then impossible. Subjectivity itself becomes impossible. As a result, insurance increases the implosive character of the globalized world, by contracting everything under its regime into sameness.

Television, like insurance, reduces any action, any relationship and any movement to apparently aleatory procedures determined, nevertheless, by specific codes, by specific formulae, by specific equations. These processes are purely arbitrary, and thus meaningless. They are void of the explosive violence of expanding systems, typical of the modern age, the dialectic relationship between two poles fighting each other, and in exploration too.

Both insurance and deterrence embody the abrogation of expansive movement, the former by precluding risk and the latter by precluding war.

The deterrence Baudrillard addresses is also that occurring through nuclear threat:

> 'The risk of a nuclear annihilation only serves as a pretext, through the sophistication of weapons (a sophistication that surpasses any possible objective to such an extent that it is itself a symptom of nullity), for installing a universal security system, a universal lockup and control system whose deterrent effect is not at all aimed at atomic clash […] but, rather, at the much greater probability of […] anything that would be [a real] event in the general system and upset its balance' (Ibid., 33).

TV corresponds to the implosive and thus introverted violence of the cold war and the entire Contemporary Age, as the lens (i.e. telescopes, darkroom and microscopes) corresponded to the explosive and thus extroverted violence of the modern world. Explosive violence was the dialectical and liberating violence of production and thus earlier capitalism. It was basic for the expansion, formation and renovation of the social sphere. Finally, it varied depending on the specific situations it was facing.

The implosive violence appearing with the cold war and the television diffusion:

> 'no longer results from the extension of a system, but from its saturation and its retraction, as is the case for physical stellar systems. A violence that follows an inordinate densification of the social, the state of an overregulated system, a network […] that is overencumbered, and of a hypertrophic control investing all the interstitial pathways' (Ibid., 71-72).

The densification of the social corresponds to the formation of inert masses, which, as already mentioned, replace subjects in an implosive universe. This critical mass is the same as that occurring in nuclear plants and works as a deterrent. It always threatens us through its existence but never really causes a catastrophe, which is then just a simulated one. On the contrary, nuclear implosive mass becomes the most effective way to produce energy substituting the modern explosive mode.

Shopping centres with all the masses circulating inside are themselves 'strange new objects of which the nuclear power station is […] the absolute model and from which radiates a kind of neutralization of the territory' (Ibid., 78). All the signs that constitute a land and that characterize it are abolished in favour of products, whose visible and transparent images transmitted on TV monitors or billboards screens do not have anything to show but themselves. In virtue of its anti-territorial character, a shopping centre is homogeneous and equal to any other, exactly like masses; it is perpetual self-replicating *nucleus*. Even the great metropolises have become nuclear power plants, 'sites of implosion […], sites of the absorption and reabsorption of the social itself whose golden

age, contemporaneous with the double concept of capital and revolution, is doubtless past. The social involutes slowly or brutally, in a field of inertia, which already envelops the political' (Ibid., 72-73). Such phenomenon is the phenomenon of *mass production* as:

> 'the production of *the masses*. The masses as the final product of all sociality, and, at the same time, as putting an end to sociality, because these masses that one wants us to believe *are* the social, are on the contrary the site of the implosion of the social. *The masses are the increasingly dense sphere in which the whole social comes to be imploded, and to be devoured in an uninterrupted process of simulation*' (Ibid., 68).

C. PHOTOGRAPHY

1. Photography as Lens Survival

It is quite impressive how Baudrillard addresses photography, as far as he does not express the same pessimism he has toward television. On the contrary, he considers it as the most valuable artistic means to approach otherness:

> 'What could be more closely bound up with travel, with the anamorphosis of travel, than photography? […] Hence photography's affinity with everything that is savage and primitive, and with that most essential of exoticisms, the exoticism of the Object, of the other' (Baudrillard, 1993, 172).

It is necessary to define the context in which Baudrillard analyses photography and, more importantly, the photographic image, corresponding to the chapter *Radical Exoticism* from 'The Transparency of Evil' where the French sociologist goes back in time to rediscover the importance of travel in virtue of its relationship with the object and objectivity.

In fact, if tourism is the way modern exploration has been erased by globalization, photography is an attempt not just to restore an old way of conceiving travel but an attempt to find once again the feeling of belonging:

> 'Travel was once a means of being elsewhere, or of being nowhere. Today it is the only way we have of feeling that we are somewhere. At home surrounded by information, by screens, I am no longer anywhere, but rather everywhere in the world at once, in the midst of a universal banality – a banality that is the same in every country. To arrive in a new city, or in a new language, is suddenly to find oneself here and nowhere else. The body rediscovers how to look. Delivered from images, it rediscovers the imagination' (Ibid., 171-172).

By following the view of Baudrillard, it appears that photography could be considered as a nostalgic return to the lens phase, a way it survives in a world under the regime of the screen. By exhuming a strong relationship with otherness, by associating it with

photography and travel, Baudrillard exhumes the entire lens phase, which thus becomes a reactive force, a symbol of résistance. The *experiment* of Baudrillard could be interpreted from a vitreous perspective as an attempt to reverse the process that brought from lens to screen by applying both an imaginative and realistic perspective.

From this point of view, photography is still an expression of the lens phase and for two main reasons:

- Firstly, the camera still works as a lens for its distance from the object and because it is merely an instrument in the hand of its owner. Therefore, photography still works under that *automata* relationship between the controller and the controlled exemplified by all the machines engineered before electronics and monitor invention. Except for the digital camera, it does not have any interactive relationship yet.

- Ultimately, by addressing travel and photography, Baudrillard refers directly to the eighteenth century as the 'finest period of the Other: Jean de Lhery, Montesquieu, Segalen. It is the moment when otherness erupts that is sublime. […] Try not to apprehend the other as difference. […] No pretension to truth. […] At the same time, do not seek to abolish oneself in face of the other' (Ibid., 169). As already stated, the time of exploration, the modern age, is the time of lens too: time of interest toward the object, a relationship based on the difference between oneself and the other, when a telescope was an indispensable tool for new land discoveries, both in sky and on earth, when European people encountered unknown populations. It is a time whose coordinates were the first optical instrument and observation, colonization and science.

However, what changes from the modern and original form of lens phase is how the relationship with the object is being drawn: with photography the subject is absent from the scenario, which is not constituted anymore by observation, while in modern age it was always declined as self-aware, definite subject framing his object into a representation:

> 'One can tell that a thing wants to be photographed, that it wants to become an image, and it is certainly not because it wants to endure: on the contrary, it wants to disappear. The human subject is a good photographic medium, moreover, only if he enters into the spirit of this game, if he suspends his own gaze and his own aesthetic judgement, if he takes pleasure in his own absence' (Ibid., 175).

The photographic image withdraws the subject from the world.

The French sociologist is eradicating *gaze* from what survives of the lens phase, and this means that he is quite far from any panopticon revival. Through photography, he portrays, in fact, a new kind of suspension of all judgments based on the fly's sight 'with its faceted eye and the broken line of its flight' (Ibid., 177). Therefore, the camera becomes a lens that, instead of representing the objects, fractures and disconnects them by focusing on details. Differently from any artistic image (i.e. painting and cinematic image), the photograph does not refer to any unifying totality, concept or narrative. As stated by Ronald Barthes (1915-1980) the photo-images are '*messages without a code*' (Barthes, 1977, 42), a formula, or an arrangement. The world is no more synthesizable into a prevailing view, a *weltanschauung*, a gaze, but it can be just refracted, proving once again the transitional nature of photography, the only way lens phase could survive a dominant screen regime.

If a concept weaves together different elements under the regime of subjective speculation, on the contrary, the inner scope of a photo is to isolate them, to freeze somehow them and to utterly forget the subject who took those pictures. 'The very detail of the object, of line and light, should signify this suspension of the subject, and hence also of the world, which is what creates the photograph's tension' (Baudrillard, 1993, 175).

Baudrillard's interest in *Radical Exoticism* is hence explained: an otherness not reducible to any given form, inscrutable; an absolute other that always remains otherness, without any possibility of absorption or fusion:
'The survival of exoticism depends entirely on the impossibility of encounter, fusion and the exchange of differences. Fortunately, all this is an illusion – the illusion of subjectivity itself.' (Ibid., 166).

In *Radical Exoticism* Baudrillard argues against the levelling effect of tourism on culture and time, which means that he rejects any illusion of pure hybridization, of a blending that passes through everything, the spinning circulation of media and information, the remote control switching channels. Despite his criticism of television and cinema, Baudrillard thinks that these two forms of screen could be somehow *redeemed*: 'Even the cinema cultivates the myth of slow motion and the freeze-frame as moments of highest drama. And the paradoxical contribution of television may turn out to be the restoration of all its charm to the silence of the image' (Ibid.). The implicit suggestion of the French

sociologist is to bind the screen sphere to a renewed lens phase by freezing its images as photography does.

2. Pure Image in Baudrillard and Deleuze

Photographic image eradicates spatiality and any reference to the world, so that any situation whatsoever does not explain otherness. In other words, the context cannot circumstantiate otherness. An image capable of extracting otherness out of any space and capable of suspending any knowledge, any form of subjective intrusion, is a pure image, which coincides for the French sociologist with the photographic image. Deleuze has a different point of view. Deleuze was another intellectual who during the second half of the twentieth century conceived the idea of pure image. This paragraph will address the parallel and opposite articulations of the pure image from the cinematic perspective of Deleuze and the photographic conception of Baudrillard.

It is argued by Baudrillard that 'the photograph is the purest of images, for it simulates neither time nor motion and is thus unrealistic in the strictest sense. All other kinds of images (e.g. cinema), far from being advances, are perhaps merely less thoroughgoing forms of that divorce of the pure image from reality' (Ibid., 175). Once again, the pure image is designed as a withdrawal from any context, from the world, where any reality should be suspended to seek detail. The pure image is separated from temporality, since it tries to freeze otherness, to highlight a specific detail without explaining or conceptualizing it. Another method of obtaining a pure image 'consists of stripping the object of all its features one by one: weight, outline, feeling, depth, time, continuity – and, of course, meaning' (Ibid.). Image ceases being a representation, which means that it does not conform anymore to a not problematized external world. Image ceases being *eidos*, idea, which means it does not refer anymore to a generalization of an ensemble of things. To sum it up, to render an image pure is to strip away any referential character from it.

Deleuze addresses the pure image by explicitly defining it as a 'pure optical-sound image' (Deleuze, 2014, 4) in contrast with what he calls the sensory-motor image, which corresponds to the *classical* age of cinema, whose last great example was Alfred Hitchcock. It was Neorealism the first cultural movement to break with this kind of image and to create pure images: 'What defines neorealism is [a] build-up of purely optical situations […], which are fundamentally distinct from the sensory-motor situations of the

action-image in the old realism' (Ibid., 3). The character is rather 'prey to a vision' (Ibid.) than reacting to a particular situation.

With neorealism the entire concept of 'situation' mutates: 'In the old [American] realism or on the model of action-image, objects and setting already had a reality of their own, but it was a functional reality, strictly determined by the demands of the situation' (Ibid., 4). With neorealism 'objects and settings […] take on an autonomous, material reality which gives them importance in themselves' (Ibid.). According to Baudrillard's point of view on the pure photographic image, through pure optical and sound image, the objects are isolated, frozen and fragmented. Since pure images can be images of things and people withdrawn from their contexts, Deleuze considers them images that unceasingly consume themselves, self-denying images.

In line once again with the photographic pure image, this cinematic style no longer represents or reproduces reality but *aims* at it. ''Instead of representing an already deciphered real, neo-realism aimed at an always ambiguous, to be deciphered, real. […] Neo-realism produced a formal or material 'additional reality''' (Ibid., 1). As with photography, the scope of a pure image even if cinematic remains breaching everyday banality, which is subject to automatic and conditioned stimulus-response reflexes.

One of the key differences between the two main reflections on pure and other images concerns the definition of our society as a dominated by images. Baudrillard agrees with such a definition, by arguing that only pure images (mostly photographic) could exorcise our world from all images that circulate through screens, all this amount of information without aim, destination, and meaning. Deleuze otherwise argues that our civilization is just dominated by clichés, partial and metaphorical images, of what we perceive according to our own needs. On the contrary, for 'image' he means an 'optical-sound image, the whole image without metaphor, [which] brings out the thing in itself' (Ibid., 21). A pure image appears whether our stimulus-response mechanism break or jam.

Similarly, Baudrillard warns his readers on reducing otherness to a metaphor, projecting on it personal psychological needs, moral values and ideological biases. He also warns us regarding intimacy, because it eradicates the constitutive foreignness of the absolute other. Therefore, we should avoid any affective relationship, any intimacy, in favour of

seduction, where the attraction toward otherness is perennial, never satisfied and where we never grasp our object. It follows that pure images for both Baudrillard and Deleuze are alien to any affectivity, of any intimacy; there are no compensatory elements characterizing these images. Baudrillard expresses this aversion through his critique of tourism and Deleuze through his critique of clichés. In fact, clichés and tourism are strictly bound together, and both actively refer to our globalized world. They seek affection; they seek attachment toward things, or even people engendered by prejudiced images. This is how advertisement and consumerism work, namely by promising a satisfaction that is not real but induced; a need of affection firstly sought through cliché and secondly placated by consuming. As the clichés circulate through television and internet's advertisement (and not just through that) so people circulate through tourism but following the suggestion of the circulation of sensory-motor images. Tourism and clichés do not relate directly to objects but simply to what one wants and needs to take from them. Commercial tourism does not try to show a place in all its cultural, ethnological and natural significance, but it only sells what could be attractive about a place through picturesque and often kitsch images. If kitsch is the tyranny of heart, tourism follows an emotional necessity where monuments became simply idols.

Pure image is a form of depuration from the compulsive effect of clichés, an effect that will be enhanced even further by the of computer monitors. However, we will analyse this phenomenon in part IV, by addressing the computer, the interactive relationship with the monitor and its *superflat* character.

By quoting a sentence from the Italian director Fellini, Deleuze defines cinema as 'a science of visual impressions, forcing us to forget our own logic and retinal habits' (Deleuze, 2014, 19). This approach expresses an impressionist view whereby images are just pure impressions of things, without any model, any *weltanschauung* to influence them. To both Deleuze and Baudrillard, pure images like impressions are rarefied, suppressed of added and intrusive elements coming from a too partial and prejudiced use of the eyes. Moreover, the creation of pure images for both authors necessitates the fragmentation of the image:

- To Deleuze 'it is necessary to make a division or make emptiness in order to find the whole' (Ibid., 21) of an image.
- To Baudrillard, as already quoted, pure images are created by the breaking and fragmenting sight of the camera; compared to the fly's sight.

To Deleuze, only a clairvoyant kind of cinema (as opposed to a sensory-motor one) could create pure images because only it could express all the potentialities of cinema and because cinema corresponds to an inorganic eye, an eye without any need to satisfy. Such a pure cinematic eye does not have any partial view of things and reflects the inorganic eye of the camera.

Echoing the Deleuzian conception of cinema as the cinema of viewer, Baudrillard makes two different considerations on photography:

- He considers 'savages in their natural surroundings' (Baudrillard, 1993, 172) the best objectives of photography: 'Objects, like primitives, are way ahead of us in the photogenic stakes: they are free a priori of psychology and introspection, and hence retain all their seductive power before the camera' (Ibid., 173). Seduction opposes any sensory-motor schemata.

- He affirms that 'Photography records the state of the world in our absence. The lens explores this absence' (Ibid.). As a result, the subject forgets their own existence through photography.

It follows from these considerations that 'the best photographs are photographs of beings for which the other does not exist [….]. Only the non-human is photogenic' (Ibid.).

To obtain pure images is to renounce our humanity; it is to overtake our natural sight and both photography and cinema force us to do so. The camera is probably the actual common point of Baudrillard and Deleuze, and pure images are just a consequence of such statement. Pure images are in fact, nothing else than the product of a not- human sight embodied by the camera, which is the tool employed by photography, cinema, and even television. It is noticeable once again how any form of vitreous optic reflects the dehumanization of sight through vitreous intermediaries. This is the true disposition of intelligence: to see behind in order to manipulate and to manipulate in order to see behind. Therefore, vitreous tools are the only tools to embody both these two tasks. It is also arguable that sight and touch, corresponding respectively to observation and manipulation, are two alternating moments of a circuit whose purpose is self-enhancement.

Nevertheless, this very idea of a mutation of our sight under the pressure of using vitreous tools' presents two noticeable variants between modern and contemporary philosophies.

Modern thought, by arguing that optical instruments would have given us a more adequate representation of objects, used to consider telescope, microscope and any other application of lens as means for the enhancement of our sight. On the contrary, Deleuze and Baudrillard focus more on the dehumanizing characteristics of cinema first, and photography, second.

It is necessary to highlight that lens was a basic requirement for the foundation of humanism, namely for the definition of a universal characterisation of the human, unaware of how optical tools modify our normal double sight. The Modern age was the time of colonization and panopticons, the time of expansion and gaze, when every European monarchy challenged the others by affirming its own image of humanity. The lens phase was both cause and consequence of such a policy. However, in contemporary times, through photography, the lens works in direct and explicit association with the non-human. It also loses its original link to modernity by finding itself caught into a world actually and virtually dominated by screens. As shown through Baudrillard's statements on photography, lens is no more the symptom of a monarchic world, but the symptom of a refugee state in a globalized world, a gentle de-territorialization coinciding with travel.

By addressing pure images Deleuze and Baudrillard move synchronically toward the same point despite their departures from two very different devices and phases. The cinema of viewer works as a transference of the screen phase toward the static images of photography, toward a focalization on details, on specific objects, meanwhile photography causes the shift of lens phase toward a new conceptual space, where the gaze is abolished in favour of focus. As result, the cinema of viewer, like neorealism, coincides with that redemption of cinema auspicated / foretold by Baudrillard. Pure optical images are freeze-framed and reduce movement at its minimum after 'the slackening of the sensory-motor connections' (Deleuze, 2014, 3). Therefore, they end up sharing the same dramatic characteristic of photographic images.

In conclusion, pure images reduce the distance between the camera of photography and the camera of cinema and television. They are themselves the best expression of the inorganic eye of camera, halfway between lens phase and screen phase.

D. COMMON CHARACTERISTICS OF THE SCREEN PHASE

1. The Screen Society of Spectacle

The passage from the lens phase of modernity to the screen phase of early contemporaneity is equal to the passage from a society of surveillance to a society of spectacle. The screen both as cinema projection screen, and as a TV screen is the medium for show: an assembly of people, both in terms of a bigger group (the audience of a cinema) and of a smaller group (family or a generic domestic environment). As stated by the British sociologist Raymond Williams (1921-1988), television had 'unforeseen consequences, not only on other entertainment and news media, which it reduced in viability and importance, but on some of the central processes of family, cultural and social life' (Williams 1974, 4). In addition, he argues that television "was selected for investment and promotion as a new and profitable phase of a domestic consumer economy; it is then one of the characteristics 'machines for home'" (Ibid., 4).

Instead of the system of surveillance of the Panopticon and more generally of the entire modern lens phase, the system of the screen is a system of *Show*, of reciprocal identification between watcher and watched, audience and actors. We have a system of differentiated social performances that create a multitude of possible identifications from the public. We can select the channel and choose the show we prefer, or rather identify with. However, despite losing the tension and coercion of surveillance, the spectacle keeps 'the discipline power' (Bauman, 2015, 86) of its predecessor. 'Obedience to standards (a pliable and exquisitely adjustable obedience to eminently flexible standards […]) tends to be achieved through enticement and seduction […] and it appears in the disguise of the exercise of free will, rather than revealing itself as an external force' (Ibid., 86). As noted by Martin Jay, the 'Big Brother's omnipresent watchfulness' (Jay, 1994, 416) of the Panopticon and of Nineteenth century Paris which Foucault has analysed, is replaced during the twentieth century, and specifically during the Sixties, by the seductiveness of 'the Spectacle of modern life' (Ibid., 416). If Foucault's critique of the scopic regime of surveillance 'focused on the disciplining and normalizing effect of being the object of the gaze, that of Guy Debord […] stressed the dangers of being its subject' (Ibid.) with the spectacle.

In his renowned *The Society of the Spectacle* (published in 1967), the French philosopher Guy Debord (1931-1994) hyperbolically contended that 'society as *a whole* had been turned into a gigantic spectacle' (Ibid., 429). 'From TV to newspaper, from advertising

to all sorts of mercantile epiphanies, our society is characterized by a cancerous growth of vision, measuring everything by its ability to show or to be shown and transmuting communication into a visual journey' (De Certeau, 1984, xxi). The contemplativeness of the spectacle completely replaces the fully participative characteristic of the festival, making impossible any real commonly shared direct experience. 'The festival was pure presence, an end in itself, a communion of souls without anything to mediate between them' (Ibid., 92-93). On the contrary, the isolated spectacle of cinema and even more so of television both serves and exploits 'the needs of a new kind of large-scale and complex but atomised society' (Williams, 1974, 4).

Debord specifically defines the spectacle as 'a social relationship between people that is mediated by images' (Debord, 2006, 12) and not as a mere 'collection of images' (Ibid.). The contemplativeness of the spectacle utterly overcomes the participative characteristic of the festival, making any real commonly shared direct experience impossible.

Similarly, to Baudrillard, Debord argued that everything once 'directly lived has become mere representation' (Ibid.). With cinema and TV programs 'representation takes on an independent existence' (Ibid., 17), which means that the world itself is reduced to its objective image, that nothing is represented anymore but everything becomes an image that has an absolute, but not relative value. Moreover, the 'spectacle erases the dividing line between self and world, in that the self, under siege by the presence/absence of the world, is eventually overwhelmed; it likewise erases the dividing line between true and false, repressing all directly lived truth beneath the real presence of the falsehood maintained by the organization of appearances' (Ibid., 153). Therefore, spectacle transforms reality into a commodity, into a mere product of consumerism, where cinema and TV increasingly, are the medium responsible for the mutation of society and perception. The lens phase corresponded to the gaze and to observation, a sight that distinguishes between a subject and an object in relationship to a specific set of glassy tools that were not coordinated in a synchronized apparatus. On the contrary, the screen phase, following the development of a necessary satellite network, works as a connected apparatus where everything is objectified into an image. This is the mechanism of advertisement and thus commodification; it is what makes visibility correspond to a seductive form of discipline:

'The spectacle corresponds to the historical moment at which the commodity completes its colonization of social life. It is not just that the relationship to commodities is now plain to see - commodities are now all that there is to see; the world we see is the world of the commodity' (Ibid., 29).

To Debord, and later Baudrillard, the reality of objects is replaced by their advertisement, by their image on a screen. For instance, the broadcast of advertisements on TV programs is an integral part of Baudrillard's theory. This all started with the contrast between the two tendencies of state: monopoly and privatization, or rather a "competition between 'public service' and 'commercial' institutions" (Williams, 1974, 30-31). On the basic early days of television institutions: "In Britain especially, this has seemed a natural perspective, since the unique 'public service' definition of the BBC was in the mid-1950's successfully challenged by, and made competitive with […] the Independent Television Authority" (Ibid., 31), an institution, from its outset, "of a commercial type, with a built-in relationship between 'public service' and the selling of advertising time. […] The same kind of contrast […] can be made in the United States, where the first development was commercial and a public-service element was later added, in the margin" (Ibid.).

In his *Barbarism* (1987), the French phenomenologist Michel Henry's statements on television echoes Debord's analysis of the spectacle. In fact, the former specifically defines this glassy medium 'as a mode of life, as a practice […] in which life throws itself outside of itself in order to get way from itself and to flee itself. […] Television is a flight through a projection in exteriority. This is what is expressed when one says that it drowns the spectator in a flood of images' (Henry, 2012, 109). According to Henry, not differently from any other production of images, mostly artistic, television is a practice that proceeds from a specific emotion in order to develop the 'self-growth of subjectivity' (Ibid.) and then of life (from his peculiar phenomenological perspective). This specific emotion is boredom, which is defined by the French philosopher as 'the effective disposition in which unemployed energy is revealed to oneself' (Ibid.) and not yet redirected to a specific action. Boredom is 'the nonfulfillment of growth […]. In this flight from oneself, something external comes in front of the regard at each moment and captivates it – the televised image' (Ibid., 110).

Differently from any other artistic images, theatre included, the televised image is displayed far from us, 'at a distance from oneself' (Ibid.), whereby boredom remains together with it, 'as both its condition and its reality' (Ibid.).

Firstly, theatre, the closest art to spectacle with its 'division between spectators and actors' (Jay, 1994, 92), is nonetheless still a coherent employment of pathos, an active means for the self-growth of life, mostly whence theatre was reconceptualised around pathos in the eighteenth century (see above). On the contrary, Henry argues, televised images and then more generally spectacles are empty images, or rather a 'perpetual skipping from image to image in an inconsequential series' (Henry, 2012, 112), a nil expressed in the 'self-disappearance' (Ibid., 113) of each image at each instant. Any of the 'inner powers of life, not even that of looking' (Ibid.), are deployed. 'There is thus a way of looking without looking and without seeing' (Ibid.).

Secondly, theatre, as any other art, is not a constant and pressing presence. Its 'productions' having a beginning and an end; they are limited as experiences but made coherent by the specific meaning each one has been 'designed' to express. On the contrary, according to Michel Henry, the television machine 'functions all the time and in all places, and it must multiply channels and the number of sets in each house' (Ibid., 111), in a parade of images that never ends.

Thirdly, since its Greek origins, theatre elaborates the events of common life into edifying examples; it does not just simulate them. On the contrary, Henry argues, the spectacle of television gets rid of elaboration or preparation through the 'live broadcast' (Ibid.), which is 'the fact that everything must be taken directly […]. The truth, in the end is reduced to the brutality of the fact, to the instantaneous and thus to disappearance and death' (Ibid.).

It is possible to conclude that spectacle is a passive scopic regime, despite the transformation of the reified persons of the Panopticon system into spectators and thus apparent subjects of gaze. In fact,

the contemplativeness of the spectacle contrasts with the participative characteristic of the festival, making impossible any real commonly shared direct experience.

In this regard, Michel Henry deemed the televised image the highest form of a state of self-alienation, and not its cause, as Debord did with the all the images of the spectacle: 'it is not a matter of living one's own life but that of another.' (Ibid., 113). Television, as argued by Raymond Williams 'in its character and uses exploited and emphasised elements of passivity, a cultural and psychological inadequacy, which had always been

latent in people, but which television now organised and came to represent' (Williams, 1974, 4).

2. 'The Brain is the Screen'

In the mid-eighties, Deleuze linked cinema screen and brain by formulating a prominent phrase of his which was first uttered in a 1986 interview on his works Cinema 1 (1983) and, especially, Cinema 2 (1985): 'The Brain is the Screen' (Martin, 2000, 366). Cinema 2 was published in mid-eighties, when computerization was already advancing, despite not being yet as hegemonic as nowadays, and cinema was starting his way toward the use of CGI (computer-generated image). For instance, in 1984, director Ridley Scott released the TV advertisement 'for the first iteration of the Apple Mac Computer, the moment in which the personal computer began to settle into the workplace and into the home' (Clarke, 2014, 45). This commercial used 'images that evoked Fritz Lang's *Metropolis* (1927) and George Orwell's novel *1984* (1948). […] a sportswoman, a physically dynamic and accomplished figure, disrupts the oppressive status quo' (Ibid.). The eighties are also the decades of the cyberpunk literary genre, which perfectly embodies the impact the new information technology was already having on the imaginary, albeit at its yet early development. The cyberpunk literature includes William Gibson's *Neuromancer* (1984), while the cyberpunk filmography includes Ridley Scott's *Blade Runner* (1982). This genre features a futuristic setting where virtual realities, robotics, electronics and computer science have become integral part of our lives, in a world dominated by corporatist capitalism.

The Deleuzian definition of the brain as screen places it squarely into this last moment of hegemony of the screen (Cinema and TV), when the monitor phase was already advancing through video games and first PCs.

By addressing the cinema of the French director Resnais (1922-2014), one of the inspirations for *la Nouvelle Vague* (the French New Wave), Deleuze starts pondering over the equivalence of brain and screen, or rather his correlation between the relatively recent achievements of brain biology and the relatively new artistic forms of cinema. The French philosopher specifically defines Resnais' cinema as 'a cinema of the brain' (Deleuze, 2014, 210), an intellectual and experimental kind of cinema to which Stanley Kubrick (1928-1999) belongs too:

'If we look at Kubrick's work, we see the degree to which it is the brain which is *mis en scène*. Attitudes of body achieve a maximum level of violence, but they depend on the brain. For, in Kubrick, the world itself is a brain […] as in the great luminous table in *Doctor Strangelove*, the giant computer in *2001 A space Odyssey*, the Overlook hotel in *The Shining*' (Ibid., 212).

To Deleuze, the cinema of the brain must reveal 'the creativity of the world, its colours aroused by a new space-time' (Ibid., 211). This 'identity of world and brain […] does not form a whole, but rather a limit, a membrane which puts an outside and an inside in contact' (Ibid., 212).

In this context, the 'screen itself is the cerebral membrane where immediate and direct confrontations take place between the past and the future, the inside and the outside, at a distance impossible to determine, independent of any fixed point […] The image no longer has space and movement as its primary characteristics but topology and time' (Ibid., 130).

Deleuze defines two different regimes of images:

- An organic regime, which is kinetic and concerns organic descriptions, independent from its object and corresponding to a cinema of the agent, in which environment is autonomous and pre-existing any description.

  This regime corresponds to a veridical kind of narration which 'consists of the development of sensory-motor schemata, as a result of which the characters react to situations or act in such a way as to disclose the situation' (Ibid., 132-133).

- A crystalline regime, which is chronical, founds a 'cinema of seer' and concerns descriptions that substitute, create and erase their own multiplied and discomposed object.

The first regime is reactive, based on automatic movements and responses to an external world. A typical example of such a conception is the realist view of American cinema, a cinema of action-image that follows the pattern of *situation-action-situation*. Realism has two essential elements: a milieu and various modes of behaviour. Therefore, there is a reactive and active movement, whereby a specific situation (setting) challenges a character who answers through an action that alters a given situation into a new one, which once again forces the character to act. This circular relationship matches with an organic and spiral representation; whose discrete elements are each submitted to a specific function. Functionalism and organicism are two facets of the same coin insofar as every organ has a specific role within the same whole, the body. According to Deleuze, both

American movies and American society perfectly represent this conception of body. The organism can strengthen itself whenever it crashes against a pre-existent reality: 'The American cinema had the means to save its dream by passing through nightmares' (Deleuze, 2015, 164).

To Deleuze, the American dream is an ethical form of realism based on:
- The 'idea of a humanist community or of a nation-milieu, melting pot and fusion of all minorities' (Ibid., 162).
- The idea of a leader who is 'a man of this nation who knows how to respond to the challenges of the milieu as to the difficulties of a situation' [Ibid., 162-163].

Action-image thus is inherently ethical, in virtue of its utter realism.
However, he also argues that after the Sixties this dream has started its gradual decline, even though American Cinema is still economically profitable.

Since the screen is the cerebral membrane, it does not follow a rigid dialectic movement, a duel between an environment and an active/reactive ego, but it breaches this distinction: the cerebral membrane is 'where mind and matter interpenetrate'. (Martin, 2000, 77) Therefore, the cerebral membrane is neither mind nor organism, neither subject nor object but, as a screen, it breaches any dualism, in contrast to the predisposition of mirrors and lenses for dualistic separations.

During the modern time, the time of lenses, the flat canvas rendered three-dimensional space onto two dimensional, making space more important than the object (see above). However, the canvas of the screen is, as noted by Deleuze, is 'an intermediate reality between nature and the idea, a compound of being and thought that has detached itself from the one its author designates, though not without having forced him to take his wayward mind for a walk in the texture of things' (Martin, 2000, 76). Since it is the screen, 'the brain becomes world and the world invades the brain at the juncture of the canvas, which is as such a material as a spiritual membrane, a psychophysical entity made of extension and thought, matter and memory, flesh and spirit' (Ibid.).

The identity of brain and world and of screen and brain occurring since the cinema of the fifties is, as mentioned above, strictly related to Renais' experimental renewal of Eisenstein's intellectual idea of cinema (the cinema of brain) and to 'change in our

conception of the brain and our relationship with the brain' (Deleuze, 2014, 216). Firstly, both directors Eisenstein (1898-1948), early, and Resnais, more recently, conceived 'the cerebral process as the object and motor of cinema' (Ibid.). In other words, cinema is the most suitable medium for the brain, not just for understanding it profoundly, but also for fully expressing its inner potentials. The cinema corresponds to the brain itself; only its mechanism can replicate the cerebral process.

Secondly, Deleuze defines the new conception of the brain in contrast with its 'classical' conception: 'The classical conception developed along two axes; on the one hand, integration and differentiation, on the other association, through contiguity or similarity' (Ibid.). The first axis refers to movement of a whole, or rather a concept, whereby changes occur by assimilating new discrete objects. The second axis refers to the passage 'from one image to another. The two axes cut across each other, according to a principle of attraction, in order to achieve the identity of image and concept' (Ibid., 217). This conception corresponds to a dialectical process of representation as such as Hegel's philosophy applied by Eisenstein to his intellectual cinema. However, after World War II, 'scientific knowledge of the brain has evolved, and carried out a general rearrangement' (Ibid.) - and concerning it, Deleuze wonders whether the influence of science has changed 'our relationship with the brain' (Ibid., 218) or vice versa.

The 'new brain' stops being a centre of control and becomes 'an acentred system' (Ibid.), a problem because of two main discoveries. On the one hand, the 'discovery of a topological cerebral space' (Ibid.) subverts the vertical conceptual axis. This juxtaposition of several levels, or degrees of thought processes, replaces the traditional strict distinction between conscious and unconscious, external medium and internal medium, with a wide variety of shades that makes hard the detection of a clear external word and a manifest inner world. As a result, a concept is not defined anymore as an organic whole, with its mutable nonetheless specific borders, but rather as a force, an act. On the other hand, the horizontal axis of images is subverted by the "discovery of a probabilistic […] cerebral space, 'an uncertain system'" (Ibid.), a continuous network filled with micro-fissures, which are 'mechanisms introducing themselves at each moment between the sending and receiving of an association message' (Ibid.).

In conclusion, this conception of the brain as a cerebral membrane, as a screen, and not anymore as a subject, is the prelude for the next step: the monitor, with its additional interactivity.

IV   MONITOR PHASE (FROM THE FALL OF THE BERLIN WALL TO NOWADAYS)

A.   VIDEO GAMES

1.   Game Consoles and Game Arcades: Private and Public Forms of Play

Video games constitute the first significant form of haptic relation between a person and a display to have an enormous impact on 'masses'. Before being also extensively available on computers, electronic games were mostly played on two different kinds of platforms: consoles and arcades. Whereas consoles are physically connected through cables to analogical televisions, working primarily as a cartridge (afterward replaced by the cheaper cd format) player and usually correspond to private/home settings, arcades are coin-operated entertainment machines dedicated each one just to one game and installed in public business spaces possibly built just for playing purpose. While the first kind is still exponentially increasing its diffusion worldwide after eight generations, each one corresponding to a further enhancement of this technology, arcades were mostly diffused between the late Seventies and the early Nineties, subsequently declining until almost disappearing in the current millennium and ceasing to be a significant social phenomenon.

Even if computers had already been invented, and first video games, such as *Pong* were already being played on these devices, their impact was not yet relevant for society and perception. On the contrary, video games arcades and consoles had a significant effect on these latter spheres soon after their outset.

The first game console was the *Magnavox Odyssey*, released in 1972. Its success was moderate by selling merely 100,000 units approximately and cancelled after the great success of the Atari's arcade game *Pong*, released the same year. It was the latter which made the game industry publicly and globally noticeable. Therefore, it was the amusement arcade (a premises where several arcades where publicly displaced and played by inserting a coin) to have the upper hand at this stage.

The amusement arcades were still places of direct social interaction for the young generations and had become symbolic icons for the Eighties and the Nineties. In amusement arcades, social relations were still direct, and even two players could play games at a time either in collaboration or challenging each other. The virtual challenge

was limited to the same monitor, while the players played physically side by side, with each coin-op (the specific booth dedicated to a particular game) next to one another.

It is possible to argue that the Eighties were a time whose most recognizable feature was the connivance of very physical objects, mostly plastic in their features and fabric, and virtual, hyperreal imaginary. Various iconic characteristics of this decade confirm such specific liminal constituent of its. Amongst them, the most recognizable are: the movies (with special effects between the virtual and the plastic-made, like *The Thing* and *The Fly*), the peer coexistence of electronic games and toys, (mostly made of plastic, like *Barbie* and the *Masters of the Universe*) - which would end in the late Nighties in favour of the former - and the transition between the old capitalism of production and the new capitalism of services and consumerism. Despite the great advances made by electronics, the Eighties were, to a certain extent still attached to the physical, the solid, even though an artificial one embodied by plastic, ironically in a time of peripheral war for petrol and of global petrol crisis.

2. The First Gulf War: War broadcast as a Video Game

Like the Cold War, the Gulf War (1990) was a simulated war, completed for the prevention of a real and catastrophic one. Simulation works once again as the necessary tool to avoid the impactful and destabilizing interference of an unpredictable external reality: 'We prefer the exile of the virtual, of which television is the universal mirror, to the catastrophe of the real' (Baudrillard, 1995, 28). This statement from Jean Baudrillard reflects its continuous parallelism between the implosive regime of the contemporary world and the warfare and media system based on television, which had its climax between the Eighties and the Nineties. However, a peculiar aspect of this conflict is also its reference to videogames. In fact, the Gulf War was not just represented as a reality show but also as an electronic entertainment:

> "[By] claiming that the Gulf War never happened, Baudrillard challenges scholars of video games to explore the ways in which 'virtual wars' feed our willingness to 'unleash the real world', while also examining the ways in which virtual warfare contributes to a 'hyperrealist logic' in which warfare reflects a desire 'to disarm and neutralize but not kill' […]. The blur between real and fantastically imagined, given the hyper-presence of war on television (and within video games), constructs a war without bloodshed, carnage, or destruction or the personal stories and experiences that make it tragic" (Huntemann, 2010, 96) .

As already noticed by Baudrillard in his *The Gulf war did not take place* - a collection of three short essays on the Gulf War- the Gulf War represents even a step forward in the social impact of warfare than the entire Cold War. The implosive character of the Cold War is, in fact, implemented by the Gulf War.

This protracted silent conflict occurred after the explosive WWII between the first world and the second world still represents a match between two different ideologies, despite it being the synchronized disposition of a system of deterrence from both sides. On the contrary, the short surgical conflict started by Bush Senior does not have any ideology at stake, but the meaning of warfare itself, and of how society is now developed as a unique apparatus without an alternative.

Whereas the alibi of the Cold War was preventing nuclear annihilation, the justification of the first conflict against Saddam Hussein was preserving the peace achieved by the American superpower in the nineties.

Moreover, the level of virtualization of war achieved by media has increased so much in this decade as to enable the first live satellite broadcast from a city under attack. In this regard, Baudrillard portrays the Gulf War as a mere televisual simulacrum without reference to any real conflict: 'the war is also pure and speculative, to the extent that we do not see the real event that it could be or that it would signify' (Baudrillard, 1995, 29). What has been shown on TV, under strict American allowance, is just non-human entities: airplanes, battleships, tanks, missiles, and technical objectives framed by pointing devices, like in a video game. Once they had concluded the four days land campaign, the U.S. made it clear that no casualties had affected their army. The propaganda developed by Bush, silently supported by his European allies has allowed the broadcast of just one image of human enemies: Sadam Hussein.

Gulf War is a war purged of any explosive and carnal characteristics, it is the first conflict without warrior's passion. The Gulf War assumes then the characteristic of a pure and clean operation, without any personal value, or any ideological statement beyond it. Finally, war itself (like society) is virtualized and made subject to a surgical operation. While all modern wars, at least since the impersonal killing machines that were the innovations of WWI –e.g. the machine gun, long-range artillery, aerial bombing - are 'impersonal' and 'objective', and WWII brought this tendency to its apex,

paradigmatically in the inhuman rationality of the Holocaust, all with their accompanying registers of propaganda, the Gulf War introduced a subtle new lexicon of 'collateral damage', 'surgical strikes', and 'friendly fire'. Therefore, 'nothing personal' (impersonality) works as the untold slogan for this conflict in the Middle East, which means that war now is made for pragmatic and not symbolic (ideological) reasons. The Gulf War is indeed presented as 'surgical' in its goal of removing a cancerous element that if not stopped promptly will interfere with the peace finally achieved.

> 'The Gulf War is the first consensual war, the first war conducted legally and globally with a view to putting an end to war and liquidating any confrontation likely to threaten the hence-forward unified system of control. This was already the aim of dualistic (East and West) deterrence; today we pass to the monopolistic stage under the aegis of American power' (Ibid., 83-84).

As a result, 'after the hot war (the violence of conflict), after the cold war (the balance of terror), here comes the dead war- the unfrozen cold war' (Ibid., 23). War is reimagined, rethought as an entertainment, as painless and necessary and then broadcasted on monitors. Therefore, war is not merely represented but reduced to its image on TV, so to become purely virtual, neither imaginary nor real. Consequently, such process of virtualization makes it utterly misleading, because it not merely represents war but pretends to be its pure, unfiltered copy.

To sum up the situation of the world since the Gulf War, deterrence becomes the primary aim of the military regime once a universal consensus is constituted and then instituted on a global scale. Such hegemonic power corresponds to the overlapping of imaginary and reality, which Baudrillard has named *hyperreality*.

> 'Our wars thus have less to do with the confrontation of warriors than with the domestication of the refractory forces on the planet, those uncontrollable elements as the police would say, to which belong […] wild ethnic groups, minority languages etc. All that is singular and irreducible must be reduced and absorbed' (Ibid., 86).

In this scenario, video games may be considered one possible countermeasure for the explosion of catastrophic or destabilizing conflicts once they are applied not just as prototypical simulations for military training, but as ideological instruments for instilling the idea of necessary preventive wars in civilians.

Since the Gulf War of 1990, war is symbolically charged, so to be both virtual and virtuous; a mythological aura invests it: 'Virtuous war is much more than a new form of

organized violence. Call it a dream-state, a symbolic realm, or an unreality: virtuous war projects a mythos as well as an ethos, a kind of collective unconscious for an epoch's greatest aspirations and greatest insecurities' (Der Derian, 2001, 774). In fact, by incorporating features belonging to the electronic entertainment industry - which had become relevant right between the Eighties and the Nineties - the Gulf War embodied for the first time the virtuous/virtual war, which by virtue of its simulated status fuses representation and action:

These new wars "are fought in the same manner as they are represented, by military simulations and public dissimulations, by real-time surveillance and TV 'live-feeds'" (Ibid., 775).

Simulation, hyperreality, virtual worlds overcome the difference between reality (action) and imaginary (representation): 'The power of virtuality lies in its ability to collapse distance, between here and there, near and far, fact and fiction' (Ibid., 776).

3. Drone War: War experienced as a Video Game

In the early Nineties', the fantasy comedy *Toys* (1992) foresaw the present scenario of warfare, where war is increasingly juxtaposing to the entertainment industry. This movie tells the story of a toy factory progressively transformed into a disguised military operational area with the appearance of a video game arcade. As a result, meanwhile kids are lured in and promised to play electronic games for free, they are employed as the unaware pilots of remotely controlled war vehicles. The director of *Toys* Barry Levinson has defined it "a reflection on how 'unreal and amoral warfare has become'" (Clarke, 2014, 96). This statement well reflects the reactions to the Gulf War, particularly to its feature, to how it was broadcasted to appeal mostly to the young generations, counting on the deep influence video games was having on them in the Nineties, even more than television. 'Toys' was trying to imagine an answer to the question:

Is the Gulf War the milestone of virtual/virtuous war having electronic games as the model what will the next step of virtual/virtuous warfare be?

Only recently ludic and military industries have come very close to fulfilling the predictions of Toys, through 'American and British deployment of drones – remote-controlled fighting machines – in combat zones' (Ibid., 96). By requiring remote control and thus keeping the life of many soldiers/pilots safe these new weapons threaten to make

war closer and closer to videogames, in a way that might fully disguise war, making it 'just an amusing electronic entertainment'.

The British website Drone Wars UK is a detailed and specialized source, with well-informed web articles focusing on remote control warfare. By approaching different perspectives, this online newspaper faces different recurring discourses and themes regarding drones. For instance, the article *The dirty consequences of our clean wars* by Chris Cole on 05/12/2014 refers to the deployment of these 'robotic weapons' in Afghanistan, Pakistan, Yemen, Iraq and Syria by both the US and the UK governments, which tend to deny the casualties affecting non-combatants living in war zones and caused by airstrikes. These deaths are usually addressed as 'accidents' or 'mistakes' due to mechanical dysfunctions or communication interferences between the machine and its controller.

On the other side, in Countries like Pakistan, one of the countries most negatively affected by this new generation of warfare, civilians have developed a compulsive fear of drones. They are even frightened by the sound of these 'intelligent weapons' hovering around them. Many children, elders, and adults are not able to sleep, and other wake up screaming in the night with hallucinations caused by these machines. As a result, remotely-controlled warfare generates a double and discrepant reaction in the world. In pacifying countries, it appears as the most cleaned and precise war, where 'accident' has semantically substituted the more emotional terms of casualty, massacre, death. Both soldiers and civilians of these nations do not feel directly affected and are distant from war fields. In countries that are being 'pacified' this new warfare assumes. The Western fear of Islamic terrorist attacks, which disrupts our peaceful and wealthy way of life, and our democratic values is come to be compensated in the Middle East by the fear of small dreadful faceless hovering machines.

"It was incessant." Former RAF Reaper pilot speaks to Drone Wars by Chris Cole on 30/05/2017 in another article from dronewars.net, which helps us understand how remote-controlled warfare concretely affects 'its human pilots'. For instance, the author reports and analyses an interview with a former British drone pilot with the pseudonym of Justin Thompson. The most poignant statement the latter made refers to the overlap between the civilian and the military life he experienced:

> 'The most difficult thing was the flip-flopping between the mind-set of being on live operations, and then being at home with the family. This is something that has been raised numerous times and it has caused issues for people in a lot of different ways.

There were times when you would go home and then take a couple of hours to decompress and wind down. It can be quite stress inducing because you are occasionally seeing some pretty intense stuff' (Cole, 2017, 2).

On this note, 'Justin' declines the idea that remotely controlled warfare implies detachment. On the contrary, he defines it as totally investing; the attention for the details is even accentuated than in actual aircraft:

'My mind-set was very much one of being there, and I was able to see so much of what I was looking at, in so much detail that you develop an intimate and in-depth knowledge of what is going on around you. So much more so than the fast jet, for example, that would rock up, stay around for 20 minutes or an hour depending on how much fuel the planes got and then head off again. Your mind becomes invested in it' (Ibid., 2).

4. Performative realism: Video game as War

The link between war and games is an old matter that dates back to their common origin: 'War, games, and simulation have always been closely intertwined. The oldest known boardgame surviving in its original shape, the Chinese Go, represents troop formations and has been used as strategic training for more than two millennia […]. Western military wargames originated from amended versions of Chess in late eighteenth-century Germany, and quickly spread as an integral tool for strategic planning and training through military academics around the globe' (Huntemann, 2010, 21).

As stated by the Dutch historian and cultural theorist J. Huizinga in *Homo Ludens* (1938) the reason for such close connection is that a game (even solitaire) always corresponds to a contest between two or more parties:

'The spirit of competition […] which animated the men's societies or brotherhoods and set them against one another during the winter festivities in tournaments of dance and song, comes at the beginning of the line of development that led to State forms and institutions' (cited in Huizinga, 2014, 55).

However, video games firstly replace the abstractness of board games with an ever-increasing photorealism, which makes them more a simulation and an exploration than a mere play.

'What is […] different about video games that deal with military conflict is they're more realistic. Instead of imagining the battlefield in your mind or having such an abstract battlefield like the Chess war, in video games the battlefield is drawn out for you in almost photographic, picture-perfect volume. Then you have all the other aspects of video gaming: the simulated violence and gore, and the sounds of the battlefield (instead of having to imagine the sound as you are moving Chess pieces around the board as you pretend to be fighting off an enemy). The video game provides it for you and those sounds are designed to be very realistic. So,

the link between video games and militarism is that video games continue to make play out of warfare in an extremely realistic manner, more realistic than any previous entertainment game that is technologically-oriented' (Huntemann, 2010, 95).

Secondly, video games also include narrative - even though in a very different way if compared to any other medium (see above) - and images so prominently that the nature of play itself results changed (see above).

By focusing on war games, *performative realism* is a characteristic that features only in war video games set during actual historical conflicts, absent from any classic war board games (from chess and *Go* to miniatures to *Risk*). This significant feature mirrors the way video employed the same juxtaposition of virtuosity and virtuality as that the military industry had since the Gulf War. Not by coincidence, Game Studies, which coined this essential concept, were being produced at the turn of the century. Moreover, their first great issue was the presence of violence in electronic entertainment and thus its link with warfare. It is within this context that the term *performative realism* was coined.

Performative realism does not only mean representing events accurately through the available data, or making them more tangible through a direct audio-visual approach, like in an interactive encyclopedia, but it also says that the observer is more than a mere distant observer. In other words, it means that he or she directly experiences the reconstruction, getting involved actively and making strategic choices during this reconstruction (something only the game media can achieve). This vital component shared by many ludic experiences, from board games like *Risk, Chess, Monopoly, Cluedo*, etc. to several video games like first-person shooters, strategic war games, etc. cohabits with ritual repetition. In fact, videogames usually require players to repeat a section several times to overcome it, and pass to the next phase, not only for developing new strategies but also for improving one's reflexes.

Since their origin, electronic games have even been scoring players for the quality of their 'play', by appealing to various parameters beyond sole strategy: speed, accuracy, the number of times one had died and restarted during a certain required series of actions, etc. As a result, the gamer is lured into improving his or her own 'playing' skills until perfection, and not just limited to finish a specific ludic experience thanks to a

combination of repetition/self-refinement and application of a variety of strategies to certain circumstances. Such are the characteristics shared by any performance with social impact, not only by videogames. In fact, according to Jeffrey Alexander's definition, social performances keep ritual along with strategic elements:

> 'The old-fashioned rituals that marked simpler organizational forms have largely disappeared, but ritual-like processes most decidedly remain. Individuals and collectivities strategically direct their actions and mobilize all their available resources, but their instrumental power usually depends on success of a cultural kind. […] It means that pragmatic and symbolic dimensions are intertwined' (Alexander *et al*, 2006, 76-77).

However, if in a social performance 'it is a mark of social and cultural complexity that the audience has become differentiated from the act of performance' (Ibid., 73), videogames reverse such tendency by fusing the audience/spectator with the act of performance in the figure of the player. This phenomenon explains the diffuse scepticism toward considering this media as a new form of art. In fact, games generally keep only the playfulness of artistic experiences, getting rid of the other feature necessary to define an artwork: conceptual detachment. The interactive nature of electronic games makes impossible any distant intellective interpretation of its contents.

Performative realism also changes the meaning of realism and not only of social performance: whereas realism concerns a representation and its correlation with events happening in the world, performative realism concerns simulation and first-person experience. It is 'an attempt to create interactive transparency (an illusion that stands in for what we perceive to be the casual verisimilitude of everyday life)' (Huntemann, 2010, 132), which once applied to war, normalizes it and makes it both inevitable and necessary. Therefore, it is not a question of whether this specific genre of entertainment works as training-simulation for future soldiers, but it is whether it lures players into believing in a historically proved virtuosity of war, in which violence is only virtually present, cleaned up, made somehow aesthetical and soft, because detached from its natural reference to death. 'Unlike other forms of warfare, virtuous [virtual] war has an unsurpassed power to commute death, to keep it out of sight, out of mind' (Der Derian, 2000, 772).

These 'realist performances' set in World War II stress on the necessity of war to achieve or maintain peace. In other words, they reinforce a concept that has become dear to the

Western supremacy firstly after the 'Fall of the Wall' (1989) and even more after 'Nine Eleven' (11/9 2001)

As already expressed by Baudrillard, it is crucial to arrange war as pacification by means of simulation, showing how it is necessary to be always prepared to fight to preserve the peace achieved on a world scale. While to stress the virtuosity of war, it is necessary to portray it as strictly entangled and even confused with peace: 'with the virtualization of war comes the simulation of peace' (Ibid., 776).

However, 'in simulated preparations and virtual executions of war, there is a high risk that one learns how to lull, but not to take responsibility for it, one experiences 'death' but not the tragic consequences of it. In virtuous war, we now face not just the confusion but the pixelization of war and game on the same screen' (Ibid., 773). "In this high-tech rehearsal for war, one learns how to kill but not to take responsibility for it, one experiences 'death' but not the tragic consequences of it" (Ibid.).

5. The Player-Avatar Relation

Actions in video games operate metaphorically; in other words, on two different parallel levels: a physical action on the controller/joystick and the action of the controlled character in the virtual reality projected on the TV screen. The cathartic element constituting the spectacular society starts being replaced by a new scopic regime, where action plays a pivotal role.

We do not have any real contact with 'the virtual realm'; in other words, we do not have a direct tactile experience of objects but a visual recognition of images. Therefore, every haptic relationship occurring while playing occurs exclusively through the joystick and requires training to achieve faster and more immediate reactions, training in which we increasingly and directly associate our movements with the character's ones despite their actual physical dissociation. Therefore, one of the main topics of Game Studies concerns what relationship is instituted between players and the character they control. Are we facing just a typical subject/object relationship or is there a dual agency? Does the avatar somehow multiply our identity on a new level?

Heavy Hero or Digital Dummy? Multimodal Player–Avatar Relations in Final Fantasy 7 (Burn & Gareth, 2004) is a very enlightening article on this kind of issues from the Journal of *Visual Communication*. It specifically explores the player-avatar relation in the highly

successful Japanese role-player video game *Final Fantasy VII* (1997), 'drawing on multimodality theory to analyze textual structures both in the game and in the discourse of player-interviews and fan writing. It argues that the avatar is a two-part structure, partly designed in conventional narrative terms as a protagonist of popular narrative, and partly as a vehicle for interactive game-play' (Burn & Gareth 2004, 1). In other words, the Avatar is within this context – year on year incrementally present in all video games,- both a *heavy hero* (narrative component) and a *digital dummy* (ludic element).

Strong *character*ization highlights the heavy hero aspect. In this specific instance, the protagonist/avatar is Cloud Strife, 'a mysterious mercenary, in leather and big boots, wielding a sword as large as himself; but an oddly childish face, whimsically delineated in the 'deformed aesthetic' of manga, with enormous, glowing blue eyes, framed in cyberpunk blond spikes' (Ibid, 1).

Moreover, many sections of the game (and more commonly in current video games) are purely narrative, because they are constituted of texts and cinematic images – the so-called *cut-scenes* – or exclusively by the latter. In any case, the player becomes for a few moments spectator, and the avatar performs actions independently.

However, with video games, the main character is also played, differently from the cathartic identification operating in purely narrative media (cinema, literature, opera, etc.). It means that we as players have not just to see and interpret and understand, but also act as if we were someone else: "you play the character. […] The words 'You play' indicate very precisely the grammatical relationship of player and avatar" (Ibid., 2). As a result, the player must adapt him/herself to the main character and not merely adjust the latter to his/her psychological necessities (as it occurs with catharsis). The coexistence of the *representational* and the *interactive* functions explains this entanglement between player and avatar. The representational function is how the video game (FFVII for instance) 'represents aspects of the world (in this case fantasy narratives)' (Ibid.); while the interactive function is what the video game 'offers to do to, for or with its audience' (Ibid.). The article also underlines how the interactive function is itself distinguished into two different main modalities: the *demand* and the one of *offer*. These two games structures are usually mixed in the game, one next to one another in many scenes. However, it depends on the circumstances; a modality might overcome or be equal to the

other. It follows that the game code influences and direct the player's action almost as much as the character's action (who is managed by the narrative component).

Instances of demanded-dominated scenes in FFVII are the battle scenes, 'where the system of the game would seem to be all that matters, the economies of health, hits, and magic become critical, and the temporal elasticity of the game shrinks to realtime conflict' (Ibid., 14). "The demand exercised by the text [the game code] is realised in different ways by the different modes combined within it. For instance, the music […] is specific to the battle scenes […] – the tempo does change (it speeds up); and the rhythm changes to a regular 4/4 time, with the mix of midi voices including a martial snare drum. The orientation of the music to the player, then, operates as a kind of musical imperative – a call-to-arms, as it were. At the same time, the swirling graphics which introduce the battle scenes produce a giddy, disorientating sense, a feeling of risk, of danger, in combination with the music. As the battle scene appears on the screen, the player sees the characters lined up against the enemy, with the battle statistics represented graphically at the bottom of the screen. The readiness of each character to attack is shown by a thermometer-style bar, which fills up. This specific graphic operates, again, as a form of visual demand, effectively instructing the player to wait, but get ready. When the bar fills up, a yellow triangle appears above the head of the character, indicating that it can attack – a visual imperative equivalent to 'Attack now!'" (Ibid., 16).

In this battle sections the player view 'is positioned much lower down, alongside the characters (displayed in their full bodies), as if fighting with them. At times, the swooping camera angles even place us lower than the characters. […] Though this is an offer – it is distinct from the function of those parts of the text which are demanding specific actions – it fuses with our response to those demands, changing our sense of how we act. […] it mutes the puppeteer feeling that the demand-response structures create' (Ibid., 17).

'Beyond the battle scenes in FF7, the feeling of offer rather than demand is reinforced multimodally. The music of these sequences is much less stark rhythmically, either using unmeasured rhythms or using regular duple times muted beneath flowing melodies […] [The] music suggests that you're being offered an event and a mood; if there is any trace of demand, the modality is that of the weakened form of enticement. This musical enticement […] operates in tandem with the system, which invites you to make a move. Similarly, you explore and progress through the game world in a fixed camera

environment. Here, you are positioned above the action, with the avatar and other characters rendered as chunky, polygonal figures. This design distances them from the player; or […] makes them more puppet- or doll-like, developing a […] relationship in which the player trains and nurtures the avatar like a pet. You are linked to Cloud by your control of his movements, but look down on him […] controlling their actions from above' (Ibid. 18-19). This god-like position 'is a spatial and visual reinforcement of the offer mode – it detaches the player a little, and offers stability, unlike the destabilizing battle camera, buttressing the demand acts of the system' (Ibid. 19).

It follows from all this analysis that 'Cloud as Heavy Hero and Cloud as Digital Dummy offer different sets of semiotic resources from which the player makes […] experience of the avatar' (Ibid 12). It can then more generally been stated that 'The player-avatar relation […] is hybrid. The engagement with the character is in many ways developed as in conventional narratives, in response to the guise of the game, which offers a narrative statement through an unrestricted semiotic of visual design, animation, text and music, to compose the character as visible, audible presence, his narrative role and affective appeal drawing on the provenance of popular narrative, both folk and mass media. The immersive experience of roleplay, by contrast, is engaged through the specific rule-based demands of the game, and the player's improvisatory deployment of the restricted set of actions offered; though this is infused by the imaginative engagement with the character and game world, so that a highly-restricted set of actions becomes elaborated and deepened by a semiotic merger with other modes' (Ibid., 25).

In conclusion, all this juxtaposition of different structures makes 'the question of player agency […] quite ambiguous' (Ibid., 13) as ambiguous is the word *agency*. In fact, this term has two opposite meanings: 'one in which we are autonomous, powerful social actors; and one in which we are merely the representative of another (as in FBI agent). Both meanings can be read into the player-avatar relation: an unprecedented degree of participative agency for the readers within the text […]; or a sense in which players merely accept and play out the roles determined for them by game-texts devised by global corporations' (Ibid.).

This ambiguity is the same expressed by our current society. The pressure expressed by advertisement, politics, culture, the free market, etc. on freedom, self-realization, self-

flourishing and identity matches with the exigency of the job market, of the technological apparatus and again of politics on assuming one's own responsibility (usually corresponding to the sole technical and functional responsibility of one's own job position), efficiency, professionalism, etc. These are nothing less than the two poles of contemporary individualism, which dominates our current globalization. Besides, there is also another ambiguity occurring within the relation player/avatar: the ambiguity existing between the freedom/responsibility of agency-individualism and the escape from one's personality.

It is undeniable that video games give the player the opportunity of living an experience that transcends one's own everyday life. They provide the chance of self-escape and self-differentiation: most importantly, they allow the player to be someone else, even though inside a purely artificial and enclosed environment strictly designed by an unknown person (who produced the game code). As a result, the game console makes the TV screen the first example of monitor, where an ambiguous, active multidirectional relationship is created for the first time and due to the player-avatar 'interaction'.

This contemporary declination of individuality/agency, with all its ambiguities, is on an utterly different level than the modern stress on the subjectivity of the lens phase. The term 'subject' expresses ambiguity too, specifically concerning the issue of control (control and be controlled). In fact, a subject can be a subject of something (of rights, for instance) and always related to an object; or subject to someone (the king, for instance). Otherwise, agency refers to skill, specifically the one of acting, not of control. In fact, the word 'agency' comes from the Latin *agens*, which is the present participle of *agere*, translated into English 'to act'. Acting is also ambiguous as much so as control, but concerning pretending or doing. Therefore, acting (and then agency) reflects two contrasts: the contrast between acting in terms of being someone else and of doing as expression of oneself, and the contrast occurring within the second meaning between doing in your own name and doing as representing someone else (herein unfolds the already mentioned ambiguity of the word agency).

6. *Configuration* instead of *Interpretation*

While visual art (cinema included) and television in its original use (a mere passive form of entertainment) rely mostly on *interpretation* as the reaction to a specific representation,

video games rely primarily on *configuration*, despite the integration of narrative elements into play, which differentiates classic board games from video games.

On the one hand, interpretation is the primary receptive activity of any artistic endeavour and many social performances too, like political discussions, school lessons, religious ceremonies, etc.

The dwellers of complex societies are pressed from their birth into developing hermeneutical skills. This comes about as a result of the postmodern absence of a metaphysical meta-narrative that would make messages/performances clear and self-justified. It is further shaped by the coexistence of a multiplicity of cultures, values, and symbolic heritages to which they refer. 'Audience interpretation is a process, not an automatic result. […] A consciousness of doubleness is inherent in the interpretation of performance' (Alexander *et al*, 2006, 76). On the other hand, electronic games opt more for 'configuration, the capacity to transform certain aspects of the virtual environment with potentially significant consequences for the system as a whole' (Wardrip-Fruin & Harrington, 2004, 60). By doing so, the cybernetic world takes a very different path from narrative-centered performances: 'In the older cultures of print and broadcasting, the term literacy came to represent the fundamental capacity to process information – that is, primarily to interpret. […] The shift from interpretation to configuration may require something more than revision, perhaps even a fresh conceptual start' (Ibid., 64).

Art and politics as social performances require the employment of a story and spectators, listeners or readers' passive immersion inside a specific narrative. In these circumstances, authors and actors need to convince the audience or a part of the audience of the authenticity of their claims by referring to a certain cultural setting. In order words, they must appeal to a shared variety of symbols taken from common cultural memories, traditions, and folklore. Such dynamics strongly apply to cinema and TV; it is thus a component of the still present but weakened screen phase. On the contrary, interactivity, which defines the nature of videogames, 'is almost the opposite of narrative; narrative flows under the direction of the author, while interactivity depends on the player for motive power' (Ibid., 118).

Interpretation, however, corresponds to the double bind of catharsis, whereby the process of immersion/identification is always alternated with detached conceptual rumination, reflection and construction of meaning, configuration corresponds to an 'electronic

closure' (Ibid., 65). As interpretation is still present in games, only in a subordinate relationship to configuration, the narrative is not eradicated but reduced to a functional element for interactivity, an architectural feature, an immersive set for players, which lures them into diving into a particular game:

'Game designers don't simply tell stories; they design worlds and sculpt spaces. It is no accident, for example, that game design documents have historically been more interested in issues of level design than on plotting or character motivation' (Ibid., 121). The abolition of the audience or at least its reduction to a performant without expectations from any external social/cultural frame is what makes the player not subordinate to a script but to a system, a program, a procedure.

A videogame only rewards the execution by purely technical, logical, and pragmatic standards such as speed, flexibility, strategy, etc. It does not reward any symbolic communication from the performant as the other social performances do; it does not award his or her capacity to be convincing, compelling and authentic. By reading videogame reviews from specialized newspapers, it is possible to notice the absence of a classical audience who usually judge on the basis of narrative and symbolic well-acted and authentic communication. Such characteristics often convince us that there is no external social power influencing electronic entertainment. Typically, critics and players primarily deem video games as 'good' or 'bad' focusing on the technical elements that do not refer to their designers' intentions, (as it might happen with literary and social performances) but to the immersive efficacy of the gameplay, to the overall functional efficacy of its entire system. As the game rates players' technical skills in a great variety of fashions, so players rate the game. There is a reciprocal relationship between a small technological apparatus and who gets involved in it, not figuring in any other social performances, which usually retain a humanistic priority for meaning, value, life project (both in individual and social terms) and goal. It follows that the performance required by games is more like those of military training and sport, where purely agonistic, physical, procedural and inflexible parameters are prevalent than the significant, either dramatic or comedic classic social performances.

Symbols and cultural backgrounds are emptied of both their constitutive meanings and their internal function as referents for meaningful creation, becoming mere simulacra exploitable as 'bricks' for virtual amusement parks facility, as data of an archive from which withdrawing as much as a game designer needs.

7. Multiple visual regimes but submitted to the same function

As explained in the previous sub-section, the cinema already generates a non-natural succession of discontinuous images through the technique of montage. This means that a series of images shot in a precise manner and showing specific objects is all of a sudden followed by entirely different details and perspective. Moreover, in cinema, the first person perspective is not the dominant one as occurs with 'natural perception'. To a certain extent, video games feature this same dissociation between a set of images but in a very different fashion, where the haptic component plays, once again, a pivotal role. In fact, the sharp divergence between images and movement is designed to achieve aesthetic and cathartic effects with movies whereas with video games they are submitted to play, which requires the interactivity that only touch can allow. It follows that a specific typology of a series of images (a more accurate term than shot when referring to video games) functionally identifies a particular type of 'gameplay' (the pattern of interaction defined by the game rules mostly with electronic games) or even genre of game. On the contrary, with the cinema different kinds of shots provide images with a specific conceptual frame instead of a functional one, as highlighted by the catalogue of images produced by Deleuze in *Cinema 1* and *Cinema 2*.

In other words, video games submit images to configuration instead of interpretation, immersion instead of catharsis, which makes this medium an actual simulation and thus a step further in hyperreality than movies and TV broadcasts. In fact, the player does not identify with the character he plays (as occurring in films) but he simulates him/her. Finally, whereas movies (except animation) re-imagine reality by recording it and then reassembling it, video games (as any virtual reality) recreate reality from scratch. Therefore, graphics replace the shot as the technique of creative production (namely *poiesis*).

As stated above, video games tend to define a specific gameplay through a certain visual perspective, which always integrates the player into it instead of making him/her a mere spectator. It is thus possible to arrange a list of the primary visual regimes used by the medium whereby image is always submitted to gameplay, in contrast to the purely scopic shots which constitute movies.

The first of these visual regimes concerns games that mostly featured a two-dimensional perspective before the introduction of the third dimension. This scopic regime was

dominant in arcade games, for the following reasons: its immediacy, its speed, because it matched well with the abstractedness and deformed graphics of the first generations of electronic games, and because it allowed the coexistence of more than one player on the same platform. Nowadays, this kind of perspective is kept only for fighting games and for games with a retro-style.

In these games the static, flat, non-stereoscopic and pre-rendered 2D background (the game area where play happens), or even 3D in some Role-Playing Games (as such as the already mentioned Final Fantasy VII) of the first 3D era (PlayStation), can be shown in their entirety as it were a canvas painted on the monitor. Otherwise, it can 'shift' so that new details of a static background appear and older disappear following the movement of your character in the pre-rendered 'environment'.

Panoramic view usually defines strategy games and managerial games (such as Age of Empire, Red Alert, Caesar and SimCity) Mostly when referring to the former of these two genres, this ludic scopic regime has its roots in the dynamics of chess: from a godlike perspective, by looking from above the players move the different pieces on a board orthogonally structured and spatially limited to a square. There are different categories of pieces/troupes one might use, each one with its common aesthetic features, which symbolically refer to specific skills, the way of moving and, most importantly, functions. Therefore, this kind of game is not based on moving single characters but groups (as with miniatures), where aesthetics is subordinated to both functionality and the creation of an immersive atmosphere that the game hopes to transmit to the players (something shared by every video game). From a haptic point of view, strategic games require the 'consumer' to click with the cursor on the spot and then drag it to select the entire group of units one might need - by including different functional categories too. It is even possible to pick just one unity by clicking on just one of them. After this selection, it is possible to order, via the menu, the action or movement to perform for the chosen group or unit. Such necessity for clicking, use of menus and a high variety of cursor commands make strategy games, (the virtual version of chess) more straightforward to play with the mouse on the computer than on the console with the joystick. Furthermore, the computer-mouse facilitates the zoom in and zoom out of the game view depending on the player's need for either an accurate visual or a more general grasp of the overall situation (an element essential for games using the panorama as their primary visual interaction).

These same scopic-interactive dynamics apply also to managerial games (such as Caesar, Faraon and the SimCity series): herein, the perspective of the player is from above the game field, as already mentioned. However, in this case, the primary virtual objects to select are not troops, movable unities, soldiers, ships, and airships, but, mostly, buildings, facilities, and infrastructures, or terrains where to build streets, schools, hydraulic system and other amenities. Generally, the humanoid virtual-characters walking on the roads can be selected only to display their status, which includes life-quality elements such as happiness, health, wealth, etc. Otherwise, they follow pre-set movements from the game program.

There are also different kinds of strategy games, whose distinction depends on which role time plays in their mechanics. On the one hand, there are *real-time strategy games*, where every faction in the game plays contemporaneously against the other. This requires that strategies and tactics be prompt, immediate and fast. Examples of games belonging to this category are the *Age of Empire* and the *Command & Conquer* series. On the other hand, there are *turn-based strategy games*, which are inspired mostly by the dynamics of chess. In fact, they require players to make a certain number of movements in an unlimited time but only during their turn. As a result, the map/board is visibly divided into squares, each one corresponding to a movement, a relevant graphical difference from the real-time strategy games, which feature on the contrary more fluid movements and chaotic battles. Celebrated turn-based strategy games are the *Civilization* series and *Heroes of Might and Magic* series.

The first person perspective is, another important visual regime central in FPS (First Person Shooter). 'The most compelling aspect of the fighting game is the tight visceral match between the game controller and the screen action. A palpable click of the joystick results in an explosion. It requires very little imaginative effort to enter such a world because the sense of agency is so direct' (Murray, 1997, 180) 'Suspense in a frightening film is highest on first of viewing, but upon each viewing the arousal and expectation provoked by the film's execution of suspense diminishes over time' (Huntemann, 2010, 228). On the contrary, due to the major immersion, a more variable set of situations and player's reaction, video games offer very different outcomes than movies. These conditions are even more applicable to FPS, online war-games, where the greater co-

operation and dominant presence of human players than in more predictable computer-controlled NPCs make the experience even more realistic and unpredictable.

As stated by Lukas in the essay '*Behind the Barrel: Reading the Video Game Gun*' (Ibid., 75) virtual guns resemble in every feature a real-world gun except for their immaterial nature; 'meaning, that their use will not generally result in injury or death' (Ibid., 76). In virtue of such characteristic, the virtual guns acquire an even increased fetishist character, where the weapon becomes an object of desire by representing 'some of the most powerful feelings of pleasure and revulsion, or purity and danger' (Ibid.). As opposed to actual world weapons, virtual ones do not retain functionality as their primary design reason. With electronic games it is aesthetic which bears a prominent position in determining weapons' shape, colours, etc. 'While some players enjoy a weapon for its mere destructive potential […], most indicated a preference for a weapon that fits into the scheme of the game; thus, its consistency, not its mere destructive potential, mattered to more gamers' (Ibid., 83). Therefore, symbolic meaning might have more value than mere functionality and effectivity - this is particularly true with Japanese Role-Playing game, like the *Final Fantasy* series, where the visibility of violence is drastically reduced. 'For gamers, the gun signifies pleasure, a means to an end, and even (for some) an uncomfortable tool needed for the pleasure of gaming, while for many non-gamers the gun signifies hedonism, unrestrained violence, and social deviance' (Ibid., 76-77). Moreover, actual identification with the weapon occurs for the player. In many first-person shooters and mostly in those referring to realistically represented historical events, the character is something of an accessory, a 'dumb puppet' that serves only to generate credibility and thus improve immersion. As a result, there is not the same complex player-avatar relation present in Final Fantasy VII and, more generally, Japanese role-playing games because the gun replaces the avatar. Weapons are experienced as extension of one's 'character's skill set' (Ibid., 84) or even each of them as 'something to express your character' (Ibid.).

The third person perspective makes the character external to the player as a controlled virtual object despite a viewing angle similar to the one applied to the first-person shooter. As a result, the game assumes a slower pace than an FPS, and it is more centred on the main character rather than the gun. Such elements favour the introduction of a variety of different typology of actions, such as climbing, walking, jumping, solving 'environmental

puzzles', etc. that a first-person view does not allow (since it reduces gameplay just to shooting and moving to advance in the simulated battlefield). Moreover, the player has a broader perspective on the virtual surrounding, which means that the objects are easy to portray because their beholding does not depend on head tracking and the massive presence of the gun does not hinder it. Such perspective applies mostly to action-adventure games, like the *Tomb Raider* series (started in 1996) and the *Uncharted* series (launched in 2007).

A rehashed version of the gaze replaces the identification between player and weapon (see above), whereby the player controls from a short distance the character, whose back (and only the back) is visible in front of you from head to feet. However, the haptic relation necessary to video game experience completely alters this old scopic regime, making the gaze more ambiguous than it was during the time of the panopticon - and more generally of lens phase. 'Lara Croft', the protagonist and playable character of *Tomb Raider,* is the most iconic example of how the gaze in video games oscillates between the objectification of male voyeurism dominating in the first episodes of the series and the empathic immersion into the avatar and its charisma of the most recent chapters. Such ambiguity of the gaze in electronic games echoes the avatar-player relation, which has been explored in the previous subsection (*The Player-Avatar Relationship*). There are also other possible scopic regimes or even crossovers between some of them, as already discussed by analyzing Final Fantasy VII, where each modality corresponded to an equally different visual perspective; from the panoramic viewpoint of explorative scenes to the kaleidoscopic side perspective of battle scenes. Such multiplicity is very common amongst Japanese role-playing games (JRPG).

Each perspective analyzed above recalls a specific basic film technique. However, whereas in a movie various methods are applied to create a particular effect on the spectator, video games tend to focus on one or few depending on the game-play applied. Therefore, the scopic regimes in video games do not aim prominently for an aesthetic result, but they firstly adapt to the specific game mechanics and secondly generate a particular *atmosphere*.

8. Immersion and Post-Cold War Society

As already hinted during all this section on video games, their haptic component is an essential instrument for the full immersion of the player. It is also a necessary element for making play possible. In fact, touch is a requirement for grasping, controlling and moving the joystick or the mouse and the main reason behind the passage from the passive screen phase to the active monitor phase. For instance, in order to increase the sense of jeopardy and then immersion in the atmosphere of the game, from the console PS1 joysticks have been featuring the so-called Dual Shock, a system that, as its name suggests, gives to players a sudden sensation, a shock, by vibrating in specific situations during the game. For example, in an FPS when hit by the enemy the Dual Shock is programmed by the designer to activate so to make you feel even more immersed in the simulated situation.

The previously mentioned *atmosphere* is another essential instrument for the immersion of the player into the game. It is in fact the primary emotional feature of every video game, necessary to increase enjoyment, the immersion into play (the magic circle constituting the core of every form of ludic experience) and thus fully achieve interactivity. It is also the only non-technical component appealing to players, despite this commodification of culture and the reduction of spectators/audience to performants.

'The most compelling amusement park attractions build upon stories or genre traditions already well-known to visitors, allowing them to enter physically into spaces they have visited many times before in their fantasies' (Wardrip-Fruin & Harrington, 2004, 123). In the same fashion, game designers are 'less […] storytellers and more […] narrative architects' (Ibid., 121) aiming to 'creating an immersive environment we can wander through and interact with' (Ibid., 124). As a result, game designers deem details more relevant than the overall, description more than explanation, in contrast with movie directors. "The amusement park attraction doesn't so much reproduce the story of a literary work […] as it evokes its atmosphere; the original story provides 'a set of rules that will guide the design and project team to a common goal' and that will help give structure and meaning to the visitor's experience" (Ibid., 123). Similarly, game designers introduce narratives, symbols, meaning into their products but only by translating them into the atmosphere. As consequence, culture and conceptual references are reduced from representations to affectations, from an intellectual to an emotional plan without a real referent.

By jamming interpretative, representational, and conceptual skills, it appears video games lack the ideological and cultural elements constituting any other social performance; they seem to be neutrally charged virtual entertainment facilities. However, their neutral performative character may be only a clever deception. As authenticity is the aim of every social performance, in which the separation between audience and actors are fused for a brief moment, so simulative performances like amusement parks, electronic games, and virtual worlds aim to forget the real context in which the player is situated. Nonetheless, a certain degree of authenticity is nevertheless required even for these ludic performances: visitor and player are pretender explorers who need to be constantly reassured that the fantastic atmosphere they are in will never fade away, and never reveal is fictional appearance. While audiences of social performances, such as political elections, movies and TV shows (all concrete expressions of the screen phase) need to be convinced of the authenticity and spontaneity of the actor/performant and of the author, the visitor/player is aware of the illusory character of the fake environment he or she is 'consuming'. By contrast, with video games (and more generally with the monitor phase) the role of the actor is replaced by the mis-en-scene of attractions and virtual worlds, and the audience by the player/executer.

Artistic and social performances "are successful only insofar as they can 're-fuse' these increasingly disentangled elements […]. Audiences identify with actors, and cultural scripts achieve verisimilitude through effective mise-en-scene" (Alexander *et al*, 2006, 29). Otherwise, ludic performances (both amusement park and computer games) are successful once the player (both audience and actor or perhaps none of them) identify with the reconstructed imaginary environment (both script and mise-en-scene or maybe none of them). Moreover, it is commonplace that social power, 'the distribution of power in society – the nature of its political, economic, and status hierarchies, and the relations among its elites – profoundly affects the performance process. Power establishes an external boundary for cultural pragmatics that parallels the internal boundary established by a performance's background representations' (Ibid, 36). On the contrary, it seems social powers are absent from ludic performances because atmosphere substitutes meaning emotion representation, configuration and interpretation.

The 'immersion' achieved by video game requires this notion of atmosphere to induce a certain emotional reaction in the player. From this perspective, video games and any other

virtual reality work as dreams, where emotions free from the central control of the ego generate their imaginary world and the sense of interaction we are having with it (which compensate for the absence of a real world). "From the 1950s cybernetic notion of the 'automaton', to William Gibson's 1987 coining of 'cyberspace' as a 'consensual hallucination', the virtual has shared an isomorphic relationship to the dream" (Der Derian, 2001, 774). On the contrary, during our wakefulness the events occurring in the world and affecting us are what compel us toward certain emotions, inverting the relationship between world-emotion of the dream state. Emotions, in turn, require a physical response, an extensive body movement. In fact, world 'emotion' has its origin after the Latin *ex movere*, to bring outside, to move, which clarifies its characteristics, which are both to induce us to act and to instil turmoil. For this reason, the emotive element corresponds to the direct access we have to our corporality, to the continuous movement which invests and constitutes our body. Therefore, even a slumbering body is traversed by such kinesthesis, which are, in this context, expressed, and discharged through dreams. As addressed by Deleuze in *Cinema II* concerning 'dream-images' (Deleuze, 1985, 59) the hallucinatory world of dreams breaks the sensory-motor schemata at the base of the relationship between ego and common world, whereby a specific, concrete situation (a state of the world) works as an input for one particular perception. Then, the latter is followed by an emotional state that finally brings about an action/reaction that changes the original situation.

The dream state is able to break such mechanisms because of the absence of a centre of control (ego) and of a concrete and perceived world: 'the sleeper's perceptions exist, but in the diffuse condition of a dust of actual sensations – external and internal – which are not grasped in themselves, escaping consciousness' (Ibid., 58). It follows that our entire affective sphere (including emotions and kinesthesis) is free from any functional constraints and drives the construction of the worlds we dream of and leads to our perception of it as real. Video games and virtual reality somehow follow this same track:

- First, the body reduces its movements massively to the sole hands in a state of quasi-total rest, where the joystick (mostly in its later implementations) is programmed to vibrate according to specific circumstances during the game. This stimulation of our sensory system is meant to increase the immersion inside a virtual world the same way our kinesthesis does during the dream state.
- Second, the atmosphere that video games necessitate for achieving convincing immersion relies on emotion to build virtual worlds, which are mostly visual and

secondarily auditory. The haptic element is also necessary but only in strict relationship with the sole ludic component of video games (with the exemption of the above-mentioned optional implementation of vibration into joysticks). It also does not have the same characteristic of the ordinary way in which touch is experienced in life.

- Third, video games do not discharge emotions as they occur through either catharsis or extended body movement or coping with one's troubling past, etc. On the contrary, they keep them on an extreme level by continuously stimulating them through their playful mechanics.

- Fourth, both virtual worlds and dreams balance the inactivity of a sedated and inhibited body; in other words, a sleeping body that needs to compensate for the absence or low presence of extensive movements by replacing them mostly with intensive ones (corresponding to emotions).

Due to the central role played by the atmosphere in video games, this form of entertainment artificially increases emotions instead of liberating us from their excesses, as occurs with catharsis. To a certain extent, video games have been working on our society as a reversed model, where a lack of, and a need for emotions has been replaced by the need for a passive liberation from them. Such replacement corresponds to another critical change from screen to monitor, from the spectator to the player or more generally to an 'interactive user' (as the next paragraphs on computer and smartphone will also analyse). Such anthropological mutation corresponds to the transformations that occurred in visual ideological communication following the fall of the Berlin Wall and the arrival of the post-Communist era. It especially corresponds to the movement away from ideology conceived as a specific and totalizing image of the world (mental ideology) to ideology as a particular kind of image without any referent and which is meant to satisfy a need for a specific stereotypical emotion (emotional ideology).

During the Cold War, ideology was still based on the conception of *weltanschauung* (overall view), of an image meant to demonstrate the linkage existing amongst different events, despite the mechanism of deterrence having replaced the old hot expansive conflicts, whose last exemplar had been World War II. As shown in the previous chapter, the situation between the two blocks was entangled with a specific technological environment – whose central elements were nuclear plants, satellite system and TV –

which favoured the development of a situation of frozen stasis and constant escalation between the two superpowers. As a result, the visions of the world that each one of them embodied became self-referential and self-righteous. In more conceptual terms, the notion of *weltanschauung* took a detour from its original version (which had been one of the scopic regimes of the lens phase) because the representation it gives does not refer anymore to a distinct reality but anticipates it. Then, if each view of the world becomes itself a specific autonomous world, the definition of 'first world' and 'second world' during the Cold War has never been more accurate.

In similar terms, Hiroki Azuma in *Otaku Japan's Database Animals* affirms that the crisis of transcendental grand narratives that followed 'the appearance of new technology of reproduction, the origins of information theory' (Azuma, 2009, 71) is 'something gradually occurring over the seventy-five years between 1914 and 1989, with a single focus in the 1970's' (Ibid., 72). He also highlights how this loss of a weltanshauung characterizing the twentieth century took the form of snobbery or cynicism during the Cold War, when 'one had to believe in the semblance of a grand narrative' (Ibid.). In other words 'no one really believes in the ruling ideology, every individual preserves a cynical distance from it and everybody knows that nobody believes in it; but still the appearance is to be maintained at any price' (Žižek, 1989, 197). Regarding the ways ideology has been framed during the Cold War, the Japanese sociologist Ōsawa Masachi has divided post-war Japan "into two periods-*the idealistic* age from 1945 to 1970 and *the fictional age* from 1970 to 1995. […] the 'idealistic age' is the period when grand narrative functioned alone while the 'fictional age' is the period when grand narrative functioned only as a fake" (cited in Azuma, 2009, 73). Such understanding might be extended to all the globe to show how ideology has become progressively self-referential and fictional.

All these various analyses on the society of screens (cinema earlier and TV later) has been enabled by the development of *weltanshauung* as ideology and of its downfall as empty simulacra during the Cold-War. During this latter phase, ideology became performative instead of representative under the pressure of nuclear deterrence and TV medium (see above).

In 1989, with the Fall of the Berlin Wall to symbolize the decline of the Communist bloc the grand transcendental narratives are wholly abandoned, according to whom? Azuma reads such event as the fulfilled transition from modernism to postmodernism. This research will understand it as a shift of dominant phase (which does not entirely erase the previous one): the end of a social dimension forged by the screen phase and the beginning of one based on the monitor phase. The world stops being divided into two ideological blocs and globalization can be fully achieved. It is inside this new post-Cold War frame, where ideology is no more necessary, that the video game becomes a more representative medium than TV.

The role emotion plays helping players relate to the images of a video game, related to the notion of atmosphere well exemplifies what kind of new processes contemporary images generate in virtue of this new 'post-ideological' age. Therefore, with video games, society moved from a time of representative images to what is an age of non-representative and *emotive images*. Due to their loss of reference to a shared reality, Images instead of representing the world or a specific object work nowadays as a form of addiction. Instead of using images to understand the world, we look for explicit images to feel a particular emotion or sensation because the comprehension of the world as an objective and totalizing unity has faded away.

B. COMPUTER AND WEB

1. Computer and Game

Console gaming exploits the television, expanding its haptic features beyond the mere choice of the channel by remote control. Therefore, what is herein developed is a bridge between a screen and a monitor, from a glassy device that makes interaction possible on a passive level to a glassy device which then makes interaction possible on an active level. The distance between the two sides of the spectrum (watcher and watched) is even reduced further. In other words, game consoles once turned on, makes TV itself a monitor instead of a screen because of their haptic/active feature, where spectatorship is replaced by interactivity.

Despite sharing this same active and interactive features, the computer allows for a more extensive set of functions than a game console (at least if we do not consider the last generations) and more significant 'storage' for data that can be downloaded and used. In

other words, a computer is multifunctional while a game console tends to be mono-functional – it is made for playing mostly. Moreover, mostly since the Nineties, video games have been also been played from the computer, and not only via arcades (now almost 'extinct') and consoles. Strategy games are the first example already given, of an electronic entertainment more comfortable by mouse and keyboard than by joystick. Electronic games elaborate with constant technical enhancements a strict relation between visual and haptic as never seen before. The computer as well has developed such correspondence but not in the same direct, fast, intuitive and active way as video games. Not by chance, with games made for consoles the time left for reflection is usually reduced compared to the slower pace available in games more suited for computers, as such as strategic and managerial. Such difference relates to the kind of physical controls used by the two 'platforms'.

The previous paragraph has already suggested the difference between mouse and joystick concerning playing. Such differences are even increased once focused on the multiple uses of the joystick in coordination with the keyboard, and how their combination brings us far from a mere interaction with images. In fact, while joysticks generate a fast, very immersive interaction with the monitor, the computer has uses that are not just limited to play, and which do not follow a precise pace, where control and rationalization increase. In other words, the computer is not limited to the isolated 'magic circle' the game creates around who plays. As stated by Huizinga, in reference to an ancient Indian version of the game of dice, the magic circle is:

> 'the place where the game is played. Generally it is a simple circle, […] drawn on the ground. The circle as such, however, has a magic significance. It is drawn with great care, all sorts of precautions being taken against cheating. The players are not allowed to leave the ring until they have discharged all their obligations' (Huizinga, 2014, 57).

2. *Rhizome* Model and *Database* Model

Approximately twenty years later, Azuma stated something similar to what Deleuze and Guattari had in their 1980's work *A Thousand Plateaus*: 'before the arrival of the postmodern, in the era of modernity – when the grand narrative was still functioning- the world could be grasped, roughly, through a kind of *tree model* […]. On the one hand, there is the surface outer layer of the world that is reflected in our consciousness. On the other hand, there is the deep inner layer, which is equal to the grand narrative that regulates the surface outer layer […]. However, with the arrival of postmodernity, the

tree-model world image collapsed completely' (Azuma, 2009, 31). Furthermore, Azuma applies this characteristic of our world also to the Internet: 'An easily understandable example of [postmodernism] is the Internet. The Net has no centre. That is to say, no hidden grand narrative regulates all Web pages' (Ibid.). Herein, the term postmodernism refers to the already mentioned (see above) complete postmodernism occurring after the *Fall of The Wall* (1989), when transcendental grand narratives have been fully dismissed. In other words, it refers to the 'age of monitors' rising during the Nineties and prefigured between the Seventies and the Eighties thanks to *information revolution* (invention and development of telematics).

Moreover, after extending the '1990's model shift' from social to technical, Azuma extends such shift also to the conceptual area:

> 'For me, the shift in models is not simply a social shift, such as with the emergence of the Internet, but also was clearly demonstrated in the scholarly world by the ideas of complex systems theory, such as the self-organization of molecules, artificial life, or neural nets, that become widely known in the 1990's' (Ibid., 32).

Such statements are reinforced by how the plurality of network theories developed during the whole twentieth century anticipated (and influenced) the network conception dominating today in almost every scientific and cultural field (and even common sense). Essential instances of such conception are Deleuze and Guattari's 'Rhizome', Bruno Latour's 'ANT' (actor-network theory), Edgar Morin's 'Complexity Theory' and Gregory Bateson's 'Cybernetics'.

As the theoretical realm has coded indirectly and inadvertently the technological world to come, so informatics technology has operated unwarily as a model for several contemporary scientific conceptions since its outcome. For instance, genetic theory tends to apply the way telematics systems work to life, as already pointed out thirty years ago by Baudrillard. It is interesting to notice in this regard that the DNA model has been designed mostly thanks to the possibility of the computer. Another example of such computerization of reality is cognitivism: the way we interact with reality is reduced to the mere exchange of information as if our brain were a hardware. Finally, Bruno Latour develops several definitions of familiar concepts by borrowing ideas from informatics and computer terminology. For instance, he rethinks *habitus* (and consequently competence) as intentional and volitional downloads and plugs in:

"I prefer the more neutral term of plug-ins, borrowing this marvelous metaphor from our new life on the Web. When you reach some site in cyberspace, it often happens that you see nothing on the [monitor]. But then a friendly warning suggests that you 'might not have the right plug-ins' and that you should 'download' a bit of software which, once installed on your system, will allow you to activate what you were unable to see before. What is so telling in this metaphor of the plug-in is that competence doesn't come in bulk any longer but literally in bits and bytes. […] Being a fully competent actor now comes in discreet pellets or, to borrow from cyberspace, patches and applets, whose precise origin can be 'Googled' before they are downloaded and saved one by one" (Latour, 2007, 207)

Azuma and Deleuze together with Guattari apply two very different models to a world shaped by networks and computers, despite commonly describing it as acentric, not strictly hierarchical and not based anymore on grand narrative (all the opposite of the modern world of the lens). Deleuze and Guattari refer to the *Rhizome,* while Azuma at the *database model*.

In the early Eighties, when information technology was still at the outset, Deleuze and Guattari theoretically developed the Rhizome, a revolutionary model, code, and anticipation for the Internet and the corresponding future society. In other words, before being a concrete phenomenon both technologically and socially applied, the web was a theory, whose origins date back to the Eighteenth century. In fact, despite its diffusion in the last century, the first mathematical formulation of networks, even if still in the form of an early approximation, corresponds to the *Seven Bridges of Konigsberg*, a mathematical problem developed by the Swiss mathematician and engineer Leonhard Euler in 1736 and applying to a concrete situation.

In the Prussian city of Konigsberg, there were at the time seven bridges built to connect the two sides of the Pregel River and the four districts the latter shaped. The objective of Euler was to demonstrate how to cross each of them only once through purely mathematical calculation. Five years later, he published the solution to this problem, pointing out that the physical map did not mathematically matter, but only the list of connections and points to connect did. He then reduced the four regions to four nodes, and each bridge to a connection between two nodes. Since the number of connections touching each node was odd, and since only an even number would have allowed passing through the regions by crossing each bridge only once, this specific problem had a negative solution. In other words, it was not possible to devise a walk crossing every

bridge only once. The abstract representation of the *Seven Bridges of Königsberg* is the origin of the graph theory, the mathematical foundation of networks.

It is just two centuries later that this theory finds more cogent, elaborate, convincing and not merely mathematical reformulations, like the Rhizome. Deleuze and Guattari, in their jointly authored work 'A Thousand Plateaus', builds a new way of systematizing. The book itself is presented "as a network of 'plateaus' that […] can be read in any order" (Deleuze & Guattari, 2014, vii). A Thousand Plateaus does not just create a theory of open system (rhizome), but it is itself 'conceived as an open system'. The text applies rhizomatic system.

According to the two authors, a rhizome is defined by seven 'approximate characteristics' (Ibid., 5), or principles:
-   First and second principles of 'connection and heterogeneity: any point of a rhizome can be connected to anything other, and must be. (Ibid.).
-   The third principle is of "multiplicity: it is only when the multiple is effectively treated as a substantive, 'multiplicity,' that it ceases to have any relation to the One as subject or object, natural or spiritual reality, image, and the world. This principle eradicates neoPlatonic and specifically Plotino's understanding of the Multiple as the reflection of the One, and so the more general notion of the double, so pivotal to the screen phase (see above). This principle also abolishes the dichotomy subject/object embodying the lens phase: 'multiplicity has neither subject nor object, only determinations, magnitudes, and dimensions that cannot increase in number without the multiplicity changing in nature' (Ibid., 7).
-   The fourth principle is of 'asignifying rupture': against the oversignifying breaks separating structures or cutting across a single structure. A rhizome may be […] shattered at a given spot, but it will start up again on one of its old lines, or on new lines' (Ibid., 8).
-   Fifth and sixth principles are of 'cartography' and 'decalcomania': a rhizome is not amenable to any structural or generative model. It is a stranger to any idea of genitive axis or deep structure. A genetic axis is […] an objective pivotal unity upon which successive stages are organized; a deep structure is […] a base sequence that can be broken down into immediate constituents, while the unity of the product passes into another, transformational and subjective, dimension '

(Ibid., 11). In other words, a rhizome is a hyper-flat map that does not represent reality (as seventeenth-century maps otherwise did), but rather assembles it, constructs it and mingles with it. As a result, the rhizome does not operate by reproduction, but rather 'by variation, expansion, conquest, capture, offshoots' (Ibid., 22).

The rhizome model corresponds to a new geometry, a new way of approaching space, due to the last two principles of cartography and decalcomania. 'There are no points or positions in a rhizome, such as those found in a structure, tree, or root. There are only lines' (Ibid., 7).

Globalization is itself rhizomatic in many of its concrete instantiations. The whole international airport system is an example of the network system, rhizome, constituted not by points but by hubs and nodes. Hubs and nodes are two different varieties of tangles of lines. They are not centres and points but formed by the crossing lines. Airports are nodes and hubs because they do not create threads to be connected between each other but they are constructed under the pressure of pre-existing connections, to facilitate them. However, there is a primary difference between these two classes of tangles. The decay of a node does not jeopardize the integrity of the entire rhizome, and its lines can be easily replaced along with the nodes, whereas the decay of a hub completely jams the rhizome and its functioning. The dismissal of secondary airports does not threaten the stability of the whole airport system. On the contrary, all major international airports, as such as Singapore Changi Airport, Dubai International Airport and New York City's JFK, are hubs of the airport network, pivotal notes for its subsistence. Another important characteristic of concrete rhizomes is their presence on a global scale, as occurring for both the International Airport Network the World Wide Web.

Azuma states that 'the logic of the Web is penetrating widely and deeply into many other genres technologically unrelated to it. For example, books and magazines will continue to be published in the future, but the organization and narrative style will increasingly approach those of Web pages; and movies will continue to be screened, but the direction and editing will increasingly resemble those of games and video clips' (Azuma, 2009, 101-102). Azuma deems it easier to comprehend what he defines as the 'postmodern world (and then the web) through a *database model* (or reading-up model)' (Ibid., 31), than through the "rhizome" model, in which, as already viewed, 'signs are linked in

diverse patterns over the outer layer alone (the deep inner layer having been extinguished)' (Ibid.). Therefore, the Japanese author interprets the Internet not as "a world established through the combination of outer signs alone, as in the case of the rhizome model. On the Internet, rather, there is a distinct *double-layer structure*, wherein, on the one hand, there is an accumulation of encoded information, and, on the other hand, there are individual Web pages made in accordance with the users 'reading them up' " (Ibid., 31-32). The database model refers to the image of an archive of data (which fits perfectly with how computers concretely work). From the perspective of Azuma, the double layer structure of postmodernity distinguishes 'between *the surface outer layer within which dwell simulacra* i.e., the works, *the deep inner layer within which dwells the database*, i.e., settings' (Ibid., 33).

'The rise of multimedia plays an important role here. In today's market for otaku culture, the previously accepted order is no longer dominant; no more do original comics versions debut, followed by anime releases, and finally the related product and fanzines. […] There are multiple layers of these kinds of intricate circuits. In such a situation, it is quite ambiguous what the original is, or who the original author is, and the consumers rarely become aware of the author or the original. For them, the distinction between the original and the spin-off products (as copies) does not exist; the only valid distinction is between the settings created anonymously (a database at a deep inner layer) and the individual works that each artist has concretized from the information (a simulacrum on the surface outer layer)' (Ibid., 39).

In conclusion, despite the statement of Azuma, there is not such a thing as a better fitting model between rhizome and database. They are not only equally explanatory, but they also represent two different procedural tendencies of the web and thus of today's global world; they both reflect well the many dynamics of our time.

3. Visible and Invisible

Computer monitors have the characteristics of inverting what was the classic relationship between visible and invisible existing in textbooks. As stated by Azuma on the dichotomy between the *visible* and the *invisible*: "the world of print media has been operating under the logic of 'making the invisible visible'. The world of the Web, however, is not constructed in this way. In it, the status of 'the visible' remains in flux. […] a series of

commands written in HTML characterizes the essence of Web pages" (Ibid., 98). For instance, when 'we consider the surface outer layer of the Internet, i.e., the Web pages displayed on the computer screen, first we must consider the characteristics of the HTML source code, because all Web pages […] are supposed to be written in this code. […] HTML, in principles, specifies the *logical relationship* among elements within the page, and their visual expression is left up to the user environment' (Ibid., 97-98). In other words, with the monitor "a user confronts exists only as nothing more than an 'interpretation' by the user environment- created by the operating system, the browser, the monitor, and the video chip. Yet, the browser is not even necessary for viewing a Web page; in fact, the source code (HTML) can be opened with a text editor, as a text including tags such as <h1>. That text file is also 'visible' insofar as it is displayed as text. In this sense, there are multiple 'visibles' for a Web page. Therefore, in reading a Web page we cannot make the simple assumption that we 'start with the visible' as before. […] In this world the value of the 'design' of a page depends not only on what is visible *but also on what is invisible*. […] There is a significant shift in values here. Print media starts with what is concretely visible, while the world of the Web begins with a comparative analysis of several visibles. […] Furthermore, the position of '*the invisible*' is unstable. For […] on the Web something invisible in one environment (with a browser) can immediately become visible in another (with a text editor)" (Ibid., 99). Finally, "If such a thing as the 'true form' of a computer file exists, it is a mere electromagnetic pattern stored somewhere in hardware, and the hexadecimal notation, the text file, and the image are no different insofar as they are all an interpretation of it" (Ibid., 103).

The alteration of the relationship between visibility and invisibility was firstly achieved through the application of three-dimensionality on PC monitors. 'The computer is not a visual medium. We might argue it is primarily mathematical, or perhaps electrical, but it is not in the first instance concerned with questions of vision or image. Yet our engagement with computing technology is increasingly mediated through the interface of the screen. […]. In the mid-1960s researchers had only one very modest goal: to construct and display a three-dimensional image. While contemporary computer graphics are often associated with the lifelike simulation of complex physical objects and effects, the primary concern for computer scientists at this early moment was simply to simulate any three-dimensional object at all. How is an object constructed, what is it made of, how does it interact with the world around it? These are the questions that most interested the

field. Thus while today we may think of computer graphics as principally a visual medium, in fact it is structured by a particular theory of the nature of objects, their relation to one another, and to the world around them; in short, an ontology. As such our treatment of graphics cannot be limited to their visual representation, and must account for their status materially as both image and object.

The earliest model of three-dimensional perspective comes from the graduate work of Lawrence Roberts, whose dissertation research at MIT – titled 'Machine perception of three-dimensional solids' (1963) – is a seminal text in the history of the field' […]. By introducing embodied perspective – or its mechanization through photography – Roberts' program adopted a set of psychological assumptions about how perception functions and might be procedurally modelled. To this end he drew heavily on the work of psychologist James J Gibson, whose *The Perception of the Visual World* (1950) he found instrumental in formulating vision as diagrammatic and discrete. […] For Gibson, vision is not derived from an embodied sense of place or location in space but from the perception of the relational boundaries of objects in a visual array, reduced to a discrete set of primitive forms. Vision in this formulation is no longer concerned with accurate mimesis, but it is instead engaged in the capture and replication of an external relationality' (Gaboury, 2015, 40-48)

This new approach not just toward computers but also toward perception itself will influence all the future development of computer graphic, highlighting the distance between the monitor phase and its two predecessors (lens and screen): 'Film and photography model visibility on our phenomenological perception of objects in the world, based on the science of optics and the physics of light movement and diffusion. As such, that which is turned away from the eye or the camera lens is radically inaccessible and cannot be seen. Computer graphics do not function in this way. For computer graphics, each object must be described in advance if it is to be rendered visible in a given simulation. […] Computers must calculate all optical or acoustic data on their own precisely because they are born dimensionless and thus imageless. For this reason, images on computer monitors … do not reproduce any extant things, surfaces, or spaces at all. They emerge on the surface of the monitor through the application of mathematical systems of equations. Thus, in order to simulate our perception of objects as fixed in a perspective projection, graphics must not only calculate that which is to be seen, but also

anticipate and hide that which is known but should not be seen, that which must be made hidden and invisible' (Ibid., 51).

Like the 3D, also the Internet has its origin in the 1960's. However, "the aggregate of all Web pages (Web sites) that we usually call 'Internet' today was born only in the 1990's. Strictly speaking, such a system, distinguished from 'The internet' (which refer to the network itself) is called the 'World Wide Web' (www) or the Web" (Azuma, 2009, 97). It follows that both 3D and Internet had been developed [as military technologies] during an intermediary period, occurring during the Cold War. Finally, they found their actual ['civilian'] deployment only in the 1990's, what Azuma himself considers, as already mentioned, the actual beginning of complete postmodernism when transcendental grand narratives are fully dismissed along with the historical defeat of the communist ideology.

In a computer framed world such as ours 'one cannot help pursuing the invisible *precisely because* the invisible is turned into the visible and lined up on the same plane one after another. […] the act of turning the invisible into visible by changing the environment (from a drawing application to a text editor, and then to a data fork editor) is […] a reverting back through the layers, but in its world (i.e. the desktop screen) it seems more than a side-slipping over the same plane. Therefore, at this point another kind of desire emerges: the desire to transform as many invisibles as possible into visibles, without arriving at the agency at the final level, and to extract as many simulacra as possible from the database. For example, because it is as easy to link to an internationally famous Web site as to a link to a mere personal Web site, we wander almost necessarily from one site to another with the help of search engines' (Ibid., 104).

The database tendency (see above) of post-Cold War monitor world has definitely disconnected 'the visible' and 'the invisible', whereby, as argued by Azuma, 'one reverts from one layer to another but will never reach a stable final level of agency in the hypervisual, postmodern transcendence' (Ibid., 106). On the contrary, 'there were first small, visible things in modernity and behind them there was a large, invisible thing. […] Modern transcendence is […] such a visual movement' (Ibid., 105).

4. *Superflat*

In 'Cinema 1', in the paragraph concerning the image-affection, Deleuze associates director Carl Theodor Dreyer to the creation of a specific cinematographic technique: the flattening of the third dimension, by the abolition of depth and perspective. This reduction to a two-dimensional space is immediately linked to affection. According to Deleuze, such technique allows the enhancement of other two dimensions through the elimination of depth: the fourth dimension of time and the unique fifth dimension of Spirit. It is not by chance that this reflection is made in a paragraph mainly dedicated to expressionist cinema. From the Deleuzian perspective, the image-affection is, in fact, a kind of image mostly developed in German movies between the two World Wars and corresponding to the *close-up*. The *close-up* focuses on the face, the 'organ-carrying plate of nerves' (Deleuze, 2015, 98) that 'has sacrificed most of its global mobility' (Ibid.) to express usual body hidden movements. Therefore, affect is nothing else than a 'combination of a reflecting and immobile unity and of intensive, expressive movements' (Ibid.).

Deleuze associates this very idea of affect with Bergson's notion of affection as a *motor tendency*, which is a series of micro-movements, on a *sensitive nerve*, which is an immobilized plate of nerves. Hence, affect is not a 'movement of extension' (Ibid.), as already explored (see above), but a *movement of expression*.

Similarly, expressionist painting sacrifices movements, details, realism, and depth (by the absence of perspective) to express an emotion, affection or a complex of emotions and affections. The geometrization of reality and the primal scream are consequentially the main artistic procedures of expressionism, as it is possible to infer by observing a classic painting of this vanguard: *Der Schrei der Natur* (The Scream of Nature) of Munch. The close-up transposes such pictorial technique to the cinema because *it abstracts its object 'from all spatio-temporal coordinates'* (Ibid., 106), raising it 'to the state of Entity' (Ibid.)*.* To Deleuze, the close-up visually corresponds to the passage from translation (an actual movement of an object) to expression, from extensive movements to the intensive movement of affectivity. In order words, it means focusing on pure virtuality, possibility, and power. In fact, the French philosopher points out four different kinds of power, different forms of affection, each one corresponding to a different property of the close-up:

1. Brilliance, which is the power (or quality) of sensation.
2. Terror, which is the power of feeling.

3. Decisiveness, which is the power of action.
4. Compassion, which is the power of state (as status, condition).

As stated before, each expression defines not a particular kind of sensation, feeling, action or "state", but each one of them as entities. For instance, brilliance does not correspond to a specific sensation but to sensation itself. Moreover, the space of the affection-image (embodied by the massive use of the close-up by expressionism) is not anymore, a specific place as it is for realism (American movies). On the contrary, it is developed as an *any-space-whatever*, a 'space of virtual conjunction, grasped as pure locus of the possible' (Ibid., 123). This absence of a concrete and specific context makes images with an affective instead of a representative connotation even flatter and less three-dimensional.

Flatness becomes even more dominant with the computer monitor, which, in fact, gives the observer the illusion of third dimension by overlapping different layers. Therefore, perspective is utterly abolished. "The characteristics of the worlds of the Web, computer games, and software – moreover the […] world in which we live - can be captured in the word 'hyperflatness'" (Azuma, 2009, 102). Murakami Takashi's concept of superflat influenced the term used in the above-mentioned sentence by Hiroki Azuma (*choheimenteki* in the original version). For instance, Takashi used it "to characterize the artistic movement centered on his own works. […] Murakami's 'superflat' is a sensuous term, incorporating […] also the characteristics of social structure and communications" (Ibid., 139). Murakami pointed out to the Web Journal Artnet: 'I'd been thinking about the reality of Japanese drawing and painting and how it is different from Western art. What is important in Japanese art is the feeling of flatness. Our culture doesn't have 3-D' (Drohojowska-Philp, 2001). In other words, Murakami (and partially Azuma too) appoints this feature specifically to the entire Japanese visual culture, a feature that only nowadays has become global due to the new information technologies and their impact on society. Moreover, another reason for this flattening of all contemporary mainstream and not only is the influence Japanese mass culture is having overseas. In fact, the various camera techniques frequently applied to make Japanese cartoons (fix, pan, fading) bring to a dilation of time that can also be found in cinematic tradition since German expressionism. Animation and the entire expressionist movement (both in painting and movies) share a common Japanese conception: time is not framed in chronological and objective terms and what matters is the quality and the intensity of every instant we directly live. An Anime (Japanese animation) is generally characterised by eternal

instants in which the extensive flow of the story coincides with the qualitative flow of affection, so the more intense an emotion is, the longer the moment lasts until a complete suspension of time through a fix, a panning or a fading. The result is an increased emotional involvement and tension for the audience. It is necessary to notice that despite being forecast in the TV medium, the dynamics of animation aesthetics reflect the computer implementation of the monitor phase.

Flatness is also the spatial characteristic of every network, as highlighted by Latour's ANT (Actor Network Theory) and Deleuze and Guattari's rhizome. In fact, both ANT and rhizome lie on surfaces; they do not recognize depth. Being bi-dimensional means ignoring the third dimension developed mostly by modernity – with the panopticon as its symbol. Latour ironically compares the work of ANT with the actual work of ants, since both might be only developed in an unstructured and unframed space, whose best representation is the map. The stress on maps is also present in Deleuze's *One Thousand Plateaus*, where Deleuze indicates them as the opposite of stratification. The latter is, in fact, a tri-dimensional and hierarchized structuration of space, where 'strata' works as a synonym for 'frame'. To avoid contextualization and framework, Latour always warns the reader of being indifferent to scale when describing. Scales are not a priori measures of the world, but they are invented, made, constructed: "'Ups' and 'Downs', 'local' and 'global' have to be made, they are never given" (Latour, 2007, 186). Depth is thus qualified as a constructed category, dangerous for the success of our assembly and our description since it overcharges them, forgetting the actual actors.

As already mentioned, flattening affects two huge frameworks: nature and society: 'After this flattening of the landscape, the outside itself has changed a lot: it's no longer made of society – and neither is it made of nature' (Ibid., 214). It also affects the definition of local and global: 'No place dominates enough to be global and no place is self-contained enough to be local' (Ibid., 204).

ANT and Rhizome do not spread homogenously on a surface despite their flatness. According to that, Latour defines the interactions between actors as:

-       not isotopic: 'what is acting at the same moment in any place is coming from many other places, many distant materials, and many faraway actors' (Ibid., 200);

-       not synchronic: 'action has always been carried on thanks to shifting the burden of connection to longer- or shorter-lasting entities' (Ibid., 201);

- not synoptic: 'very few of the participants in a given course of action are simultaneously visible at any given point' (Ibid.);

- not homogeneous: 'the relays through which action is carried out do not have the same material quality all along' (Ibid.);

- not isobaric: 'some of the participants are pressing very strongly, requesting to be heard and taken into account, while others are fully routine customs sunk rather mysteriously into bodily habits' (Ibid., 202).

The absence of homogeneity is also a characteristic of Rhizome, due to it being 'an acentered, nonhierarchical, nonsignifying system without a General, and without an organizing memory or central automaton, defined solely by a circulation of states' (Deleuze & Guattari, 2014, 22).

In conclusion, "Characteristics of the worlds of the Web, computer games, and software – moreover the […] world in which we live - can be captured in the world 'hyperflatness' […] The hyperflat world, represented by the computer [monitor], is flat and at the same time lines up what exists beyond it in a parallel layer' (Azuma, 2009, 102). In fact, one main change from the television screen to the computer monitor is the absolute abolition of an eye, of a residual form of perspective. In this regard, The Japanese psychologist Saito Tamaki, referring to the work of Azuma, writes: "[Superflat] indicates an imaginary space without depth or thickness, where even the eye of the camera does not exist. I would suggest that depth and the camera's eye are replaced by another regulatory system, namely, the layered 'contexts' (of plot, of authorship, of publication and distribution)" (Chee & Lim, 2015, 95) which constitute the database.

5. *Moe-Elements*

Hiroki Azuma analyzed the 'otaku culture' in his *Otaku Japan's Database Animals* (2001) to provide an account of how the fast diffusion of information technology on a global scale has changed social interaction, with a particular focus on contemporary Japan.

Otaku are those Japanese […] who fanatically consume, produce, and collect comic books *(manga)*, animated films *(anime)*, and other products related to these forms of popular visual culture […]. Globally, otaku culture has spawned a large following and strongly influenced popular culture not only in Japan but also throughout Asia, the United States, and Europe' (Azuma, 2009, xv). Azuma identifies otaku as the founders of 'Japan's Internet culture' (Ibid., 4) and focuses his analysis on the generation born around the 80's.

This generation of otaku has, in fact, 'experienced the spread of the Internet during their teens and, as a result, their main forum for general fan activities has moved to Web sites, and their interest in illustrations, to computer graphics' (Ibid., 7).

It is within the jargon developed by this specific group of otaku into the Web and by the use of computers that the term *moe* has been coined. This recent neologism refers to "the strong emotion triggered by an image or a character […]. The term is grammatically flexible: one can simply '*moe*-ru' (in the verb form), or feel '*moe*' for something, while '*moe*-elements' (Azuma's neologism) are attributes of the object" (Ibid., 129). These two declinations of the term *moe* are the two facets of a common post-Cold War consumer behaviour that otaku themselves during the Nineties' called *chara-moe*: 'Independently and without relation to an original narrative, consumers in the 1990's consumed fragmentary illustrations or settings' (Ibid., 36) by strengthening empathy toward these fragments. Despite being coined inside the otaku culture, the term *chara-moe* refers to a vaster context that constitutes the emotional counterpart of computers and internet, and the way users tend to relate to the images assembled and diffused by information technologies, as *Atmosphere* does with video games (see above). In both cases, images with affective function replace images with representational or at least fictional purpose and such is a primary characteristic of the entire monitor phase. However, while *atmosphere* is reduced to the mono-functionality of consoles, to make playing a more efficient experience, *chara-moe* by referring to a purely consumerist behaviour is not reduced to any specific function or any final achievement.

The moe-elements of virtual reality are also comparable to the close-up in expressionist cinema (analyzed in the previous subsection): they both eradicate every depth to highlight the affectional aspect of existence. However, also this comparison needs a clarification not to risk a mere reduction of the former to the latter term. While the close up is a means to express affection in absolute terms, a moe-element generates a certain affection that the viewer seeks in that specific computer image. By expressing a particular kind or a complex of emotions, a 'superficial' (flat) image satisfies a need of the user, who cannot be defined anymore as a pure, detached observer because of its primarily emotional involvement.

It follows that both interactive and solipsistic relationships occur between users and monitors: 'their needs for [small] narratives are satisfied individually, in solitude and in absence of the other' (Ibid., 94). This means that affection stops being social, as images stop being representative: "today, emotional activities are being 'processed' nonsocially, in solitude, and in an animalistic fashion" (Ibid.); the contemporary 'human cannot satisfy a thirst for 'meaning' through sociality, but rather satisfies it in solitude by reducing it to animalistic needs" (Ibid., 95).

It can be stated that 'the functions of *moe*-elements in otaku culture are not so different from those of Prozac or psychotropic drugs' (Ibid., 94).

6. Virtual and Actual

The word *virtual* is extensively used nowadays to designate something non-physical, in other worlds without any spatial extension, but appearing as concretely existing due to a software. However, the origin of this term dates to the invention of first computers and the internet by the military. It finds explicitly its first recurrent use with Henri Bergson's philosophy, inspiring roughly half century later Gilles Deleuze's thought. In fact, it is Bergson 'who develops the notion of the *virtual* to its highest degree and bases a whole philosophy of memory and life on it' (Deleuze, 1998, 43).

Both Bergson and Deleuze developed the term 'virtual' in opposition to the term 'actual', instead of the classic distinctions between imaginary and reality, ideal and real or possible and real. It is a commonplace to oppose "the virtual and the real: […] this terminology must be corrected. The virtual is opposed not to the real but to the actual. *The virtual is fully real in so far as it is virtual.* […] 'Real without being actual, ideal without being abstract'; and symbolic without being fictional. Indeed, the virtual must be defined as strictly a part of the real object– as though the object had one part of itself in the virtual into which it plunged as though into an objective dimension. […] The reality of the virtual consists of the differential elements along with singular points which correspond to them. The reality of the virtual is structure. We must avoid giving the elements and relations which form a structure an actuality which they do not have, and withdrawing from them a reality which they have. […] a double process of reciprocal determination and complete determination [defines] that reality: far from being undetermined, the virtual is completely determined. When it is claimed that works of art are immersed in a virtuality, what is being invoked is not some confused determination but the completely determined

structure formed by its genetic differential elements, its 'virtual' or 'embryonic' elements'" (Deleuze, 2014, 272).

Moreover, the virtual is not to be confused with the possible, as already hinted. Firstly, "The possible is opposed to the real; the process undergone by the possible is therefore a 'realization'. By contrast, the virtual is not opposed to the real; it possesses a full reality by itself. The process it undergoes is that of actualization" (Ibid., 275), or in other words resolution or integration. Possibility anticipates and thus produces what exists (reality) by being 'the negative determined by the concept: either the limitation imposed by possibles upon each other to be realised, or the opposition of the possible to the reality of the real. The virtual, by contrast, is the characteristic state of Ideas: it is by its reality that existence is produced, in accordance with a time and a space immanent in the Idea' (Ibid.). Otherwise, a possible assumes a particular space and time only through its realization.

> "Secondly, the possible and the virtual are further distinguished by the fact that one refers to the form of identity in the concept, whereas the other designates a pure multiplicity in the Idea which radically excludes the identical as a prior condition. Finally, to the extent that the possible is open to 'realization', it is understood as an image of the real, while the real is supposed to resemble the possible. That is why it is difficult to understand what existence adds to the concept when all it does is double like with like. […] The actualization of the virtual, on the contrary, always takes place by difference, divergence or differentiation. […] [It] is always a genuine creation. It does not result from any limitation of a pre-existing possibility" (Ibid., 275-276).

Bergson and Deleuze also replace and correct the two Aristotelian antithetic terms *potency* and *act,* by rejecting 'the concept of possibility' (Deleuze, 1998, 43). By doing so, these thinkers liberate the term virtual from its original medieval-Latin etymology *virtualis,* coined by Scholastics (whose main inspiration was a Christian interpretation of the texts of Aristotle) as a synonym for *potential* (possibility). In his journal article *Virtuous War/Virtual Theory* argues:
'Unlike the Aristotelian conception of the virtual as potential (dynamic), the virtual now has a constitutive capacity of its own, creative of rather than dependent upon the actual'(Der Derian (2000, 784).

As already mentioned during the Twentieth Century the ontological difference between images and things has been gradually overcome, and thus the separation between

conscience and world that was fundamental for the all lens phase, including both idealism (Descartes) and empiricism (Locke). Already with cinema and TV (see above), reality is reunified under the hyperreal regime and the end of representation (the adequate correspondence between an image and an object). However, such new conception is not just anticipating a technological enhancement (the birth of virtual worlds) or a significant social change (Baudrillard's account of simulacrum and postmodern society).

The Deleuzian view prefigures the hyperreality so dismally described by Jean Baudrillard as a pervading characteristic of the post-Cold War globalized world, whereby the sphere of things and the sphere of data/images have merged in one single reality. Furthermore, since the 2000's reality, or rather actuality, including individuals and society, have become highly dependent on the Internet and thus on the virtual. For instance, finance, communication, information, amusement, services, and mass transit operate through the Internet and computers; many of their circulations and transactions occur via the Web.

Der Derian gives few concrete examples of the 'prophetic power of the virtual' (Ibid., 785) (in a broad sense) on actuality, considering

> "a single day in the *New York Times*. An Op-Ed piece by the economist Paul Krugman invokes the Wall Street crash of 1987 (which was virtually and literally programmed by computer trading) to demonstrate how the economic crisis in Asia and Russia will cease to be a 'real-economy non-event' and could be transformed into a global slump should the private sector succumb to 'a self-fulfilling pessimism'. After the movie *Wag the dog* became the virtual standard by which President Clinton's foreign policy was framed, it is no surprise that in another article, this one on President Clinton's trip to Russia, former Secretary of State Lawrence Eagleberger said 'the trouble Clinton is going to have...is that we talk so much about him weakened that it becomes a self-fulfilling prophecy'. […] The front page carried a story on Audrey Santo, a girl from Worcester, Massachusetts, 'inert and unspeaking' for 11 of her 14 years because of an accident, who is believed by thousands to have miraculous healing powers after blood appeared four times in her presence on the eucharistic hosts, the virtual body of Christ'" (Ibid.).

Conclusively, 'In the case of most forms of contemporary culture, the real and the virtual express a vital tension—not merely that the virtual/simulated is a faux version of the real/original, but that the two are engaged in a dialogic process with one another' (Huntemann, 2010, 76). As a result, the relationship virtual/actual – already growing through the screen phase and blossomed with the monitor phase of computers, video

games and smartphone - completely subverts the Platonic reflective relationship of the two-world view central for the mirror phase (see above).

7. Virtuality, Warfare, and Speed

The French urbanist and cultural theorist Paul Virilio has underlined how the virtualization of reality corresponds to the dissolution of matter. By applying his insights on virtuality specifically to warfare, Virilio argues that 'video games, as part of the hegemony of new technology' (Ibid., 96) reduce 'our consumption or understanding or vision of battle […] to a series of images on screen, demarcating further the ambiguous division between the virtual (warfare) and the real (warfare)' (Ibid.). Such reduction happens by virtue of the simulative nature of computer games. They indeed replicate someone else's actions without the usual consequences that a real situation would bring along with it. As in any simulation, and as already expressed by Baudrillard, truth is just cast away from such experience. A sentiment reiterated by Virilio; truth never occurs when speed is involved, since it operates exclusively on appearances.

It is necessary to compare the character of electronic games with the action of driving a car to understand this point. Both experiences require a state of isolation and the bracketing of the three-dimensional environment that physically surrounds us. There is no direct haptic and effective relationship with the outside space, both as an actual space when driving and a virtual space when playing. What is necessary to increase this 'distant immersion' is the constant presence, development, and enhancement of comfort: 'Comfort is nothing other than a collection of ruses that aim to erase these infinitesimal inconveniences which are, however, themselves the proof of the existence of weight, scale, and a natural motility' (Virilio, 2007, 55)

In fact, regarding the car journey (which could be doubtlessly extended to a computer game), Virilio defines it as a dromoscopic simulation. *Dromoscopy*, which semantically refers to the Greek *dromos,* 'race', is the visual and perceptive regime that has nowadays been replaced by the modern *perspective*. The observer is always in motion, and the background shifts toward him/her. 'The vanishing point becomes a point of attack sending forth its lines of projection onto the voyeur-voyager, the objective of the continuum becomes a focal point that casts its rays on the dazzled observer, fascinated by

the progression of landscapes. The generative axis of an apparent movement materializes suddenly through the speed of the machine, but this concretization is totally relative to the moment, for the object that hurls itself upon the layer of the windscreen will also be as quickly forgotten as perceived, stored away in the prop room, it will soon disappear in the rear window' (Ibid., 105). Therefore, driving a car shares with videogames a quite similar visual experience, which completely differs from watching movies. Even though Cinema generated the first images directly traversed by movement (see above), only the former two can achieve an aesthetic not only based on the experience of a spectator, but where the driver/player is simultaneously actor and spectator. For instance, game theorists have compared the character, the avatar a player personifies (see above), to a vehicle: we execute and control its movements by analogical devices (either joystick or mouse and keyboard) when we steer the wheel or press down brake, clutch or accelerator. Virilio reiterates this concept by reversing the terms of the comparison: "the driver's seat of the automobile is only a simulator of landscapes, elsewhere, in certain supersonic vectors, direct sighting of the surroundings is often abandoned to be replaced by electronic images of the 'flight synthesizers'" (Ibid., 107). Therefore, from the driver's point of view 'the world becomes a video game, a game of transparency and transpiercing that the director [*metteur en scène*] drives as he sets off on the route [*de la mise en route*]' (Ibid.). Moreover, 'the ability to control is identified with the ability to move, that is with the *driving test*' (Ibid.). In both these kinds of dromoscopic simulations figures and images are reduced to their retinal persistence, impressions of movement, 'time lag (the imprint of the image on the retina)' (Virilio, 1994, 75) where the *light of speed* plays a fundamental role.

The optics developed in parallel to computer science are based on movement and speed, whereas the Greek-Roman Euclidian optics corresponded to a fixed geometry (see above). As a result, light becomes light of speed, whereas during classical antiquity and the Middle Ages, light was understood either as *lumen*, a perfect linear form existing 'whether perceived by the human eye or not' (Jay, 1994, 29), or as *lux,* 'the actual experience of human sight' (Ibid., 29).

Light of speed is the light produced by movement: 'what we see in the visual field is such thanks to the mediation of the phenomena of acceleration and deceleration in all points identifiable with variable intensities of illumination. If speed is light, all the light of the

world, then what is visible derives both from what moves and the appearances of momentary transparencies and illusions' (Virilio, 2007, 118).

The term *light of speed* was coined by Virilio to explain how after the invention of vehicles and cinematic projection, it is movement that allows us to observe the world and not natural light to distinguish figures/images: 'it is speed more than light which allows us to see' (Virilio, 1994, 74). Our entire technological apparatus based on telematics strictly depends on this very concept. A perfect example of it is 'the interface of the live television screen or the computer monitor' (Ibid., 72), where the continual acceleration and deceleration of the energy conducted through the electronic circuit allows the movement of the pixels and hence the transmission of images.

While transportation still relies on the spatial notion of distance, because it still requires a physical movement, a certain period to travel a specific portion of territory, communication technologies need such imperceptible and microscopic movements to broadcast and transmit images and information that time is the only variable. 'Speed is no longer particularly useful, as we once thought, in displacement or transportation, if speed serves primarily to see, to conceive the reality of the facts' (Ibid., 72). Henceforth, distances are overcome by their total compression.

In more political terms, while driving an automobile exemplifies the centrality of enhanced transportation, video games correspond to the information revolution at the turn of the last century. Such a shift reflects how in a globalized society time assumes the shape of speed and acceleration, while modernity had configured it as progress, in other words as the wealth of knowledge achieved (Leibniz and Kant).

The *logic of acceleration* 'determines the structural and cultural evolution of modern society' (Rosa, 2013, 279) as remarked by German sociologist Hartmut Rosa in his *Social Acceleration*; so much so that globalization was fully achieved once the 'foundational space-time regime' (Ibid., 252) of Western societies changed drastically. Such transformation corresponds to:

> "[the] confluence of three historical developments around 1989: the *political revolution* of those years, the collapse of East Germany and the Soviet and the political and economic opening up of East European states; the *digital revolution* […], which widened shortly thereafter into a *mobile revolution* that enabled microelectronic communicative availability unbound by location; and finally, the *economic revolution* of flexible accumulation or post-Fordist just-in-time production in 'turbo capitalism'" (Ibid., 253).

These three revolutions might all be considered as parallel interconnected '*accelerative moments*' (Ibid.) reinforcing one another in a virtuous circle - this means that Rosa does not assign any priority to technological and military developments as Virilio otherwise does.

The circulation of ideas, information, sources, and people assumes an openness, absence of resistance and an instantaneousness never experienced before because of this three-directional mutation of the world. Modernity is also a phenomenon of acceleration: the invention of print signs a new speed for information exchange that changed every other aspect of life, society, and culture. The revolution of transportation at the beginning of the twentieth century, when trains and automobiles drastically replaced horses and carts, constitutes another step forward in the field of speed, which once again shook every other dominion. However, what makes the late modernity of global capitalism so unique is the absence of 'any time delay, without large costs of friction losses' (Ibid., 255), in other words, by the realization of an unlimited acceleration. The latter is so revolutionary because it signals the crisis of clock time in favour of a timeless time that replaces historical duration with post-historical scattered simultaneities, and the crisis of the space of place in favour of the space of flows of the rhizome (see above). The consequent circulatory and instantaneous movements that end up permeating global capitalism support and are supported by the supremacy of financials speculations over labor and of services over products:

"Capital can move […] 'timelessly' across the entire earth, while the mobility of workers and their ability to accelerate and become more flexible remain very limited" (Ibid., 259). As a result, the intromission of politics is so debunked that many scholars had diagnosed it as having ended: to accelerate the stream of capital and information that both defines and is required by our societal norms, deliberations and decisions must be reduced to a minimum, or they will constitute a consistence resistance, a limitation for speed. In fact, for global powers 'to be free to flow, the world must be free of fences, barriers, fortified borders and checkpoints. Any dense and tight network of social bonds, and particularly a territorially rooted tight network, is an obstacle to be cleared out of the way' (Bauman, 2015, 14).

The result of this continuous acceleration of our society is the reduction of the entire planet to a compressed, non-differentiated singularity, a massive ultrasonic vehicle, a gigantic dromoscopic simulation, where speed, by means of its aesthetic of

disappearance, and through the mechanism of comfort has made the experience of truth impossible, unless an incident, a catastrophe occurs.

Crash becomes the only moment of lucidity, which might free drivers and passengers from the hallucinating relaxation of travel, as expressed by Virilio himself. Only then, the simulation is immediately interrupted, and all the most determinant aspects of our society collide firstly *truth, death,* and *speed*; secondarily *bodies* and *machines*. In the same fashion, the 'unlimited acceleration' (Rosa, 2013, 254) of late capitalism requires moments of deceleration to avoid incidents that might have disastrous effects on individuals, cultures, and environment: 'the time-horizon set by Wall Street simply cannot accommodate to the temporalities of social and ecological reproduction systems in a responsive way'. (Harvey, 2000, 59).

Even though dominated by instantaneity, globalization generates a multitude of temporalities each based on different degrees of speed. For example, movement of material sources and people need more time than the movement of information and capital. Nature and culture, even though invested nowadays by unusual pressures, follow a much slower pace than technology does. Due to such fragmentation of our globalized reality into several time regimes, duration ceases to exist. It means there is no more history, a unique progressive temporal frame following a unique project and a specific rhythm (a constant speed without acceleration and deceleration) to which individuals and societies must acquiesce. Therefore, there are different instantaneous 'presents', each one with its daily accelerations and decelerations, desynchronized one from another yet conflicting. It might occur that a slower dominion is not able to keep the pace of the leading one, the fastest dominion(s)/power(s), which generally tries to overwhelm and conform the others to itself/themselves (by imposing a resynchronization). As already mentioned, politics is one of the spheres that has more difficulties in adapting to the unlimited acceleration of 'the high speed world of financial markets' (Rosa 2013 301): 'Toward the end of the twentieth century the role of politics as a social *pacesetter* that was undisputed in classical modernity has been lost because the intrinsic temporality of the political is largely resistant to or incapable of acceleration' (Ibid., 302).

The events of a crash are once again evoked, namely, the resynchronization strongly requested by global capitalism with its drawbacks and responses: 'here democracy is the key to the slowdown, because it consciously makes the exercise of power slow' (Rosa, 2013, 303). In fact, whether an accident might invest our dromoscopic (to use Virilio's

expression) and 'turbo-capitalist' (to us Rosa's definition) world in its attempt to propel itself by accelerating out of any limit, the only way to avoid such catastrophe would come from politics, from the 'democratic side' of our society. It is not by chance that "today 'progressives' find themselves mostly on the side of *deceleration* […] because they advocate political control of the economy, process of democratic negotiation and protection of the environment, and local cultural particularities" (Ibid., 307-308). Therefore, politics does not set the pace 'for social developments' (Ibid., 308) as it used to do during classical modernity. On the contrary, it has become a late-modern brake, in an age in which the dangers menacing the lives of everyone (concerning unlimited acceleration of economics, technology and warfare) have markedly increased in terms of power, area, and duration:

'The temporal range of our decisions seems to increase to the same extent that the time resources we need to make them disappear' (Ibid., 305). Moreover, the menaces of late modernity are also irreversible as old threats have never been. 'Yet irreversible decisions require significantly more careful planning and information gathering and are therefore unavoidably more time intensive than reversible ones' (Ibid.). Genetics, nuclear plants, and arsenals, chemical emissions, environmental crises are just a few examples of powerful, long-term and irremediable risks brought about by the '*compulsion* to accelerate' (Ibid., 309) that late capitalism both supports and embodies:

'At the beginning of the twentieth-first century, the semantics of progress that accompanied all earlier phases of modernization almost completely disappears behind the rhetoric of objective forces: technological and social changes are no longer pushed through in the name of progress; they are justified by a threatened loss of competitiveness. In this context *growth* and *acceleration* go completely unquestioned as the prescribed goals of societal development' (Ibid.).

The once highly political utopian concept of 'progress' has been dismissed in favour of an apolitical myopic autotomized development that will stop only after an irreparable accident. The purely strategic parameters of: economy, technology, and warfare, combined with the strict relationship they all have to acceleration, as their propellant, makes these three dominions the most valuable and determinant of self-accelerating apparatus that globalization has become. It is on this note that it is possible to return to the juxtaposition of army, technology, and speed made by Virilio.

The entire technological apparatus that allows speed to achieve new levels is strictly entangled with warfare. In fact, every new enhancement is achieved once a conflict requires faster displacement of sources (both human and non-human), means and weapons to defeat the opponent. However, until the twentieth-century transport of goods, objects, material entities, in other words, the matter on a specific territory was still the primary aim of war. As already mentioned, a war was won by occupying territories, by penetrating through the enemy lines. Speed was then the means to achieve such a task. It is only in the last sixty years that warfare has focused on developing a faster technology; all occurring in a race that awards the most dynamic over the broadest nation. War is no more fought in the 'field of space' but on 'the field of time'. Every new grade of speed achieved corresponds to a conquest. As a result, politics completely mutates its status in favour of the apparatus overwhelming the individuals. "The loss of material space brings to the government nothing but time. […] speed would suddenly become a destiny, a form of progress, in other words, a 'civilization' in which each speed would be something of a 'region' of time" (Virilio, 2006, 157) The considerable investment in vehicles and machine guns at the turn of the twentieth century is one of the first examples of such a change in the logic of warfare. World War I was still relying on territorial conquest. However, the physical occupation of the enemy's space became less important than wearing the enemy down, where coordination, internal transportation of soldiers, weapons and other necessary resources played a pivotal role. The faster the replacement of one's line went the faster the enemy capitulated. A higher deployment of the air force and tanks corresponds to another conquest of time that occurred during World War II. The almost instantaneous defeat of the French army, which was still mostly dependent on machine guns and trenches, by the Germans whose military *Blitzkrieg* tactics mostly based on a focalized and considerable movement of the faster-mechanized infantry, demonstrates further how war, from the nineteenth century on, had speed as its primary aim. Moreover, nuclear arsenal constitutes another conquest on the 'field of time', where the actual use is not even needed to show power, only its very possession. As a result, space becomes even less relevant to define the strength of a nation. Finally, the information revolution started at the end of the last century represents the last speed achieved, the last battle won, where the country with the most efficient, and thus pervasive system of communication on a global scale is also the most powerful.

Dromocracy is the name coined by Virilio to define a society such as ours, where he who optains speed also optains power. In fact, he argues that those who control power are the groups that have the most direct relationship with speed, like armies and automotive industries, even though the latter has recently surrendered to communication technologies, which, in fact, tend toward *time zero* compared to the much slower vehicles.

Speed has become a fundamental value forging the post-Cold War society, technology, entertainment and military industry, tying all them up. In this regard, virtuality is the best current embodiment of such dromoscopic apparatus we live in, since:
- The mechanics of computer and current TV screens have speed as their essential feature, without which no images, no light would appear;
- Hyperconnected virtual realities achieve the time zero, thanks to instantaneous communications, in an era that aims to the limit of speed, the highest acceleration possible, which is the speed of light, where matter is exterminated in favour of pure energy.

According to Virilio, the violence of speed *exterminates* space, matter and decision-making skills. It is 'unsuspected violence produced by the vehicle, this celerity that tears us away so abruptly from the places travelled through and in which we abandon ourselves in shared transport' (Virilio, 2007, 42). As the last step in the technological enhancement of speed, virtuality even intensifies the effects of these three *exterminations*:
- It is the result of the compression of territory employing instantaneous movement of information from and to every place whatsoever, without any physical localization. It is, in fact, accessible everywhere at the same time (time zero).

It allows the creation of a space that can be inhabited by everyone despite one's actual position on the earth. Virtual space compresses actual space at its limits.
- The *synthetic image* that constitutes it "is merely a 'statistical image' that can only emerge thanks to rapid calculation of the pixels a computer graphics system can display on a screen. To decode each individual pixel, the pixels immediately surrounding it must be analysed" (Virilio, 1994, 75). Therefore, the virtual world does not feature any real, tangible material entities, but just light on monitors. All the discrete elements present have no consistency; they are just visual hallucinations, products, 'emanations' of algorithms.

- Any virtual world, as any video game, reduces the player to a mere executor of default tasks, whereby the only liberty he or she has only affects how to proceed. In its entertaining version (computer games), the technological apparatus of today's society thus tests their 'consumers' from the capability of better executing these pre-set objectives. Therefore, competition does not measure creativity, meaning generation, imagination, but only performance. Speed and coordination are the only elements to possess a pivotal role in players' victory. As already noticed, strength, volumes, masses are illusory characteristics of a video game; they are merely architectonic elements that do not affect one's performance, but only one's immersion. They only function as both landscape and comfort device for the actions of the player on the vehicle/avatar (or playable character).

C. SMARTPHONES

1. Smartphone as Similar to Mobile Phone

At their outset - the first Motorola dates to 1979, yet despite cell phones spreading around the globe at the turn of the century - smartphones were just mobile phones and not yet mobile handheld computers. They performed limited visual elements, as such as texts and few images with very low graphics. In fact, mobile phones were initially produced just as a more effective and faster way to communicate than a fixed phone: from then on people could chat with one another when and where they wanted. Therefore, mobile phones still favoured hearing over any other sense, whereas contact was restricted to dialling numbers on a tiny keyboard. However, they already affected our conceptual, emotional and perceptual spheres in two main ways, which would continue under their successors, i.e. smartphones. The focus then being on their shared characteristics: size, having wireless, constant connection to the internet and the communicative function.

The first feature of mobile phones - and later smartphones even more effectively – is pure nomadism, complete because both virtual and physical. With regard to both mobile phones and smartphones, they have ultimately virtualized our notion of proximity and distance, whereby 'proximity no longer requires physical closeness […] [and] physical closeness no longer determines proximity' (Bauman, 2003, 62). For what concerns virtual proximity, 'facility of electronic connection' (Ibid, 61) has not made travel redundant as otherwise predicted at its outset. "If anything, the advent of electronically assured out-of-placeless makes travel safer, less risky and off-putting, than ever before […]. Cell phones

signal, materially and symbolically, the ultimate liberation from place. Being near to a socket is no longer a condition of 'staying connected'" (Ibid., 61). For what concerns virtual distance, it corresponds to 'suspension, perhaps even cancellation, of anything that made topographical closeness into proximity' (Ibid., 62).

Such virtualization of both proximity and distance also affects human relationships. In fact, the 'advent of virtual proximity renders human connection simultaneously more frequent and more shallow, more intense and more brief. Connections tend to be too shallow and brief to condense into bonds. […] Contacts require less time to be entered and less effort to be broken. Distance is no obstacle to getting in touch – but getting in touch is no obstacle to staying apart. […] Virtual proximity can be […] finished with nothing less than the press of a button' (Ibid.).

This increasingly overwhelming presence of virtual proximity in our lives has set the pattern for every proximity. In other words, the 'more human attention and learning effort is absorbed by the virtual variety of proximity, the less time is dedicated to the acquisition and exercise of skills which the other, non-virtual kind of proximity requires. […] Once entered, the passage from non-virtual to virtual proximity acquires its own momentum. It looks self-perpetuating; it is also self-accelerating' (Ibid., 64-65).

Smartphones, by virtue of being mobile handheld computers and not merely phones have enhanced the coexistence of virtual and physical nomadism already featured by mobile phones - 'Mobiles are for people on the move' (Ibid., 59) -, which were otherwise more like telephones, even though wireless and mobile. Desktop PCs (personal computers) embody both virtual nomadism and a hypertrophic form of sedentism. With the production and increased distribution of laptops, this initial situation of computers shifted to seminomadic hardware. In fact, this kind of PC can be transported everywhere - by including already a rechargeable battery, a display, and a keyboard. However, it still requires physical support as such as a desk to be used comfortably, and its size makes it still too heavy for efficient and fast transportation. As mentioned above, the mobile phone and even more the smartphone achieves pure nomadism, both virtually and physically: 'Mobiles are for people on the move' (Ibid.). Their weight and size are minimal. No external elements (as such as the mouse) are required. The softness of this little hardware also increases the level of connectivity at his maximum degree: one can stay intensively connected at all time because this tool can follow her or him in every place; it can be used

everywhere without any support needed. "You would go nowhere without your mobile ('nowhere' is, indeed, the space without a mobile, with a mobile out of range, or a mobile with a flat battery). And once you are with your mobile, you are never out or away. You are always in – but never locked up in one place" (Ibid.).

The second feature is what the Polish sociologist Zygmunt Bauman named in *Liquid Love* (2003) the *swarm*. He argues that once connected through our mobile phones we all become part of a *swarm*: a 'crowd of stands-out […]. An aggregate of self-propelled individuals who need no commanding officer […] to keep it together. A mobile aggregate in which each mobile unit does the same, but nothing is done jointly. Units march in step without falling in line. The true-to-form crowd expels the units that stand out, or tramples over them – but it is only such units that the swarm tolerates' (Bauman, 2003, 60). What Bauman also underlines is that this swarm-like aggregate is not the social product of a new generation of non-fixed, wireless telephones; but they were already in development in our liquid, post-industrial society since the Nineties. 'Mobile telephones did not create the swarm, though they no doubt help to keep it as it is – as a swarm. The swarm was waiting for the [mobiles] […] to serve it. Were there no swarm, of what use would the mobiles be?' (Ibid., 60). The social sphere was already developing into an aggregate (the swarm) of units (the individuals) before the global production and purchase of mobile phones and because of an increasing individualization. As the swarm replaces (even if with small changes) the Nineteenth century-screen mass (see above), so the individuals forming the swarm replace the modern-lens subjects and the spectators of screens.

As previously mentioned regarding agency in video games (see above), nowadays we do not deal with subjectivity anymore, and thus neither with objectivity, controller and control, *res cogitans* and *res extensa*, in other worlds with substantial and ontological notions; but with practical concepts (as such as agency), which thus refers to action. Individuality itself is neither a status in which we are born, as on the contrary is subjectivity - and the notion of personhood too, with its strong Christian connotation. It is a process, whereby one must become what he/she is: "'individualization' consists of transforming human 'identity' from a 'given' into a 'task' and charging the actors with the responsibility for performing that task and for the consequences […] of their performance' (Bauman, 2015, 31-32). For instance, at the end of twentieth century, 'compulsive and obligatory self-determination' (Ibid., 32) has replaced 'the heteronymic determination of

social standing' (Ibid.). Similarly, the individual has replaced the citizen, the primary reference of all modernity since the creation of the idea of the social contract by philosophers as such as Locke, Hobbes, and Rousseau.

In the modern age, the weakening of territorial communities caused by the phenomena of exploration and colonization required the development of a new form of aggregation based on the recently formed 'unencumbered' subject (whose definition is universal and not relegated to a specific context). Such aggregation corresponds to the modern notion of *society*, and it is to it that is possible to rename the philosophical notion of subject into the political one of *citizen*. "The 'citizen' is a person inclined to seek her or his own welfare through the well-being of the city" (Ibid., 36) or the society. At the turn of the last century, 'the corrosion and slow disintegration of citizenship' (Ibid.) occurred in favour of an extended and unlimited individualization. In contrast to the citizen, "the individual tends to be lukewarm, sceptical or wary about 'common cause', 'common good', 'good society' or 'just society'" (Ibid.). As stated above, these units aggregate into the swarm instead of the society, whereby "'We' has become 'nothing more than an aggregate of I's, and the aggregate is [...] nothing greater than the sum of its parts" (Ibid., 65).

The etymology of the word 'individual' from the Latin *individuus* - which stands literally for 'not divisible' - explains its association to an indissoluble unit; a unit that is thus isolated from the others by virtue of this very monadic connotation of its etymology & definition. Under the monitor phase, the unity and consequent isolation that constitutes the individual, even by definition, substitutes the unity and consequent isolation of society from other spheres (mostly nature). Moreover, individualization does corrode not only society - which is already a form of totality - but also any belief in a primordial or final totality. In this respect, Bauman argues: 'Abandon all hope of totality [...] you who enter the world of fluid modernity' (Ibid., 22). The swarm also affects another important longstanding political institution: the family. 'Mobiles would not stop mom nursing her mocha, nor the kids munching their muffins. But they would make avoiding each other's eyes an unnecessary effort: eyes would by then have turned into blank walls anyway [...]. Given enough time, the mobiles would train the eyes to look without seeing' (Bauman, 2003, 61).

As a result, what is left to represent the private realm is not anymore the family but the sole individual. Furthermore, the vanishing public realm is just a giant display 'on which private worries are projected without ceasing to be private or acquiring new collective qualities in the course of magnification: public space is where public confession of private secrets and intimacies is made' (Bauman, 2015, 39-40).

This continuous display of individuality and individuals is not a sign of a dominating narcissism, as frequently stated in newspapers and TV programs. It is how individuality and individuals built themselves and their guidelines on a global scale. It is an instrument of reinforcement. As already stated above, while subjectivity (as personhood) does not need to be reinsured, it is not conceived as construction but as an ontological state, a fact, individuality is a process, a work on the self; in order words, it corresponds to self-building even more than self-realization. There is not a mirror on which to reflect one's image, but a blank page on which to write or draw one's characteristics.

The self-isolation and the solipsism of individualism are also all standard features of the monitor phase, the world that it constitutes and its technological instantiation (web, computers, video games and not only smartphones). As addressed in a previous subsection (see above), even affection and empathy have become solipsistic; they are felt no more toward other people but to images consumed on the web and using a PC. It follows that not only the social contract but also feeling has stopped being essential to the foundation of society. It is as if all the great social project of Rousseau had fallen apart, both regarding the social contract and empathy, *agape*. 'It is unnecessary to cite Rousseau to point out that empathy was once considered a basic element of society' (Azuma, 2009, 94). Both the race for self-realization and a solipsist affection directed toward virtual have contributed to the formation of the social network, mostly through the mediation of the smartphone.

2. Social Networking Sites

Despite all its recent enhancements and its multifunctionality, - which will be the focus of the next subsection - the smartphone keeps being primarily 'a device for social interaction and communication' (Sotamaa & Karppi, 2010, 123). That is, in fact, its original function: texts and calls. This feature has made it the perfect platform for the development of social networking sites, or SNS. The production of mobile phones and then of smartphones is what effectively brings sociality into the monitor phase even more

intensively than the Internet. As previously addressed, through the computer and the web, the social (and not society) becomes the platform through which to exchange images and information amongst each other without the involvement of any interpersonal emotion. Moreover, through the mobile phone, sociality does not correspond anymore with society, but otherwise with the swarm, an aggregate of isolated individuals that only experience shallow intense and short relationships. Social networks bring the swarm to a further step, by combining the social characteristics of the internet and the computer (voracious exchange of information and images) with the flat, fast and concentrated sociality of the mobile phone. It is not by chance that its central platform of development and use is the smartphone, both a miniaturized computer and an enhanced version of a mobile phone.

Online communities were nothing more than an early version of social networking already present in the Nineties, due to the then great spread of the Internet. However, it is only in 2009, when Facebook (launched in 2004) became the most massive social networking site in the world that 'social media' (a term introduced that same year) achieved an impactful worldwide status. At its outset, Facebook was just a Harvard social networking site that afterward quickly expanded to others. Other honourable mentions of S.N.S are WhatsApp, Pinterest, Twitter, LinkedIn, Skype and Instagram. Since 2009, social media have assumed increasing prominence in every sphere, mostly in politics. Trump's constant use of Twitter as means of power is just the most visible and transversal case. This tendency is also diffused in somewhat local context, as such as Italy, where the ex-prime minister Matteo Renzi used, and still uses twitter to influence electors, give his perspective on particular events or political situations in a fast and sharp manner. This phenomenon highlights once again the increasing invasion of the private into the public. Moreover, the new-born Italian political party 'Cinque Stelle', mostly composed of relatively young members, has assumed the web as a symbol for their idea of virtual direct democracy and of their internal organization, in which, as stated by their most abused motto, 'one counts as one'. To apply this conception of politics concretely, Cinque Stelle employs extensive use of the web (e.g., blogs, social networks) for political discussion and votes of the representatives.

Social media has also spread enhanced modalities for internet dating, fulfilling the prediction of Zygmunt Bauman from 2003: 'As the generation weaned on the net enters its prime dating years, internet dating is really taking off. And it's not a last resort. It's a

recreational activity' (Bauman, 2003, 65). For instance, only in the last years the usage of this kind of SNS has become socially accepted and has stopped being treated with shame or as a taboo; mostly due to the ludic and voyeuristic attitude generations having grown up with mobile phones in their hands had toward dating applications as such as Tinder.

> "Besides, internet dating has advantages which personal encounters do not have: In the latter, the ice, once broken, may stay broken or melt once and for all – but it is totally different with internet dating. […] You can always press delete. […] [Therefore,] users of online dating facilities can date *safely*, secure in the knowledge that they can always return to the marketplace for another bout of shopping […] without fear of 'real world' repercussions" (Ibid.).

Tinder and many other recent 'hook up applications' even intensify the treatment of relationship as choices on a shopping catalogue and as purely rational contractual agreements. Specifically, on Tinder, users can label other users' profile (including their pictures and a short bio) as 'like' by swiping right, or 'dislike' by swiping left; then, the chat can start only if both parties have swiped right on each other. After that, it is up to them whether to hang out or not. As a result, individuals have their constitutive isolation and unity safeguarded by their trustworthy smartphones.

However, as it occurs with the swarm (see above), also electronic dating has prospered as by being supported by a favourable pre-existing social condition, and not vice versa. For instance, "internet dating would hardly have succeeded on its own unless it had been aided and abetted by the removal of full-time engagement, commitment and the obligation 'of being there for you whenever you need me' from the list of the necessary conditions of partnership" (Ibid., 66).

Through social networking sites, smartphones also bring the affective character of monitor images to a further step: from the *atmosphere* of video games (see above), passing through the *moe-elements* of computer database and the Internet (see above), ending with the *emojis* of these handheld mobile computers. The atmosphere is meant to immerse the player in the game, the chara-moe to generate solipsistic empathy toward an image, while the emoji otherwise epitomizes the grade zero of communication. As chara-moe, the term 'emoji' was coined in Japan, but without referring at all to the English 'emotion' – as it might otherwise seem. This Japanese word initially means pictograph, from *e* (picture) and *Moji* (character). For instance, the first diffusion of emojis occurred in 1999 on Japanese mobile phones. However, it is only within the last decade – the 2010's

– that emojis have been added worldwide to mobile phones, and after that smartphones, and become increasingly popular around the globe.

Their development was antedated by *emoticons*, which are text-based symbolical representations of facial expressions. Emoticons started being used worldwide on SMS (texts on mobile phones) and emails only in the Nineties, along with Internet and mobile phones, despite their origin dates to the early Eighties.

Both emoticons earlier and emojis later are meant to communicate emotions straightforwardly and quickly, feelings and other affective states. However, such immediacy, such a literal absence of mediation that those images manifest, makes them what they are supposed to symbolize. To this extent, emojis are nothing more than affection-images, which by no chance entirely coincide with facial expressions (see above). Besides, the affection that should be conveyed through one of these images is finally re-directed toward those same pics. To this extent, emojis are nothing more than moe-elements (see above). Finally, the usage of emojis within a virtual context (might it be an SNS, a chat or a forum) often implies and requires a comic and ironic undertone or at least a light-hearted attitude from the user, although applied to anger, sadness, anxiety and any other 'not joyful' face expression/emotion. Therefore, the use of emojis corresponds very often to both distance from one's own emotion, in order words, the tendency toward simulating a certain emotion for the sake of amusement, and a fetishist treatment of emotions as primary data. Treating emotions as primary data means that they are losing their original 'function', their *raison d'être*, which is 'to move' us, to make us act or at least reflect on what troubles us. Through their reduction to meaningless and self-referential images (in other words simulacra), emotions neither link people anymore nor help define a possible interiority (an attribute more proper to personhood than individuality). They instead become consumer goods at the disposal of unsatisfied, voracious and monadic individuals or an ephemeral reason for a short moment of aggregation, a momentary objective for the swarm.

Photos are also affected by this reduction of images to 'pollen for the swarm', digital material that virtually circulates through social media from one smartphone to another, from one individual to another. This massive presence of pictures on our smartphones and then on social networks is the result of the extreme versatility of mobile handheld computers (even wider if compared with PCs' multifunctionality), which include, in fact,

photo cameras too. Instagram is the most fitting example of how this implementation of the smartphone can be applied to social media: this web application is nothing more than a virtual social platform where to share pictures. Pinterest is another social network where users share pictures, but also any other kind of images, including videos, GIF (Graphics Interchange Format) images, and drawings; but herein are images catalogued and labelled after topics and ideas and not concerning who has shared them. All these social networks explicitly revolving around images demonstrate that social media do not concern socialization or the creation of a society, or sharing experiences, but only gathering and consuming data and images on a common platform. This hypertrophic circulation of images does not only affect the swarm and its movements, but also the units that form it. In other words, also the individuals tend to reduce themselves to images and share those same images on the social media. These images are the *selfies*.

Selfies are the most peculiar and representative typology of smartphones pictures circulating through social networks because they were born on these very platforms. Besides, they are the tools most commonly used by individualism to show off their presence in the swarm of social media. This kind of pictures have utterly replaced mirrors for what concerns the way one physically interrelates with him/herself; by doing so, they have also utterly changed the meaning of 'reflection'. In fact, once selfies replace the mirror as the concrete and original model for the construction of the *self-image* (see above), so the concept of selfhood is also utterly reframed.

As illustrated in the Part I, the myth of Narcissus implies only the relation between Narcissus and his reflection. In Ovid's version, 'Narcissus […] is Narcissus and not the archetypal narcissist. His story is more revealing in terms of Ovid's literary intent […] than it is in terms of psychological generalizations and theory' (Galinsky, 1975, 49) A 'one-sided psychological extrapolation would result in only a partial recognition of Ovid's intentions. […] Ovid's interest in this story is not the psychopathology of Narcissus, but the paradox of Narcissus' (Ibid, 52). In other words, narcissism does not directly refer to Narcissus, but it instead deforms this mythical character to fit him into the denotation of a personality disorder, as is the Oedipus complex a Freudian extrapolation from the myth of Oedipus to a psychoanalytical diagnosis. For instance, narcissism is a term introduced by Sigmund Freud himself in his essay *On Narcissism* of 1914.

As mentioned in Part I, the myth of Narcissus was also a philosophical warning against the attachment to material reality and an ethical warning against the detachment from one's community, without any psychological attribution. Therefore, narcissism is an inappropriate reference to his homonymous tale and then to the whole mirror phase. Moreover, once this term is applied to contemporary phenomena, such as selfies and social networks, the risk is to define them incorrectly as new forms of self-reflection and to reduce them as mere forms of excessive self-love.

Selfies are not just self-reflection because, firstly, they do not follow all our movements while we also look at them. Secondly, we do not get lost in ourselves by looking at the smartphone camera; we just want to take a picture of ourselves, and not to keep it as a memory, or to look later at our own image in a particular context, but to share them eventually on Facebook or some other social network. Thirdly, the mirror implies a purely intimate relation with our image, a relation developed in private. On the contrary, by taking and then posting a selfie one seeks a public reaction (be it of approval or disapproval), despite the reason behind that gesture. Moreover, selfies are currently also group selfies, while the first selfies dating back to the early 2000's (even before the rise of social media) were much less in number and just of single individuals. Nowadays, even famous actors and politicians take selfies. An example of it is the highly criticized selfie taken by the former British Prime Minister James Cameron and former U.S President Barack Obama as a tribute to Nelson Mandela in 2013. Finally, every smartphone supplies the user with the availability of actively modifying his/her pictures between sharing on social networks, in contrast to the mere reproductive or at the most distortive capacity of mirrors' surfaces. In other words, smartphones modify exclusively and directly the image (produced by pictures or selfies), whereas mirrors (at least the mirrors with polished surfaces) are instruments for mere cosmetics, whereby the image (reflected) is only a support for one's exterior modifications of face/body. As a result, there is no double as with the mirror, a constant reciprocal reference between body and image, but just a reduction of everything, including oneself, to massively circulating images.

The whole monitor phase and its interactive features do not just replace the self-reflection of mirrors with shared images. It also hinders the spectacle, core and central scopic regime of the screen phase. The smartphone contributes precisely to the decline of spectacle by

abolishing the strict division between audience and actors, passive and active, periphery and centre, due to its hyper-connectivity and its transversal virtual space.

3. Smartphone as Different from Mobile Phone

The swarm made from separate and isolated individuals, and 'pure nomadism', with its switchable virtual proximity and virtual distance, are features developed by mobile phones and then transferred to smartphones by virtue of their standard physical (small size) and communicational properties.

However, by moving from 'traditional' mobile phones to smartphones during the last decade, we have passed from exclusively linguistic (both audio and textual) devices submitted to the sole communicational function to their implemented version including more prominently haptic and visual elements. It is as if the telephone had a drastic substantial change, becoming all of a sudden, a cutting-edge version of digital technology, and what this research defines as a monitor. Therefore, through smartphones (e.g., iPhone and Samsung), the monitor phase has not only reduced its size (already addressed concerning 'complete nomadism') but also enhanced its multifunctionality, adding utilities even absent in PCs. Cameras constitute one of these new utilities, as already illustrated in the previous subsection (see above), along with implemented mobile games (which will be one of the main topics of the next subsection) and blood pressure applications to track regularly one's own pulse (as such as 'Instant Heart Rate').

It is with the implementation of touch screens into smartphones that both phones and computer industry undergo a revolutionary change, and that the 'glassy technology' reappears in a new form. The haptic relationship that characterizes the monitor phase and distinguishes it from any other 'vitreous kind' of devices finds in the so-called *Touch Screen* its current most advance enhacement[16]. It also finds its, more representative and comfortable application in smartphones, despite its extension to different forms of portable computers as such as iPads (in other words a hybrid between an iPhone and a

---

[16] In this subsection, the term 'touch screen' has been left unchanged from its original nomenclature despite the very different and specific meaning herein given for explanatory reasons to the words 'screen' and 'monitor'. In fact, within this context the term 'touch monitor' would have been more accurate. However, for sake of understanding the term touch screen will be kept in its original form. In fact, a widespread definition recurring in every language would be more immediate and easy to grasp than a too specific terminology applied only within this research.

computer) and last generations of laptops. The touchscreen reduces, even further the distance between vitreous devices and ourselves. In fact, while computer and console games need a controller, an external element, to create a first active interaction, with the touch screen the relationship with the monitor, and more generally with technology reaches an even closer degree of proximity. In this context, the haptic relationship happens on a new direct level; sight and touch (and even sound, if activated) achieve full coordination. Finally, to make this possible the monitor assumes new technological features. Swiping applications, as such as the already mentioned dating app Tinder, and mobile games for what concerns some of their features, are just an example of the potentials of touch screens and the series of activities they allow.

Digitality transforms images and transfers vision to an extended vision-optical function to a haptic space. Eyes move to a just visual-representative nature to a *tactile* one. Once again, the instrument changes our perception and so the meaning itself of perception. Art partially becomes the model of whatever we do through 'participative technology'. From the spectatorial nature of television and cinema, we pass toward a more nomadic one, signing the end of mass society and the beginning of a transversal society. The haptic experience is integrated with the visual one in such a way that the eyes disclose their haptic facet.

Cinema and television still find common ground on the distinction between the passive watcher and the active performer of the spectacle, but not anymore on a control level, whereas video games, computer and touch screen devices ground on a digital level. Long distance vision has been substituted by close vision, which is typical of artists' work and more generally artisans' way of producing. Herein comes not only consumerism but also an active assemblage of elements from the perspective of web-users. If the hegemony of television during the Cold War corresponded to the passage from the capitalism of production to neoliberalism, from service to consumerism, then the full enhancement of video games and the full development of the internet might be giving a new shape to society.

Reading a monitor full of information is quite a different thing from *looking*. It is a digital form of exploration in which the eye moves along an endless broken line. The relationship to the interlocutor in communication, like the relationship to knowledge in data-handling,

is similar: tactile and exploratory. A computer-generated voice […] is a tactile voice, neutral and functional. It is no longer in fact exactly a voice, any more than looking at a [monitor] is exactly looking. The whole paradigm of the sensory has changed. The tactility here is not the organic sense of touch: it implies merely an epidermal contiguity of eye and image, the collapse of the aesthetic distance involved in looking. […] We no longer have the spectator's distance from the stage' (Baudrillard, 1993, 61).

In conclusion, the multifunctionality of smartphones is also related to the possibility of downloading several applications, each corresponding not only to a different function but also to a different service, with a constant connection to the web, in case of requiring support. Such characteristics represent a further enhancement for the entire capitalism of services we are already living in since the end of the last century.

4. Smartphones, Services and Mobile Games

As the functioning of our monitors (and screens) is increasingly based less on purely visible, discrete and vitreous elements as lenses and mirrors were, so our world has been assuming (mostly after the late Seventies,) increasingly more immaterial and intangible features. As already mentioned, it is in the Nineties that the world indeed becomes a monitor world, even if on an initially softer version than nowadays. After its incubation during the Eighties, circulation of information fully established itself as the primary element of both society and technology. Economy itself achieves its current state of fluidity (as every other sphere). It entirely replaces its old mechanical features with the new electronic features by submitting labour and production ('hard' Twentieth century's capitalism) to communication and services (soft turn of the century capitalism). Such an exchange of products and possession of services and knowledge has been incremented at an exponential level by smartphones and the effect that they had on the other two monitor instantiations - computers and mostly video games. In this specific case, the social sphere prepared the ground for the development of specific kind of technologies and not vice versa. During the Nineties (at least in developed countries), the tertiary sector - not by chance also named service sector - had already a far higher rate of employment than the secondary sector – the industrial sector, whose function is manufacturing products. It follows that the offer of services was already overtaking the production of goods. Such an 'environment' allowed the development of a technology of services (alongside information), embodied by the internet and even on a higher scale by smartphones.

157

Without such tertiary-focused economical direction, technology would probably not even have emerged.

Service is defined as

> "'a helpful act' ('the act of serving') or 'useful labour that does not produce a tangible commodity'. In economic jargon, services are activities that are neither products nor construction. Services are often characterized as intangible and insubstantial, as they cannot be handled, heard, tasted or smelled. They cannot be stored or transported, and they are inseparable and perishable. One of the consequences of the recent emphasis on services is that "instead of thinking of products as fixed items with set features and a one-time sales value, companies now think of them as 'platforms' for all sorts of upgrades and value-added services'" (Sotamaa & Karppi, 2010, 13).

This very mutation of capitalism affects also politics, reducing politicians from *leaders* into *counsellors*. The first 'crucial difference between leaders and counsellors is that the first are to be followed while the latter need to be hired and can be fired. Leaders demand and expect discipline; counsellors may at best count on the willingness to listen and pay heed' (Bauman, 2015, 64). Secondly, leaders 'act as two-way translators between […] private worries and public issues' (Ibid., 64-65), whereas counsellors 'are wary of ever stepping beyond the closed area of the private' (Ibid., 65). As a result, the social is reduced by counselling to a mere service to the private; the public sphere is submitted to the swarm of single individuals, emptied of any sense of community. Once again, an aggregate of individuals, a swarm, replaces society (see above).

As mentioned above, the pervasiveness and intrusiveness of the internet has hyperbolically increased in parallel with the developments and diffusion of smartphones in less than ten years. In this same period of time, the web has become a constant presence in our lives, due to the perpetual connection allowed by these small, light devices that was not possible with the bulkier PCs and even laptops. While during the Nineties and the early 2000's using a computer did not necessarily correspond to being online, the diffusion of the internet has found in the mobile industry its real means of diffusion. Such uninterrupted connection to the World Wide Web has brought the capitalism of service and the entire tertiary sector to an even further level, so much so that it has even affected even the game industry.

Within the last five years, mobile games and the enhancement of web connections through smartphones are even affecting a solid sector of the games industry, which includes both computer gaming and console gaming. As already mentioned (see above), amidst their multiple functions smartphones also include games, which were featuring even in first mobile phones since Nokia's *Snake* (1998). Henceforth, mobile games became a synonym for casual games, in other words 'games for everyone' (Sotamaa & Karppi, 2010, 125), 'a rapidly growing industry' (Ibid., 126) thanks to smartphones. "With the development of mobile phone technology, the game designs have started to resemble the traditional console and handheld console games, some of them appealing to the more hard-core players. However, the mobile games' role as quick time killers is still holding fast. Easy accessibility, short play sessions and simple gameplay are among the key design features that seem to be associated with mobile gaming and are becoming more and more popular on other platforms with the 'casual revolution' […] or 'normalization of digital play'" (Ibid., 123).

In parallel with the approach of mobile games to traditional computer and console games, internet has been implemented into the game consoles of the two last generations (like the previous PS3 released in 2006 and the last PS4 released in 2013), along with the creation of platforms as such as Steam. Steam is a website founded in 2003 that become famous only in the last five years, and is only accessible on computers. Through it, players can buy old and new games, console games adapted to PCs, and video games for consoles produced by both big names and small independent houses, all exclusively in digital format. In this regard, the introduction of internet into console games is facilitating the downloading of games in digital copies, which are decisively replacing game hard copies as a result. Moreover, producers have now developed the tendency to patch and update their games after their release, following the suggestions and needs directly given by players on the internet. This new approach has made automatic updates a typical characteristic of the last few years', along with DLC (downloadable content, or rather additional content), 'subscription, digital game download […], virtual commodities and value-added services' (Ibid., 3). All these virtual services constituting a steadily expanding online market of games (absent since a decade ago), 'have changed the experience of playing with video game console' (Ibid., 5). The videogame is steadily becoming a service and the player a client.

A first reason for these new developments is to be found in the new audiences introduced to digital games by the recent diffusion of casual and social games originally featuring on smartphones:

"Players are not so much asked to structure their lives to fit the demands of a game […]. Instead, the games are increasingly designed to serve the players and to fit into their lives. In the age of 'contextual gaming', play is increasingly tied to the practices and rhythms of everyday life and playful behaviours are often rooted in social relations and exchanges of information that are used to maintain and expand the networks of relationships […]. Many signs indicate that the days of digital games packaged as 'fire and forget' commodities are numbered. The global game industry is actively moving from providing discrete offerings towards establishing ongoing relationships with players" (Ibid., 3-4).

The second reason for the development of virtual services and the consequent reduction of games to services lies within the ultra-competitive nature of the current 'global game industry, characterized by spiralling production times and development costs' (Ibid., 3). This condition "has forced the developers to search for alternative approaches. Therefore, digital distribution systems, subscription-based models and micro-transactions have challenged the traditional circuits of game development, play and distribution. A common theme across the transformations ranging from persistent game worlds and casual games to automatic content updates and player-created content is that they make games, more or less, available 'as services'" (Ibid.).Finally, the model of service applied to games today is just the current manifestation in in a long relationship between financial earnings and game industry.

The first step corresponds to early arcade games: they 'did not have an end, as the economic model was based on players inserting quarter after quarter' (Ibid., 13). As the second step, 'console games had to introduce a narrative closure to make consumers purchase a new game. The third step corresponds to the introduction of online games as such as MMORPG, or Massively Multiplayer Online Role-Playing Game in the late nineties. Herein the 'closure of a story – the finite nature of fiction, if you will – […] gave birth to the sequel and the expansion. The expansions can both extend the existing narrative and reveal new parts of the game world' (Ibid.). Finally, selling 'games through a particular service relationship and charging monthly fees for the opportunity to play

seems like the logical conclusion of the serialization of games that started when the fiction was married with the system to create sales' (Ibid.).

D. COMMON CHARACTERISTICS OF THE MONITOR PHASE

1. Electronic Automata

With both its screens and monitors, televisions and computers, the whole twentieth century marked the advancement of electromagnetic physics and electronics over mechanical physics and mechanics, from a technological and scientific standpoint. It follows that the screen and the monitor phases constitute two consecutive phases of a new mode of fabricating and conceiving machines, which are even integrated with the old mechanical one in specific instances (as with mass transportation like cars, airplanes, etc.). Society and concepts are once again strictly intertwined with these material transformations. Regarding the first point, as society changes due to electronics and electricity completely altering the nature of industrialization and of its constitutive automation, so new social changes allow the development and distribution of the new technology. Regarding the latter point, more fitted concepts replace less fitted, in order to echo, anticipate, or code the new advancements.

In his 'Bergson: the Software Philosopher' (2005) the Italian literary critic Renato Barilli demonstrates the anticipatory character of Bergson's philosophy over any other of his contemporaries, in relation to the twentieth century's origin and advancement of electronics over mechanics. 'Bergson is not the vague, ephemeral and poetical exponent of a philosophy voided of any pragmatism, of any relation to the material forces of progress, but he rather applies the most fitted and convenient conceptual frames for our time, as far as our time is acknowledged to be grounded on electricity and electronics' (Barilli, 2005, xv). In this regard, the French philosopher is defined as 'Software Philosopher'. At the beginning of the twentieth century, in parallel with the first steps taken by electronics, Bergson in fact develops a philosophy of the *soft*, or rather the first philosophy of the process, whose innovative concepts are meant to overcome the old and already inadequate philosophy of the *hard*.

Firstly, the 'soft philosophy' of Bergson entails a somewhat new conception of the brain. The philosophy of the *hard* (as such as idealism or even historical materialism) has always treated the brain as a solid, undisputed and self-grounded subject. However, Bergson

specifically redefines the brain as 'an interval [*écart*], a void [...] between a stimulation and a response' (Deleuze, 2014, 217), something no thinker or scientist has never before attempted to do. A conception that would nevertheless pass unnoticed until the Sixties/Seventies, as noted by Deleuze (see above). In other words, to Henri Bergson the brain does not have any substantial characteristics; it is 'no more than a kind of central telephonic exchange: its office is to allow communication or to delay it' (Bergson, 2005, 30). As a result, his conception of the brain has it resemble an electric circuit, or rather a transmitter that receives and then radiates waves. The brain as microscopic electronic system generating connections within itself, with the world and the rest of the body replaces the brain as a ghost controlling the body as a giant clockwork mechanism detached from it.

Secondly, 'Conscience and world, images and things constitute a single system, as juxtaposed levels, hindering any attempt of resection. In other words, Bergson upholds a convincing and radical form of monism, which nonetheless avoids reducing one component to another, by fully supporting one of the two' (Barilli, 2005, 37). It follows that Bergson's position is neither dualistic as is the Cartesian view, nor reductionist or eliminative as is positivism, Marxism or any general physicalist perspective; it is 'a monism of the relation' (Ibid., 37), without any 'triumph' achieved by either the subject or the object.

Thirdly, Bergson (along with Nietzsche) is one of the first philosophers to discredit representation in favour of an integrative and more tactile relationship with the world, whereby we pragmatically grasp and apply the conceptual configuration contextually needed to interact with a mutable reality.

Representation is a purely optical relationship with reality that had been firstly developed during antiquity, with the mirror as its technical booster. With the modern age, representation became the only possible way to achieve irrefutable and accurate knowledge. As already explored in the second chapter, the reason for such a phenomenon included the further advancement in the fabrication and employment of lenses (making vision more accurate and effective on long distance); the increasingly larger production of clockworks and other mechanical devices; and lastly the consequent reduction of the universe to an automatic machinery easy to master. However, the advancement of electronics and thus of an integrative kind of technology will endanger this old conception

of truth as correspondence and demand a replacement for it, as firstly attempted by Bergson and later by large part of twentieth century's philosophy (Deleuze included, as already demonstrated in detail).

Fourthly, evolution (and then time) is for Bergson a process, or rather a 'flux of fleeting shades merging into each other' (Bergson, 1998, 3) as electromagnetic waves or current running through a wire. This conception grounded on a soft geometry of fields and vectors, and on probability, contrasts the modern finalism (Leibniz) and mechanism (Descartes and Hobbes), both conceptions based on the hard mechanical geometry of points, and on certainty. 'Whether nature be conceived as an immense machine regulated by mechanical laws' (Ibid., 45) by mechanists, or 'as the realization of a plan' (Ibid.) by finalists, both share the same image of the world. They see reality as predictable, like clockwork and dominated by a strict predetermined relationships (either of causal of teleological kind) between discrete identifiable static elements that coexist on an objective plan despite time (i.e. the Cartesian plan). Finalism (or teleology) is itself defined by Bergson as 'inverted mechanism' (Ibid., 39), because it 'substitutes the attraction of the future for the impulsion of the past' (Ibid.). Finalism and mechanism subsequently echo the social and technical advancements of the modern age, whose models are first clockwork and later, the assembly line, and thus the hegemony of the lens (see above).

Finally, in his late *The Two Sources of Morality and Religion*, Bergson (1932) contributes to social analysis by distinguishing between open society and closed society, aware of how parallel technological, economic and social changes move. He specifically defines open society as decentralized; it is developed as a net, made from the contribution of different elements, which always renew themselves through their reciprocal relationships. In this regard, Bergson has always demonstrated throughout his work his favour of the League of Nations (the early version of the current United Nations) and disregard for closed communities and States. He was in fact a Chair of the International Committee on Intellectual Cooperation established in Genève in 1922 and formally dissolved in 1946. Bergson's idea of open society partially corresponds with that weakening of the nation-state model occurring since the outset of globalization and influenced once again by the advancements of electronics. Deleuze argues that after World War II the nation state inverts, "the configuration of power […], and, instead of converging on a single

163

mysterious leader, inspirer of dreams, commander of actions, power was diluted in an information network where 'decision-makers' managed control" (Deleuze, 2014, 272).

Technical/technological enhancement has machines as its most iconic symbol. Obviously, manufacturing is not just limited to the sole use of machinery and has been a constant presence even before the invention of *automata*. However, machines represent such development in technology due to an autonomy of tools and devices never seen before. First machines were built in the modern age along with Cartesian philosophical use of the world automata, entities characterised by a certain degree of self-sufficiency, but without any relationship with conscience. Electronic machines have otherwise become a model for a more physical interpretation of the brain; the brain as a circuit of wires that transmit both a soft electrical charge and information along the entire body, as noted by Bergson and later by Deleuze. While Bergson's philosophy echoes the first steps of electromagnetism and thus electronics, the analyses of Deleuze and Baudrillard already belong to a time of full electronic development, spanning approximately three decades since the seventies. By furthering the intuitions of their older compatriot, they both explicitly address the passage from the *mechanical automata*, of the lens phase, to the *electronic automata*, of screen phase and monitor phase.

Despite the advancements of electronics, the imaginary of the first half of the twentieth century was still dominated by the *mechanical automata*, as shown by the cinema of the time. In this regard, Deleuze argues that the French School of these first five decades 'never lost its taste for clockwork automata and clock-making characters, but also confronted machines with moving parts, like the American or Soviet schools […] with the intention of posing the question of the future. […] The moving machine becomes one with the psychological automaton pure and simple, at the service of a frightening new order: this is the procession of […] hypnotizers-hypnotized in expressionism, from *The Cabinet of Dr Caligari* to *Testament of Dr Mabuse* via *Metropolis* and its robot' (Ibid., 270-271). The reference of the expressionist cinema to *mechanical automata* and their inner dualistic partition into a subject who controls (or the ghost in the machine) 'reflected the rise of the Hitlerian automation in the German soul' (Ibid., 271). National Socialist Germany epitomised both the peak and the limit of the state as political *mechanical automaton*, developed firstly by Hobbes (who was a mechanist, not by chance) on a pure conceptual level with the *Leviathan*. In fact, the *Leviathan* is nothing more than a

kingdom-automaton, whose engines and discrete components correspond to the subjects and the king to the 'puppeteer'.

The imaginary would change after World War II along with the transformation of cinema and the new relationship with the brain. In this regard, both Baudrillard and Deleuze explore how, mostly after the sixties, our society has changed its way of conceiving and building machines. Since the first machines built during the seventeenth century, the modern world had been based on a reality and an imaginary made of (mechanic) *automata*. Descartes' thought is the first conceptualisation of machinery, where *res cogitans* is the philosophical version of the concrete person who controls the automata, which corresponds to the person's body. The new electronic machines jam this old relationship between man and machine, exemplified conceptually by the *mechanical automata* of the modern age and more concretely by the second industrialization, when the worker was 'always […] a stranger to the machine he operates, and alienated by it' (Baudrillard, 1993, 65). 'Mechanical automata […] played on the difference between man and machine, and on the charm of this difference' (Ibid., 143). By contrast, 'today's interactive and simulated automata are no longer concerned' (Ibid.) with it, because 'Man and machine have become isomorphic and indifferent to each other: neither is other to the other (Ibid.). As a result, the 'new technologies, with their new machines, new images and interactive [monitors], do *not* alienate me. Rather, they form an integrated circuit with me' (Ibid., 65) so much to resemble 'contact lenses in that they are so many transparent prostheses, integrated into the body to the point of being almost part of its genetic make-up: they are like pacemakers […]. All our relationships with networks and [monitors], whether willed or not, are of this order' (Ibid.). It follows that the structure of these electronic machines is 'one of subordination not of alienation.' (Ibid.).

By furthering the soft philosophical elaboration initiated by Bergson, Deleuze addresses, in the conclusions of his *Cinema II* (published in 1985), 'the technological and social evolution of automata. Clockwork automata, but also motor automata, in short automata of movement, made way for a new computer and cybernetic race, automata of computation and thought, automata with controls and feedback' (Deleuze, 2014, 272). To him such new 'configuration of the automaton is the correlate of an electronic automatism' (Ibid.). Not by chance, *Cinema II* has been published at the threshold of an era subjected to information technology (the Post-Cold War era) and thus to the monitor

phase. In the epilogue of this text, the author even foresees a transformation of cinema by the new advances in electronics, leaving free room for future possibilities: 'The electronic image, that is, the tele and video image, the numerical image coming into being, had either to transform cinema or to replace it, to mark its death'. These electronic images are only hinted at but not explained by Deleuze, who does not 'claim to be producing an analysis of' (Ibid., 272) them, 'but only to indicate certain effects whose relationship to the cinematographic image remains to be determined' (Ibid.).

Electronic machines appeal also to invisibility to the extent that micro-processing units compose them. As already demonstrated (see above), computers tend to make an invisible and unreachable textual plan of information and data the base for the constitutions of the visible sphere represented by images on the monitor. Even what is technically defined as hardware is soft in its structure and its composition. On the contrary, mechanical automata were massively extensive, as already mentioned, composed of extremely visible engines, gears and other mechanical components,

In conclusion, the modern *mechanical automata* are perfectly matched with lenses as they require distance between controller and controlled, subject and object, while TV screens and all kinds of monitors (screen phase and monitor phase) are themselves *electronic automata*, glasses connected and integrated into electronic circuits, even though by different degrees. According to Deleuze, with the enhancement of electronics "the screen itself, even if it keeps a vertical position by convention, no longer seems to refer to the human posture, like a window or a painting, but rather constitutes a table of information, an opaque surface on which are inscribed 'data', information replacing nature, and the brain-city, the third eye, replacing the eyes of nature" (Ibid., 272-273).

2. Simulacra

Moe-elements and emojis belong to the same class of images, the *simulacra*, which have in fact become the very model for every image in our time of monitor phase. In other words, simulacra have become the 'monitor images' par excellence born along with 'modern thought […] of the failure of representation, of the loss of identities, and the discovery of all the forces that act under the representation of the identical. The modern world is one of simulacra' [author, year, XV]. This passage has been extracted from the preface of Deleuze's *Difference and Repetition* (1968); it corresponds to changes already

occurring with the screen phase (cinema and television) and furthered by the monitor phase and our 'monitor age'. The expression 'modern world' refers herein to the time this book was written, the Seventies - and the decades to come -, and not to the Modern age (from late fifteenth century until the very end of the nineteenth century). In addition, the expression 'modern thought' refers herein to the tradition of post-representational philosophies of being developed during the entire twentieth century, to which Deleuze also belongs.

The best manner to explore the different implications of the simulacrum extensively is by dissecting it through three main perspectives, differentiated into: temporal, cultural and disciplinary contexts and approaches, with the three perspectives corresponding to three authors repeatedly mentioned: Deleuze, Baudrillard, and Azuma. Their points of view are so relevant because all of them have profoundly addressed the simulacrum and shared its definition as a self-referential image and thus as an aesthetical notion.

During the late sixties, Deleuze developed his conception of simulacra in his doctoral thesis *Difference and Repetition* (1968), concretely referring to pop art creations and to their concept of artistic creation as continuous reproduction. He embodies an early phase of simulacra, the simulacra of the screen phase, optimistically foreseeing their further advancement. During the early eighties, Baudrillard developed his conception of simulacra in his most determining work *Simulacra and Simulation* (1981), where he pessimistically reframed the hopeful considerations of Deleuze on both the two terms of this title. He embodies a second phase of simulacra, when computers and videogames were already becoming a striking reality. He also assisted to the passage from the screen phase to the monitor phase. Azuma addresses simulacra in his *Otaku; Japan's Database Animals* (2001), featuring a neutral and purely descriptive attitude toward simulacra. He embodies a reality in which simulacra have settled in, to be a constant presence in our lives, because of the pervasiveness of information technology through the Internet and computers. In other words, his perspective fully echoes the monitor hegemony at the beginning of the twenty-first century.

Deleuze has always aimed at overturning Platonic philosophy - the best expression of the metaphysics of representation – by abolishing the very Platonic distinction between the *hyperuranion*, the perfect and true realm of the Ideas, and our mutable and false concrete world. As a result, Deleuze says, there is no more difference between things and

simulacra, originals and copies, things and reflections (see above), but 'things are simulacra themselves' (Ibid., 84).

In this regard, he states that: 'Overturning Platonism […] means denying the primacy of original over copy, of model over image; glorifying the reign of simulacra and reflections' (Ibid., 83). Once fulfilled this philosophical goal 'each thing exists only in returning, copy of an infinity of copies which allows neither original nor origin to exist' (Ibid.). Deleuze thus defines simulacra as 'function by themselves, passing and repassing the decentred centres of the eternal return. […] In the infinite movement of degraded likeness from copy to copy, we reach a point at which everything changes nature, at which copies flip over into simulacra' (Ibid., 163).

Deleuzian simulacra need to be pictured within the replacement of the reality-possibility distinction with Bergson's notion of virtual and actual (see above). Only within this conceptual frame, simulacra become, as argued by Deleuze 'conditions of real experience, and not only of possible experience' (Ibid., 372). Therefore, experimentation replaces representation (which is based on the double copy-original), fantastical notions carrying 'nomadic distributions' (Ibid.), replace categories carrying 'sedentary distributions' (Ibid.). Phantastical notions 'are not universals like the categories, nor are they the *hic et nunc* or now here' (Ibid.), but impose moment by moment a different spatiotemporal field, 'their own scenery' (Ibid.). In resonance with the late sixties' emancipatory leitmotif, Deleuze inevitably gives a positive connotation to simulacra, and thus to the corresponding social, aesthetic, and technological changes. Herein the elimination of originals in favour of the sole existence of simulacra is firstly a conceptual shift, which will subsequently affect the other just mentioned spheres.

Despite his conceptual understanding of the simulacrum, Deleuze retains it primarily as an aesthetic and thus artistic notion (see above). In this regard, Deleuze defines Pop Art as an art of simulacra: 'Pop Art pushed the copy, copy of the copy, etc., to that extreme point at which it reverses and becomes a simulacrum (such as Warhol's remarkable "serial" series, in which all the repetitions of habit, memory and death are conjugated)' (Ibid., 383). Although Deleuze's simulacra might be associated with his concept of 'pure images', mentioned in the chapter on the screen phase (see above), simulacra otherwise are both images and objects . Deleuze extends these typical characteristics of pop art to

the entire artistic sphere: 'Art is simulation, it reverses copies into simulacra'[17] (Ibid., 382). He even extends it to the hermeneutics of art developed during the late sixties by Umberto Eco: "Eco shows clearly that the 'classical' work of art may be seen from several perspectives and is susceptible to several interpretations, but that there is no autonomous work corresponding to each point of view or interpretation, all included in the chaos of the work as a whole. The characteristic of the 'modern' work of art appears to be precisely the absence of any such centre or convergence" (Ibid., 91). This treatment of art as simulation and as producer of simulacra anticipates what could be defined as the trend of every genre nowadays (as it will be predicted by Azuma).

A decade later, Baudrillard published his most determining work *Simulacra and Simulation* (1981), which also revolves around simulacra, as indicated by the title. To him, simulacra constitute firstly a social phenomenon rather than conceptual/philosophical one. This social phenomenon corresponds to the rise of consumerism, the commodification of reality and, above all, social life, as already mentioned in the previous chapter in reference to televised images and commercials (see above). Baudrillard's attitude toward these non-representing images and the society that produces them is often pessimistic.

Baudrillard echoes Deleuze by claiming: 'The era of simulation is inaugurated by a liquidation of all referentials' (Baudrillard, 1994, 2), where signs of the real substitute the real. Similarly, Baudrillard defines the hyperreal in terms of 'the generation by models of a real without origin or reality' (Ibid., 1). It is an artificial and simulated reality, where representation becomes self-referential, simulacra. Videogames and, more generally, all virtual worlds are such hyperrealities. In fact, since their images are interactive and not mere passive representations, electronic games and synthetic worlds do not refer to any external world but simulate it, build their own independent realities but emptied of the concreteness, extraneousness and danger that characterizes 'nature'. In other words, we do not observe, reflect and judge a video ludic representation as we do with movies and paintings, but we passively buy into it and uncritically interact with and as if it were real.

---

[17] In these two quotations, it is possible to notice that Deleuze distinguishes copies from simulacra. Copies are always copies of an original, while a simulacrum does not refer to anything else than itself even if working as a repetition of something else. Somehow, the fact that Azuma is otherwise using these two words indistinctly is probably involuntarily.

Before the rise of neoliberalism and information technology since the late Seventies common perception, philosophical theory, the structuralization of society, and more generally everyday life followed unquestionably the distinction between reality and imaginary. However, the continuously revolutionizing way in which modern society has developed itself, the explosive expansions of monarchies and afterward nations, the entire capitalist model up to the Cold War, had in such distinctions the basis of their conceptual frame and *reason d'etre*. Henceforth, common sense continues presuming the truth of this old separation even nowadays.

Reality corresponds to the absurd and the scandalous that affects our lives against and outside of our expectations. Reality is thus all-encompassing, external to our intentionality and overwhelming from the perspective of subjectivity and social entities. On the contrary, the imaginary acts as a differential in relation to reality. It includes all those symbolic tools necessary to construct meaning, to generate models that can never be concrete, but that nonetheless have always the real as referent. Therefore, the relationship between these two realms is one of exchange, reciprocity and distance.
Reality always presents itself as an irreducible and infinite Otherness; the line of the horizon that does not let our gaze comprehend it. Conversely, the imaginary corresponds to the desires, wishes, projections, utopian visions belonging to and constituting individuals and communities.

The formation of a global society, already occurring during the Cold War and fully achieved after the capitulation of the eastern bloc, epitomized by the 'Fall of the Wall' in 1989, has brought to a continuous and technologically renewed meddling of reality and imaginary. Once the Western viewpoint has become hegemonic and self-referential by physically reaching the maximum degree of expansion possible, whose result is an implosive attitude based on deterrence and not anymore on conquering, models stop being ideal representations of the world and conceptual guidelines for specific individuals and communities. 'The models no longer constitute either transcendence or projection, they no longer constitute the imaginary in relation to the real, they are themselves an anticipation of the real […] they are immanent, and thus leave no room for any kind of imaginary transcendence' (Ibid., 122). For instance, narration instead of being the representation and construction of meaning in reaction to a certain reality has become what proceeds and determines reality. Maps (as partially suggested by Deleuze and

Guattari's when describing the characteristics of the Rhizome) tend to replace the territory in which we live: 'The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory […] But it is no longer a question of either maps or territories. Something has disappeared: the sovereign difference, between one and the other, that constituted the charm of abstraction' (Ibid., 2).

Therefore, hyperreality comes into being when imaginary, the conceptual realm, does not try anymore to change a posteriori reality but precedes and generates it; when imaginary loses its referent, thus when it does not signify anything. As a result, the symbolic character of imaginary is replaced by the hyperreal figure of the simulacra, an empty and meaningless image in virtue of 'substituting the signs of the real for the real' (Ibid.). Once again, the Platonic difference between real and reflection exemplified by the mirror and the Cartesian difference between subject and objective world exemplified by the lens are softly overturned by screens first and then monitors.

Finally, Baudrillard's simulacra feature a lack of reference that makes every definition interchangeable with one another. They thus come to constitute altogether a homogenous and indiscriminate blur (as the next paragraph on 'virality' will illustrate profoundly).

By applying Azuma's perspective, Deleuze belongs to an extended period of transition, 'between 1914 and 1989' (Azuma, 2009, 72), from modernity to the so-called postmodernity (see above). Baudrillard is otherwise placed in between the end of the transitory period and the beginning of what Azuma defines as complete postmodernism. Therefore, although pop art, cinematic pure images and televised images already constitute iterations of simulacra under the screen phase of the twentieth century, it is with the hegemony of the monitor during the post-Cold War era (the complete postmodernism of Azuma) that simulacra (as such as moe-elements and emojis) will achieve their complete and stable form.

Azuma still interprets simulacra as aesthetic products, but insofar as they originate from new technological innovations and not as a social or conceptual phenomenon, pointing specifically at the information technology and the World Wide Web. This strictly technological interpretation causes Azuma to apply the Database model to the simulacrum, whereby the latter dwell within the users' facet of the *double layer structure* (see above) of the Internet, while within the other facet dwells the database, the archive

of encoded information. The simulacra, as images on the monitor, are consequently grounded, specifically on the settings provided by the deep inner layer of the Database. This conception makes simulacra a mere assembly of pre-existing data, a mere procedure without emancipatory connotation. As a result, Azuma's simulacra are mere 'technological images' on a monitor, grounded on a purely textual database, and not Deleuze's 'rebellious images which lack resemblance' (Deleuze, 2014, 35) and thus ground: 'The surface outer layer […] is covered with simulacra, or derivative works. But in the deep layer lies the database of settings and character, and further down, the database of *moe*-elements' (Azuma, 2009, 58).

As noted by Azuma himself, his own conception slightly changes the definition of simulacra, compared to earlier theories as such as Baudrillard's view, which has considered the increase in simulacra merely as 'a chaotic phenomenon emerging after the demise of the distinction between the original and the copy' (Ibid., 58). For instance, Baudrillard has only talked about an undifferentiated 'hyperreality', never distinguishing 'the level of the simulacra and the level of the database […], nor has the whole been grasped as a double-layer structure' (Ibid., 60).

Azuma specifically applies his conception of simulacra as surface outer layer, in opposition to the database as deep inner layer, to the otaku culture as the epitome of social aggregates modelled after information technology:

> "Otaku culture is filled with derivative works; original and derivative works are produced and consumed as if they were of 'equal value'. However, not all such derivative works actually have the same value; otherwise the market would not grow. In fact, underneath the simulacra exists a database, a device that sorts good simulacra from bad ones regulating the flow of derivative works' (Ibid.).

It follows that, in Azuma's view, the opposition between simulacra and database has nowadays replaced the classical one between original and copy.

Through a multimedia approach, otaku treat contemporary products as such as comics, animations, video games, etc., as database, from which they can generate derivative works: 'The 773rd Bikkuriman sticker must adequately share a common database with the previous 772 stickers, or it would not be regarded as a derivative work to begin with. *Ayanami Nurturing Project* must adequately share a worldview with *Evangelion*, and the design of Di Gi Charat must adequately sample *moe*-elements from the late 1990's. Simulacra created without recognition of these processes will be weeded out by the

market and disappear' (Ibid., 60-61). According to this new consumerist behavior, a copy stops being 'judged by its distance from an original but by its distance from the database' (Ibid., 61). As a result, after the Nineties, otaku culture has replaced its interest in authorship with the character settings and basic *moe*-elements (see above), which constitute the database.

In conclusion, the multimediality of Internet has shaped, for Azuma, a consumerist behavior that subsumes both original and derivative under the shared label of simulacra, while it treats 'the database of settings' (Ibid., 63) as the core of a work. For the otaku, 'even if derivate works violate original works (at the level of simulacra), the originality of the original works as information (at the level of database) is protected and respected' (Ibid.).

3. Virality

The second chapter (see above) addressed the implosive character of information and communication through satellite system, television and nuclear arsenal during the Cold War period. In post-Cold War this implosive character socially embodied by the production and circulation of human masses (a direct consequence of the spectacularization of society due to the diffusion of Cinema and afterwards TV screens on a global scale) has mutated into a viral form, where a transversal, horizontal society has completely replaced the mass society. This transformation is due to the next step in the development of the exchange of images and information (the visible and the invisible), which has become active, interactive and bidirectional (a reversal of spectacularization), even more fluid, pervasive and quicker. Such a new step is embodied by the diffusion of internet, computers and smartphones along with the full accomplishment of globalization after the capitulation of the Communist bloc (perhaps caused by the inner incapability of the latter to face the new technologies and their incessant ubiquity).

All these changes visibly occurring after the fall of the Wall find their seed in the late Sixties/Seventies. In fact, it is during this period that information technology started to be concretely developed, the financial/consumerist capitalism (neoliberalism) started replacing productive capitalism along with liquid society taking over solid society; ideas of self-managed systems were diffusing and were applied to ecology (ecosystem) and even to hippie communes. Finally, the most influential aspect of the late Sixties on our

post-Cold War *Monitor age* is 'the moment of liberation in every sphere' (Baudrillard, 1993, 3).

Deleuze was a major supporter of this emancipatory leitmotiv, its philosophy being entirely based on the practice (and not just on the theorization) of concepts as such as differentiation, multiplicity, experimentation, etc. Moreover, his positive attitude toward the massive and extended changes occurring during the late twentieth century is confirmed by his perspective on networks (in the form of rhizomes) and by his 'defence' of repetition (and thus simulacra), an inevitable consequence his critique of the Platonic dichotomy between original and copy. Finally, his philosophy features a general dismissal of dominating models and a tendency toward an eclectic contamination of fields that will become the most representing element of a world based on information technology.

By contrast, Baudrillard developed a harsh pessimistic reflection on the aftermath of this social (and not only) revolution, which he sarcastically calls the orgy. He addressed in depth the negative backlash and uncovered the illusions behind this so celebrated liberation. 'We have pursued every avenue in the production and effective overproduction of objects, signs, messages, ideologies and satisfactions. Now everything has been liberated […] all we can do is simulate […] liberation' (Ibid., 3). Once achieved this liberation in every sphere, including sex, politics, art, economics, women, children and unconscious, 'every individual category [becomes] subject to contamination, substitution is possible between any sphere and any other: there is a total confusion of types' (Ibid., 9). The result is 'a fractal mode of dispersal' (Ibid., 5), whereby a haphazard propagation makes every evaluation impossible.

The use of the term 'orgy' by Baudrillard underlines how the movements of liberation of the Sixties were embodied, above all by the sexual revolution, which dreamed 'of sexuality as an assumption of desire beyond the difference between the sexes. In point of fact sexual liberation has succeeded only in helping sexuality achieve autonomy as an undifferentiated circulation of the signs of sex' (Ibid., 13). As a result, 'On all sides we witness a kind of fading away of sexuality, of sexual beings, in favour to the earlier stage of immortal and asexual beings reproducing, like protozoa, by simple division of the One in to two and the transmission of a code. Today's technological beings […] all tend towards this kind of reproduction, and little by little they are imparting the same process to those beings that are supposedly human, and sexed' (Ibid., 7).

As stated by Deleuze and Guattari in their *A Thousand Plateaus* contagion is the way rhizomes expand themselves, while tree-model systems (like family, state, etc.) do it by filiation:

'We oppose: epidemic to filiation, contagion to heredity, peopling by contagion to sexual reproduction, sexual production' (Deleuze & Guattari, 2014, 282). 'Contagion, epidemic, involves terms that are entirely heterogeneous: for example, a human being, an animal, and a bacterium, a virus, a molecule, a microorganism. These combinations are […] interkingdoms, unnatural participations' (Ibid.).This epidemic conformation of networks is compared by the two co-authors to social systems external to the state, purely nomadic and without territory which he addresses as animal packs and war machines:

> 'The war machine is always exterior to the State, even when the State uses is, appropriates it. The man of war has an entire becoming that implies multiplicity, celerity, ubiquity, metamorphosis and treason, the power of affect. Wolf-men, bear-men, wildcat-men, men of every animality, secret brotherhoods, animate the battlefields. But so do the animal packs used by men in battle, or which trail the battles and take advantage of them. And together they spread contagion' (Ibid., 283).

What is interesting to note, in our time dominated by of networks, virtual, hardware and software all made visible by monitors, is the coexistence of hyper-immunity and hyper-virality. In other worlds, closed circuits, procedurals machines following a specific and pre-programmed code are altogether with ever-expanding networks. In fact, these two phenomena are two facets of the same coin: the logic of transgression, of contamination of fields, of will to power alongside with that of insurances for every possible risk, vaccination, hypochondria, hyper-sanitation expressed by modern architecture, etc. On one side, there is the dynamic of contagion of open systems embraced and anticipated by Deleuze and Guattari, whereby identity is replaced by difference. On the other side, there is the metastasis of closed circuits, which has been employed by Baudrillard to explain terrorism, cancer, AIDS, financial crises - he mostly refers to the Wall Street crash of 1987, but it can be extend to the crisis of 2007-2008.

These phenomena have, in fact, become increasingly more common since the late Eighties/early Nineties, when the French sociologist wrote extensively about them. All of them are "'superconductive' events" (Baudrillard, 1993, 41), breakdowns of redundant systems (networks) without any relation whatsoever with external elements, with otherness: 'the absence of otherness secretes another, intangible otherness: the absolute

other of the virus' (Ibid., 72). They are afflictions originated by an immunodeficiency spread on every field and by the excess of promiscuity of spheres. For instance, AIDS or cancer are 'non-conventional illnesses generated by the very success of prophylaxis and medicine, illnesses bred of the […] elimination of pathogenic forms' (Ibid., 71); 'computer viruses explore possibilities of networks that are never anticipated by those network's designers' (Ibid., 43). 'As for terrorism, does not its secondary, reactive violence shield us from an epidemic of consensus, from an ever-increasing political leukaemia and degeneration […]?' (Ibid., 75). To sum up, 'terrorism, transvestitism, and cancer, all reflect excesses – on the political, sexual and genetic level respectively; they also reflect deficiencies in - and the consequent collapse of - the codes of the political, sexual and genetic realms. All these forms are viral […] and their virulence is reinforced by their images, for the modern media have a viral form of their own, and their virulence is contagious' (Ibid., 40-41). Finally, a 'decentredeness of all systems, an internal metastasis or fevered endogenic virulence […] creates tendency for systems to explode beyond their own limits, to override their own logic' (Ibid., 5).

In our time of advanced information technology, this cancerous/metastatic aspect (closeness) addressed by Baudrillard and the contagious aspect (openness) addressed by Deleuze correspond to *the two poles of the virality of the monitor phase* - here both authors pointed out how this virality operates on a plan of immanency by lacking transcendent references. In other words, these two are tendencies and aspects of all networks, in an age when every sphere is represented as porous hyper-connected systems, mostly thanks to the widespread diffusion of electronics, software, internet, computers, and smartphones. With both the cancerous and the contagious aspects a virus is definable as a destabilizing spreading force without possible containment. In this concern, networks (therefore ANTs, rhizomes, cybernetics and complex systems) are all viral; they are not confined within boundaries, always proliferating. One of the main reason for that is their being purely positive affirmative force, non-bound by any dialectical relation with a negative of opposite sign. They in fact integrate every discrete element that might enter in contact with it, by reconfiguring the entire network-system. Therefore, Marxism cannot apply anymore to society developing after these non-hierarchical and decentralized systems. This also explains why mirrors and lenses have lost their symbolic relevance – having the double replaced by multitudes and sameness– along with their current minor relevance as concrete tools. "Virulence takes hold of a body, a network or other system

when that system rejects all its negative components and resolves itself into a combinatorial system of simple elements. It is because a circuit or a network has thus become a *virtual* being, a non-body, that viruses can run riot within it; hence too the much greater vulnerability of 'immaterial' machines as compared with mechanical devices. Virtual and viral go hand in hand" (Ibid., 71).

Such dematerialization of bodies is just the last step of a long-term techno-anthropological operation on bodies by vitreous technologies, started by the first men looking at themselves on a mirror. In fact, this mirror-stage was necessary for the development of the first form of physical manipulation of bodies: cosmetics. It is also in this very moment that humankind differentiated between the self and the ego, soul and bodies, which was for the first time represented and then modelled into ideal proportions. This reduction of the body to an image and its 'culturalization'/socialization through cosmetics ended up sacralising it. During the modern age, the great diffusion and application of the lens in different forms and shapes, from telescopes to microscopes, and the consequent predominance of the scopic regimes of observation and gaze, made distance the paradigm of every relationship, always an asymmetric link between a subject and object. Distance also affected the human body, which was reduced to an object of observation, to res extensa, whose only characteristic is having an extension within spatial coordinates. This reification of the body is the prerequisite and the legitimation of modern human anatomy and of its foundation during the sixteenth century. Until then, dissection on human bodies had been almost forbidden and largely condemned, which had made anatomy mostly hypothetical and very slow in its development. Body was not yet completely detached from soul and still had a sacred aura.

The most important consequence of theoretical reification and actual dissection of bodies is not exclusively their reduction to mechanical automata (see above), but also their 'analytical decomposition' (Baudrillard, 1994, 98) into discrete parts called organs, each one assigned to a different function.

During the entire twentieth century, molecular genetics replaced the previous mechanist perspective of anatomy, along with the development of information technology, network theory and lastly the computer. The DNA molecule itself is modelled on the *database*, as storage of 'all information relative to a given body' (Baudrillard, 1993, 134). "From a functional and mechanistic point of view, each organ is still only a partial and

differentiated prosthesis […]. From the point of view of cybernetics and computer science, it is the smallest undifferentiated element, each cell of a body becomes an 'embryonic' prosthesis of this body" (Baudrillard, 1994, 98). As a result, the individual is reduced to his/her 'abstract and genetic formula' (Baudrillard, 1993, 135) and his/her body to 'a message, nothing more than computer fodder.[…] Thus reproduction precedes production […] [as] the genetic model of the body precedes all possible bodies' (Ibid.).

The technology of the industrial era, which was based on a model of production, was still following the modern idea of body, whereby mechanical extensions were always external to *beings* and only affecting *objects* and *images*. In fact, prostheses 'of the traditional kind, designed to replace defective organs, change nothing so far as the general model of the body is concerned. The same applies to organ grafts' (Ibid., 137). Otherwise, the soft technologies of our era, which are based on a model of reproduction – as stated above – follow the contemporary idea of body, whereby 'genetic and mental software' (Ibid., 136) are 'ramified and internalized' (Ibid.) by *beings*. It is also the case with 'psychotropic agents and drugs' (Ibid., 137), which model the body 'from within' (Ibid., 138) in molecular terms. The body becomes immanent to itself. The context and the situation no more determine it. It is determined only by its internal and microscopic relations. It stops being an object of representation and perception and a sensitive *Lieben*, a living body, the centre of our grasp of the external world.

The compact materiality of bodies bears a process of disappearance under the effect of information technology, which reduces it to a 'genetic formula' (Ibid.), a message, and of 'biochemical influences' (Ibid.). The body thus becomes a *soft machine* permeable by several means:

- Firstly, our culture bodies 'are irradiated by signals' (Ibid., 41), images, formula, and networks; *bodies as media*.
- Secondly, genetics, as already mentioned, allows for conceiving and treating bodies as self-replicating systems transmitting information to one another. *Bodies as messages*.
- Thirdly, the impact of cognitivism on philosophy of mind, psychology and, not last, common sense, along with its application to neurosciences and to the development of artificial intelligence, has contributed to extend the computer metaphor also to the brain – and indirectly to the body. In fact, this theory reduces

the *nervous system to a hardware* and the *mind to its software* - in other words to its functioning – and mental functions to sole computational processes (like with a computer). As a result, brains are firstly compared to computers and computers to potential brains, because of their common computational function (even if on different levels). Both brains and computer are secondly compared to machines and functional objects, as such as clocks and pumps, which are all defined by their purpose, their *raison d'etre*, and not by their composition (including materials and mechanism). This explains why research on artificial intelligences is based on cognitivist theory.

The primary computational function of the brain (commonly called mind) is calculating the most efficient physical reaction to a specific sensory stimulus and then do the rest of the body act accordingly to it. All this happens through the passage of information through the nerves.

If Descartes still spared the mind from his mechanization of the body, with the 'information psychology' of cognitivism the mind too becomes an instrumental notion strictly related to a physical component (the brain). Moreover, the brain/mind becomes a mere piece of the body and thus a replaceable and reproducible mechanical component only meant to operate on an informative level. Finally, the other non-neural systems of the body become only the physical executor of the brain/processor. *Brain as a computer* and *Body as an executive machine*.

- Fourthly and lastly, the digital advancements of information technology, mostly after the development and diffusion of 'touch-screen' devices (see above), are increasingly meddling bodies and monitors, actual and virtual, on perceptive and physical levels. *Cyborg bodies*, bodies fused with computers, but where it is the biological part to be integrated into the artificial whole and not vice-versa.

Deleuze positively conceives the body as an expansive force, as done with sexuality and rhizomes. Even in this matter (the body), his position remains complementary to Baudrillard's 'metastatic imaginary'. In contrast with the above analysis of the body under the negative metastatic tendency of monitors, it is necessary to briefly take into account Deleuze's notion of *body without organs* (*BwO*), which can be interpreted as a conceptual 'anticipation' of a body under the positive contagious tendency of monitors.

The 'BwO is not at all the opposite of the organs. [...] [It] is opposed not to the organs but to that organization of the organs called the organism' (Deleuze & Guattari, 2014, 184). Like subjectivity, signification and the State, the organism is a stratum, 'a phenomenon of accumulation, coagulation, and sedimentation' (Ibid.) from which a centralized power benefits. The medical doctors and hence the political power they embody (the State on a general level) specifically benefit from the organism (a stratum on the body without organs); organism 'that, in order to extract useful labour from the body without organs, imposes upon it forms, functions, bonds, dominant and hierarchized organizations, organized transcendences' (Ibid.). To unbind itself and thus us from the three most oppressing strata - the organism, significance (either interpretation), and subjectification – the body without organs respectively 'opposes disarticulation, experimentation and nomadism [...] (keep moving, even in place [...])' (Ibid., 185).

As already addressed by this chapter, all the three main technologies of the monitor along with their entwinement with the Web (video games nowadays either already include an online multiplayer modality, or some of them revolve around solely online virtual worlds) hinder the three processes of stratification and centralization. For instance, 'monitor technologies' are all digital even if by different means (as mentioned several times); they thus tend to favour the use of specific and limited part of the bodies (hands' movement and touch, eyes through sight, and only optionally ears through hearing) over others (the rest of the body). Video games replace interpretation with configuration (see above), whereby players adapt to a simulated environment through repeated trials and by developing specific required skill instead of building a personal meaning through catharsis. The superflat images (see above) and simulacra (see above) diffused by our media through an incessant circulation and an aimless communication, and dominating our culture, also reflect an increased absence of signification. The Internet has shaped and still shapes our globalized world as a relentless nomadic world on both the virtual sphere and the 'physical' one, thanks to the small shape of smartphones and their consequent easy transportability (see above); it has also decreased the power of the State, whose inner centralized and territorial organization makes it the political version of organism.

However, Deleuze and Guattari warn everyone against de-stratifying too wildly: 'if you blow apart the strata without taking precautions, then [...] you will be killed, plunged into a black hole, or even dragged toward catastrophe' (Ibid., 187). The main risk is that a too-

violent destratification might bring to a degenerated body without organs, either under the form of empty body without organs (drug addict, paranoiac, or hypochondriac) or under the form of cancerous body without organs (fascism in a general sense and even terrorism). The empty body without organs corresponds to 'the void of too-sudden destratification' (Ibid., 192) driven by a self-destructive desire. The cancerous body without organs corresponds to 'the proliferation of a cancerous stratum' (Ibid.) driven by the desire of 'the power to annihilate' (Ibid.), an over growing organized element that spreads and attacks everything else. Both these two degenerations of disorganized bodies (extendable beyond the individual body to the social, political body), foreseen by Deleuze and Guattari, echo the metastatic body of Baudrillard, so to underline once again the complementarity of the contagious tendency and the metastatic tendency, the positive and the negative possibilities of our *monitor society*.

CONCLUSIONS

A. SPECIFICALLY ON VITREOUS TECHNOLOGY

Ocularcentrism is a term first applied by Martin Jay to define "certain cultures or ages […] 'dominated' by vision" (Jay, 1994, 3). As widely demonstrated by the previous four parts of this work and as he points out, visual 'prostheses', such as the 'telescope, microscope, camera or cinema' (Ibid., 3) have intensively contributed to the enhancement of human sight and its central role in history, but they have also altered it. The several visual properties and potentials of glass, such as reflection, refraction, and transparency, have made it the fittest and most proper material to apply to these kinds of instruments. Despite having various components made of materials other than glass (e.g., the support of mirrors, the metal rod of telescopes), the latter embodies, in fact, the most relevant and central part of these tools, because glass allows and corresponds to their prominently visual function.

However, this visual character of glass and the predominantly visual function given to tools with a central vitreous component, caused and still causes the proliferation of a wide variety of visual regimes, each one constituting specific 'cultural categories' (Ibid., 390). This proliferation is not the product of a conscious, rational plan, but it echoes an unpredictability inner to intelligence itself, materials, things and their reciprocal entanglement. As a result, each vitreous phase (from the phase to the monitor phase) works in both 'metaphorical' and concrete terms, through visual regimes with corresponding cultural categories and specific technological instantiations. For example, the lens phase operates through the scopic regimes of surveillance, observation, and gaze, on a virtual level, and through microscopes, telescopes and camera obscura on an actual level; the screen phase otherwise operates through the scopic regime of spectacle and cinema projectors and televisions.

The cultural categories and the concepts 'produced' within each phase work also as 'anthropotechnics': a form of instrumental reason not operating exclusively through physical tools on the 'inert matter', but also as techniques, practices affecting and 'manipulating' humankind itself, and mostly the body. The various parts have illustrated how each phase generates a different relationship with the body and frames it into a different image. For example, the mirror phase corresponds to duplication, whereby the physical body is just the weak reflection of our intellectual, cultural, emotional aspects, which are then distinguished from them. The lens phase even increases such detachment,

182

by entailing the reification of the body, its reduction to a property, an inert mechanical automaton, which needs to be activated and possessed by a soul, a subject. The monitor phase generates a variety of relationships with the bodies, as exposed at the end of the homonymous part IV.

Moreover, there is a part of the body that is apparently more affected by all these vitreous phases and thus by the hegemony of glass: the eyes. As widely shown throughout this study, the eyes have undergone a peculiar alteration, very different from the one vitreous technology has had on the rest of the body. Firstly, vitreous optics have hindered visual immediacy, by virtue of both its concrete instantiations through things and tools, and its abstract, social and cultural instantiations through concepts, cultural categories, visual regimes and social dynamics; the very idea of visual immediacy. In fact, the entire history of the technical use and symbolic use of glass throughout the ages has demonstrated how sight is never immediate and that it does not follow exclusively one kind of regime, but several. Secondly, the natural vision of the two eyes has been, with the mirror phase, juxtaposed to the eye of the mind, the mirror of nature, and perfected by it. Afterward, the lens phase has even made vision more monocular, more dependent on lenses, approaching macroscopic and microscopic reality otherwise impossible to reach. Therefore, these two 'far lands' are made visible by an altered and monocular vision, but also by a new ideology, a new conception of the world as purely extensive and objective, a conception that allowed the employment of lenses for observation. Furthermore, our environment of reference is modified alongside our sight. The world experienced by our two eyes overlaps with the flat and monocular worlds (from microscopic to macroscopic) which lenses disclose. Similarly, mirrors engendered the Greek's doubt about reality itself, forcing them to split reality into two sides, two realms.

The screen phase further affected our eyes, our vision, and our environmental orientation through a hyperbolic multiplication of images, related to the invention of devices such as the photo camera, the cinema and the stereoscope. The latter specifically 'called into question the assumed congruence between the geometry of the world and the natural geometry of the mind's eye' (Ibid., 152), while the camera's eye corresponded to the development of a new eye of a frozen kind, overlapping with our two 'natural' eyes'. Furthermore, with the diffusion of the medium of TV and, the indistinctiveness between images and things, already hinted at by cinema, increased, until they assumed increased traction with information technology. The increased linking of images and things

corresponded with the development of hyperreality and expanded reality, whereby our relationship with the 'world' was once again modified as an entanglement of virtual and actual, software and hardware. Consequently, the relationship between 'man' and machine is overcome, as the glass is integrated with electronic components which alter it. No longer simply external elements (as the metal support was for mirrors and lenses) but also central. Finally, eyes and monitors become prosthesis of one another, reciprocal extensions, in an assimilation that also involved other parts of the body and other senses. On this note, the last two phases (screen and monitor) have specifically involved other senses, despite the centrality of sight which vitreous objects still create. The mirror and the lens phases were still purely visual because both are vitreous tools not yet merged with other materials. Since the twentieth century, the screen phase has included sound in their images and, later, the monitor phase has generated even haptic characteristics to its images. Furthermore, these two phases have also partially tackled the previous model of knowledge as 'dispassionate cognition' (Ibid., 146).

Since the construction, and hence use of mirror, and the corresponding development of the mirror phase, vitreous tools (although constituted at their very beginning by metals rather than glass) have always favoured a cognitive conception of knowledge. In other words, knowledge has been favourably declined in visual terms, as a correspondence between a 'mental' image and a world made static by our sight. Since the turn of the Nineteenth Century, the critique of representation were of different kinds, such as social, philosophical, and artistic, and yet, counterpoised by cognitivist theory. In the finale of the fourth part: the cognitivist theory -a specific approach in psychology and neurosciences which interpret the brain as a computer and, in turn, computers as computational machines, and not as integrated electronic machines. In other words, the process of these computational machines follows the sensory-motor schemata of stimulus, hence computation and final adequate response. –
Therefore, this 'brain-monitor' is finalized to recognize a distant external reality made of discrete objects and to translate them through internal information and data. This cognitivist conception instead of rejecting knowledge as cognition reinstated it, proving how the integrating side of monitors, with their electronic components, lives alongside the glassy cognitive knowledge, as a computer monitor relies in equal measure on electronic and vitreous components.

Other possible common characteristics of glass, and thus of the vitreous optic are: its versatility, its tastelessness, its apparent impartiality, and its tendency toward flatness and extension on bidimensional surfaces. All vitreous phases share in fact an illusionary displacement of the third dimension. Regarding the impact of glass on contemporary design and architecture (and thus not just concerning screens and monitors), Baudrillard states:

> "One material sums up the idea of atmosphere and may be thought of as embodying a universal function in the modern environment. That material is GLASS. Advertising calls it 'the material of the future' – a future which, as we all know, will itself be 'transparent'. Glass is thus both the material used and the ideal to be achieved, both end and means. So much for metaphysics. […] It is the ideal recipient: it does not 'pick up the taste', it does not change over time as a function of its content, as do wood and metal, nor does it shroud that content in mystery" (Baudrillard, 1998, 41).

In conclusion, Glass is the material that most effectively and in the longer term, has affected, and followed us. Somehow accompanied by metal, both materials display on a more general level, the strict and unbreakable relationship between intelligence, things, material, and technology. As a result, there are vast possibilities for 'human' development. To address the potentials of such development, such relationship will be the focus of the next and last paragraph of this final part.

B. GENERALLY ON TECHNE

1. Redefining Intelligence

The entanglement of glass craft and human development throughout approximately 2500 years is only the most visible exemplification of how entwined intelligence, humanity, technology, material, and things are. The intertwinement of these five terms entails the redefinition of each of them. To redefine intelligence according to this new asset, it is necessary to refer to the advanced definition of Henri Bergson and hence deem to which extent it is still valid or not.

Although the specific history of *vitreous optics* and its various phases has developed into a cognitive model of knowledge, intelligence is at its core, beyond its epiphenomenal manifestations, a faculty not meant to achieve knowledge and even less a knowledge based on recognition (representation); but it instead it aims to fabricate instruments, to achieve craftsmanship. This is the extent to which it is necessary to support the view of

Henri Bergson, insofar as he considers intelligence a tendency of action and not a substantial entity:

> 'If we could rid ourselves of all pride, if, to define our species, we kept strictly to what the historic and the prehistoric periods show us to be the constant characteristic of man and of intelligence, we should say not *Homo sapiens*, but *Homo faber*. In short, *intelligence, considered in what seems to be its original feature, is the faculty of manufacturing artificial objects, especially tools to make tools, and of indefinitely varying the manufacture*' (Bergson, 1998, 139).

The strict relationship between intelligent and instrumentality is also confirmed by a closer look at language and concepts (thus thought). Firstly, by focusing on the relationship between glass, society (in terms of human relationships, their specific forms and their development) and thought it is already possible to acknowledge how every invention coincides with a linguistic shift, with the need for a definition which will probably work in the future as a new metaphor for new thoughts. As argued by Bergson, 'Without language, intelligence would probably have remained riveted to the material object which it was interested in considering' (Ibid., 159). In fact, words are mobile and not adherent signs that, in virtue of these characteristics, allow free passing from an object to another: 'The word, made to pass from one thing to another, is, in fact, by nature transferable and free' (Ibid.). Therefore, language neither coincides with sociality nor is it a cognitive tool; otherwise, it primarily enables the construction of relationships between objects and thus facilitates their combination and designing.

Secondly, concepts are not mere mental representations, mental copies of real objects, and therefore do not reflect nature. They otherwise work as virtual utensils, they have a duration within which they mutate whether we realize it, or not. They are *poietic*, productive forces, forms to apply concretely to reality rather than elements, particles of knowledge. They determine the coordinates we use to orientate ourselves in the world. As demonstrated by the specific case of the different phases developed over human history and the history of glass craft, concepts have the same development as objects but on a virtual plan. They indicate how to make objects, instead of merely represent. As once again intuited by Bergson 'concepts […] are outside each other, like objects in space; and they have the same stability as such objects, on which they have been modelled. Taken together they constitute an intelligible world' (Ibid., 160).

However, it is from this point that it is possible to take a departure from Bergson's conception of intelligence. This intelligible world is, in fact, not entirely under human control: It is neither wholly predictable in its effects, or its virtual, conceptual features, nor its actual production such as computers, automata, and utensils. In other words, as shown explicitly by the evolution of vitreous optic, (which includes both the various vitreous technologies and the various phases/steps analysed), the instrumentality of intellect is being reversed, whereby rationality follows a specific material and takes a specific shape in relation to the manipulated material, and hence the produced objects. As intellect is meant to manipulate things, so materials have a degree of influence on intellect. The specific instance of the success of glass (and of metal too) is just a contingent process, one of the many directions intelligence can take concerning every possible material. Moreover, the different phases, the different specific things produced out of a specific material, do not follow any deterministic path. To summarize, all the different phenomena and phases developed throughout human history and related strictly to vitreous optics only constitute one direction out of many, taken by intelligence. In other words, it is only a result of the symbiotic relationship between intelligence and materials, and intelligence and things: As we frame things, they reframe us. As a result, Francis Bacon's notion that we know what we fabricate is incorrect. We do not have complete control over our technology, either as products or extensions of ourselves.

The relationship between utensils throughout the course of history assumes the dimension of a chain made of different levels of fabrication, where utensils are used to make other utensils, and where particular kinds of tools tend to have a priority over others. In this regard, both glass, metal, and vitreous and metallic objects were primarily employed to forge other objects and materials, thereby influencing our modality of manipulation and crafting for centuries, as illustrated widely by this study. Bergson reductively limits the processing of intelligence to the characteristics they have historically assumed, by prioritizing these two materials. For instance, he states:

-Firstly, 'to modify an object, we have to perceive it as divisible and discontinuous' (Ibid., 162).

-Secondly, '*Of the discontinuous alone does the intellect form a clear idea*' (Ibid., 154);

-Lastly, '*The intellect is characterized by the unlimited power of decomposing according to any law and of recomposing into any system*' (Ibid., 157).

As a final note, despite the gloss on the above-mentioned considerations, Bergson makes an agreeable statement regarding how fabrication is not just limited to practical aims such as surviving:

'The first business [of intelligence] was indeed to make instruments, but this fabrication is possible only by the employment of certain means which are not cut to the exact measure of their object, but go beyond it, and thus allow intelligence a supplementary – that is to say disinterested work' (Ibid., 159).

Thanks to this final note, it is possible to move forward and to redefine things in a new way, not as mere predictable, devitalized and unambiguous possessions in our hands.

2. Redefining 'Thing'

Reification is not only a phenomenon affecting human beings but also many other things. Reification should be appropriately defined as a phenomenon of Cartesian reduction to *res extensa*, to pure extension, whereby the original meaning of the word thing is replaced by the Cartesian appropriation of Latin word *res*. It is interesting to note that the latter stems from the Sanskrit *ray*, which stands for property. In this regard, Part II has illustrated how the distinction between subject and object has developed due to the development of private property, which was conceptually framed by John Locke and strictly intertwined with Cartesian separation between thinking entities and extensive entities. In fact, the discussion of Lens Phase has also illustrated how defining certain entities as merely extensive, unqualified and inertly uninfluential allows for the institution of a sense of property toward them, whereas Locke also reduces the body to a property. Part II has also illustrated how the constitution and expansion of this construct (the object) were massively favoured by the development, enhancement and extensive use of observatory tools which employ lenses, such as the dark room, the telescope, and the microscope. In fact, through lenses, our sight tends to look for 'the cadaverization of life' (Jay, 1994, 395). Therefore, during modernity, things were reduced socially (through private property) and conceptually to objects; they had been reified.

The redefinition of intelligence, thanks also to Bergson's perspective on the matter, partially requalifies 'things', but without fully achieving the goal of the present section. Heidegger attempted a redefinition of things according to the original etymology of this term, whereby a thing is a *gathering*, a product of particular care: an assembly. However, Heidegger partially kept the term object (*Gegenstand*, which stands for 'what stands

against') and used it to define technological products, insofar as technology herein refers to its modern and scientific connotation. As a result, he traced a dichotomy between things 'in there' and objects 'out there', as reported by the French sociologist and philosopher of technology Bruno Latour (1947-):

'The handmade jug can be a thing, while the industrially made can of Coke remains an object. While the latter is abandoned to the empty mastery of science and technology, only the former, cradled in the respectful idiom of art, craftsmanship, and poetry, could deploy and gather its rich set of connections' (Latour, 2001, 233). Therefore, there are still 'reified' objects even within the ontology of Martin Heidegger.

By contrast, every product is never just an object, but primarily a thing; it is never designed to solve practical matters at hand, but its manufacturing exceeds such problem-solving schemata.

Gilles Deleuze and Bruno Latour have nonetheless adequately requalified things. Firstly, Deleuze has reintroduced objects within our point of view, whereby we do not have points of view about things (as with phenomenology), but 'Each point of view must itself be the object, or the object must belong to the point of view. The object must therefore be in no way identical, but torn asunder in a difference in which the identity of the object as seen by a seeing subject vanishes' (Deleuze, 2014, 71).

Secondly, Latour has correctly removed Heidegger's dichotomy between things and objects, by replacing *matters of fact* with *matter of concern* and hence overcome the traditional distinction between nature and society. The epistemological notion of *matters of fact* has reinforced the metaphysical separation between the two classes of material entities and social entities. Matters of fact are what defines reality, then nature: "'Nature' conceived as the gathering of all non-social matters of fact' (Latour, 2007, 109). It means that only certain entities, like things and animals, can be invested by factuality and 'ascend' to the natural realm.

Latour thinks that the utility of this concept is limited to its initial use by the Enlightenment: 'the Enlightenment profited largely from the disposition of a very powerful descriptive tool, that of matters of fact, which were excellent for debunking quite a lot of beliefs, powers, and illusions' (Latour, 2001, 232). Afterward, it developed into a central concept for the entire positivist manifesto and still characterizes the

language of many scientists by designating all that is uncontrovertibly given in experience. However, the previous four parts have concretely proven how the term 'matter of fact' is too narrow for expressing the complexity of those entities wrongly labelled as natural and thus reduced to 'silent' objects deprived of any history and trace, or of any relationship whatsoever with who manufactures, utilises or does research on them. Therefore, it is necessary to bring back objects to their original status of being things and in reverse to also reconnect social non-facts (like society and human beings) to things. According to the etymology of the term *thing*, Latour defines it: 'in one sense, an object out there and, in another sense, an issue very much in there, at any rate, a gathering' (Ibid., 233).

In order to achieve his aim, the French sociologist replaces matters of fact with matters of concern, since 'Matters of fact are a poor proxy of experience and of experimentation and […] a confusing bundle of polemics, of epistemology, of modernist politics that can in no way claim to represent what is requested by a realist attitude' (Ibid., 245). Only matters of concern are adequate to describe the plethora of entities (or things) that circulate in our ordinary world and "to renew from top to bottom the very scene of empiricism—and hence the divide between 'natural' and 'social'. A natural world made up of matters of fact does not look quite the same as a world consisting of matters of concern and thus cannot be used so easily as a foil for the 'symbolic-human-intentional' social order" (Latour, 2007, 114-115). In fact, the expression *'matters of concern'* implicates an empirical and tangible relation and entanglement with objectivity, or rather 'thingness'. It requires an active and continued gathering of information, data, materials to achieve an understanding, while the notion of *matters of fact* only hides the difficulty that every inquiry on any subject requires. Thanks to the two interconnected notions of *thing* and *matters of concern* Latour has found the means for redistributing objects and subjects, which means breaking the two frameworks into those where they both have been aprioristically confined, in other words, nature and society. As shown through the exceptional example of glass, both materials/things and human beings are non-hierarchically associated; they are involved into the same process, so that none of them is deterministically determined by the other or strictly distinguished from it.

3. Replacing Matter with Materials

There are two main ways to relate to non-organic beings: as materials and as matter. Most pre-Socratic Greek philosophers first developed both these two 'approaches' as

alternatives to the purely mathematical, spiritual and abstract conception of Pythagoreans, before philosophy also moved into the study of ethics and politics with Socrates and Plato. In fact, Pythagoras, and Parmenides too, introduced philosophy and more generally thought to that detachment from reality that would take root even deeper with Plato's Two Worlds Theory, defining the contemplative characteristic of philosophy. On the contrary, the majority of pre-Socratic philosophers were philosophers of nature, exclusively interested in fully comprehending *physis* (nature in Greek) and its main features, a nature always conceived as an encompassing reality and as something distant from us. Sophists are inevitably excluded from this category of naturalist thinkers due to their disregard for any possible understanding of the real.

As mentioned above, amongst the naturalist pre-Socratics, there were two main modes to understand *physis*: either as *archè* (meaning 'principle') or constituted of atoms. The former approach was by far the most common, while only Democritus developed the latter following the path of his master Leucippus, at least before the Hellenistic philosophy and specifically Epicurus' rehearsal of atomism. Understanding nature as archè meant relating *physis* to a specific principle of the world; a specific underlying material constituting reality. Chronologically, this approach was the first to have based itself on materials. It is monistic insofar as it views 'nature' as an undivided, indistinct and always mutating form, nonetheless keeping its strict substantial and noumenal references to a certain element, which both constitutes and includes everything within it. Socratic thinkers who understood nature as archè and generated different schools of thought and a different view on the properties of the world. In fact, a material was identified as archè because its features were deemed to be the features of the whole of 'nature' itself or because of certain evaluation of pseudo-empirical character. For Instance, to Thales *physis* was made of water and then liquid; to Heraclitus it was fire, as it was characterized as unstable, and thus in constant turmoil; to Anaximenes it was air because he deemed every natural phenomena in terms of rarefaction and condensation of air.

This approach to nature as not being composed of fragmented and fluid materials characterized, to a greater extent, the Italian Renaissance, through two parallel phenomena: the alchemic philosophy and the guilds. Alchemy differed profoundly from the pre-Socratic philosophy of material as *archè*, because it referred to a pluralism of

materials (without any original element that might work as principle for any other entities), each one mutating into another, but with no reference to any atomistic theory (as with Chemistry). It also favoured manipulation, artificiality over natural formation. Moreover, alchemy added symbolic qualification to materials over the mere descriptive properties of the pre-Socratics. In other words, humans actively manipulated materials in order to produce something, while the Greek approach had been a merely descriptive one. In fact, the materials identified as archè could have been only natural elements, such as air, fire (as accidental fire) and water, whereby human beings were just a form assumed by them without any real influence on the process, indeed a process of pure mutation of forms. For Instance, Greeks distinguished between the accidental fire, which is designated by the world *ignis* and the artificial fire, which is designated by the world *piros*, not only on an actual but also on a virtual level.

For the alchemic thought of the Renaissance, there is not just a mutation of forms, but also a transformation of a material into another material, also affecting its own properties. Human beings are actively involved in this process: they act as the manipulator of such materials, like artisans, but operating and manipulating themselves. It is a process of both the actual plan of materials, and the virtual plan of concept, affection, behaviour, sociality, and perception. Therefore, actual materials are invested by a symbolic attribution, whereby their transformation of one into another corresponds to a change from certain properties to others, and thus to an inner transformation of characteristics within the artisan/alchemist. In other words, 'human souls' mutate too and assume the property of the materials which are forged time and again.

The development of alchemy as an 'operating philosophy' that generates relationships and conceptually assembles with materials, contrasts with the merely descriptive and passively involved character of pre-Socratic philosophy. The development and diffusion of alchemy during the Renaissance is parallel with the more concrete advance of guilds primarily in the centre and north of Italy. A guild was a corporation of artisans which had a great deal of political power within the Italian communal systems even since the late twelfth century. By the Fourteenth and Fifteenth century, the guild was a determinant of the economy of Europe. Each corporation was specialized in a specific art, where art referred to technique, to a practical discipline with a productive goal, such as weaving. For instance, amongst the major guilds in Florence, there were the Art of the Wool and the Art of the Silk. This practical declension of art left nonetheless, great room for

refinement in the final products, a refinement that transcended the mere instrumentality and showed its effectiveness through the architecture, sculpture, and painting (the three Fine Arts) of the Italian Renaissance. In fact, Leonardo da Vinci, Donatello, Michelangelo, Brunelleschi, Piero della Francesca have all been apprentices of so-called *botteghe* (workshops).

Democritus otherwise initiated the other line of thought that became hegemonic from modernity onward, when the modern industrials replaced the artisans of the Renaissance. Democritus indeed introduced the concept of matter as we conceive it nowadays: as an aggregate of atoms, which makes him the first materialist in history. In this regard, Karl Marx wrote his doctoral thesis on Democritus' atomist view and contributed, along with positivism, to the definite 'triumph' of materialism in the twentieth century, whereby the whole reality (including social phenomena and concepts) are interpreted only as matter. Already Modern philosophy tended toward a conception of this kind, mostly due to the mechanist reduction of physical entities to merely extensive and unqualified entities operated firstly by Renè Descartes.

The atomism of Democritus applies to all beings, by hyper-fragmenting them through a purely analytical process. The result of this conceptual elaboration is an immense multitude of discrete and strictly separated elements, each of them nonetheless without specific properties, unqualified, replaceable and equal to any other: the atom as an infinitely replicable model. On the contrary, the concept of material expressed through the pre-Socratic archè and even better by the alchemic philosophy of Renaissance generates qualities such as: differentiation, continuity, contiguity, and hybridization within nature.

As argued by Bruno Latour, 'If there is one thing that materialism has never known how to celebrate it is the multiplicity of materials, that indefinite alteration of the hidden forces that enhance the shrewdness of those who explore them'. (Latour, 2013, 220) Such explorers correspond to the 'artisans', the craftsmen.

4. Redefining Technology

Six principles help to redefine technology:

1. Technology refers to any possible utensil used in history and pre-history due to the specific characteristics of intelligence. As far as it is artificially induced, even fire is a technology. Therefore, technology refers to every utensil and to the practices executed by tools.

2. Technology appears as a submitted and predictable instrument only at its outset. In this regard, the following sentence of Bruno Latour is enlightening: "Nothing is less proper to technologies than the relation between the end and the means, since ends and means are invented simultaneously. It is a grievous misunderstanding to claim to see technologies as mere 'applications of Science' and mere 'domination of Nature'—we now know how to counter the weight of the mistakes borne by those two proper nouns." (Ibid.). Liberating technology from mere functionality means also liberating it from neutrality: 'When people say of technologies that they are neither good nor bad, they forget to add: nor neutral' (Ibid., 219). On this matter, Jean Baudrillard gives another important insight: 'A *utensil* is never possessed, because a utensil refers one to the world; what is possessed is always an object *abstracted from its function and thus brought into relationship with the subject*. In this context all owned objects partake the same *abstractness*, and refer to one another only inasmuch as they refer solely to the subject. Such objects together make up the system through which the subject strives to construct a world, a private totality' (Baudrillard 1988, 86). For instance, vitreous tools were primarily crafted to enhance our visual capacities, allowing at the beginning the seeing of our own body (mirror phase), later seeing further (lens phase) and finally seeing the imaginary as if it were real (screen and monitor phases). The choice of focusing on the implementation of sight over other abilities is mostly the result of pressure from society and culture (in the form of philosophy, religion, art, etc.), rather than the expression of a primary necessity. However, this study has explored the several ways vitreous tools exceeded their function, unpredictably retro-affecting the social, perceptive and conceptual 'spheres' (never to be understood as literal, isolated, self-determined and reified entities).

3. Technology, every utensil, works as an extension of our body, insofar as each specific tool extends a specific part of it. On this note, glass specifically allowed the manufacturing of a wide range of extensions for our eyes. This means the on a general level technology, and on a specific level vitreous tools, are media. In this regard, the distinction made mostly by Marxists and all the Frankfurt School between primary and secondary needs is not sufficient, since it does not consider how our needs are filtered by the utensil we use to satisfy them, and not only by language. Things also work as an extension of ourselves, as compensation for a perceived limitation, as exemplified by the craving for flying: the airplane somehow satisfies it but also works as an extension for us. It is the realization of the myth of Icarus: humans equipped with artificial wings. On one level, the wings satisfy a desire, but on another, the wings work as an extension. Extension means that there is no organic unity, that our sensitivity is reduced to give place to something that works *as if*. While a bird feels its wings, its wings are part of it, it feels them, Icarus does not feel his artificial wings as part of him but uses them, as were they. There is a fictional element within 'tools', mostly when we use them.

4. It follows from this last note that technology is also a filter. Everything we observe, we analyse, is always filtered through our tools. As our study has illustrated with glass, our perception, sight especially, is always reframed by the tools we use, and not just extended through them.

5. Technology alters what it is supposed to enhance. For instance, this work has addressed how glassy technology has, since antiquity altered our primary visual perception.

6. Technology also stands for practice and not only for utensil and all 'artificial' things. To this extent, culture itself is a technique that tends to train us, a self-manipulation of humankind not so different from the crafting or industrial production of objects and materials. This manipulation is should be understood, not in hierarchical terms, but as a circular relationship wherein all terms are equally affected, as occurs in surveillance, along with the spectacle, theatre and many other 'technologies of the self' developed by the various vitreous phases.

Such practices, technologies, and forms of 'domestication' (including education too) are always possible and parallel to actual technologies, tools, utensils, things, referring one level to the other and reciprocally allowing their effectiveness. This phenomenon

illustrates how intelligence can apply its instrumental attitude toward the organic and toward itself too, despite its predisposition towards the inorganic, with particular attention to the unorganized solid. Culture, including religion, art, and philosophy which are all technologies of the self, practice with a broad social element that applied nonetheless an instrumental (thus intelligent) approach.

As anticipated by Bergson, philosophy, speculative thought is not separated from the 'instrumentality' of intelligence, but belongs to it, affecting, as already shown throughout this study, society and concrete technical development despite its self-portrayal and intentions. Its categories and concepts are themselves techniques with a manipulative effect on what they are applied to, and not a representative scope. However, concepts are also reversely affected by the 'attachment' intelligence has toward the things it designs. In this regard, the first part has established the concrete embedment of the word and concept of *theoria* within the actual reflective property of mirrors. Therefore, *theoria* is not a genuine and disinterested approach to reality distinguished from *praxis*, and philosophy is itself a form of *poiesis*, a constructive technique, whereby description is never adherent to an object, but somehow it creates it, and/or unwarily modifies it. However, *theoria* is also a great scale form of organization, a project, a plan, that echoes the extension and flatness of the mirror (and every other glass pane). It is a particular instrumental way of organizing the world, an organization that takes the solid as the model and has dominated for centuries the way we act, as both social and public *praxis*, political action (following the definition of Aristotle) and strictly manufacturing *poiesis*.

Art is another practice, a *techne*, which has its genealogy mostly in handcraft, while it is only after romanticism that our understanding of this activity became strictly bound to the figure of genius, to expression, to feeling and less on technique. Art from pure *poiesis* changed into a form of expression of ourselves, of some inner states. Later, Heidegger's contribution generated even more distance from the technical notion of art. For him, art reveals the thingness of things, or, in other words, it reveals the function of specific things, it makes us aware of objects that we will otherwise forget about in the moment we use them. He considers by defining the goal of art as the reveal of the thingness of things, or better the thingness of a specific thing. As already argued by Nietzsche in his *On the Genealogy of Morals* (1887) morality is a last notable example of practice, which affects concretely our body through the definition, institution and application of specific social

relationships. It uses, in fact, the flexibility and relocating characteristic of language, along with its reference to a specific set of value, words, and grammar shared by a specific group, community, and nation, to manipulate, afflict, direct and train the singular bodies.

Finally, it is necessary to follow Latour's definition of technology as a mode of existence, whereby "'Technology' does not designate an object but rather a difference, a new declension of alterity" (Latour, 2013, 223). Where technology stops being conceived as a stable substance, or an object with an identity. Instead, it is conceived in terms of possibility, of force, of power, of what original transformations it might bring. Technology is viewed as a mode, more specifically as 'a mixed mode: proteiform speed on one side, persistence on the other' (Ibid., 225). "As we can see, the adjective 'technological' does not designate in the first place an object, but a movement that is going to take from inert entities and from living ones […] what is needed to hold together in a lasting way […] one of the moments of metamorphosis" (Ibid.). Latour tries to liberate technology also from the common prejudices and presumptions that surround it; to see it a different way than as a field of action, and as a specific method for assembling a multitude of entities rather than an object. One of the most recurrent views is the reduction of technology to the limited pattern of inert 'objects'. On that note, Latour considers it impossible to do "justice to technologies with the two patterns of 'Objects' and 'Subjects'" (Ibid., 211). He accuses this characterization of technology as 'object' for dismissing naively and too arbitrarily the agency that such 'mode of existence' possesses. Arguing against such misunderstanding, he states that 'all humans are the children of what they have worked on' (Ibid., 231). Latour has, in such a way, inverted the entirety of modern metaphysics, dismantling the very modern assumption that technology has to be understood only under the regime of instrumentality. In other words, Latour is 'relocating' the technological: tools are not just tools, means made for a specific end. "Technology is [wrongly] believed to be an action stemming from a human being – most often male, moreover – that would then bear 'on' matter itself conceived through confusion between geometry and persistence" (Ibid., 219-220). It follows that tools, and technologies transcend their function due to the many connections they can develop with a myriad of beings.

BIBLIOGRAPHY

- Alberti, L. B. (2004), *On Painting*, translated by Grayson, C. London: Penguin Books.

- Alpers, S. 1983, *The Art of Describing : Dutch art in the Seventeenth Century*, Chicago: University of Chicago Press.

- Alexander J. C., Giesen B and Mast J.L. 2006, *Social Performance*, Cambridge (UK): Cambridge University Press.

- Apuleius (2017), *Apologia. Florida. De Deo Socratis.*, edited and translated by Jones, C. P. Cambridge, Massachusetts: Harvard University Press..

- Aquinas, T. (2008), *Truth*, translated by Mulligan, R. W. Eugene, Oregon: Wipf & Stock.

- Aristotle (1952), *Meteorologica,* translated by Lee, H. D. P. Cambridge, Massachusetts: Harvard University Press.

- Aristotle (1957)*, On the Soul. Parva Naturalia. On Breath.,* translated by Hett, W. S. Cambridge, Massachusetts: Harvard University Press.

- Aristotle (1996), *Poetics*, translated by Heath M. London: Penguin Books

- Aristotle (1893), *The Nicomachean Ethics*, translated by Peters, F. H. London: Kegan Paul, Trench, Trübner & Co.

- Assmann, J. 2002, *The Mind of Egypt: History and Meaning in the Time of the Pharaohs*, New York: Metropolitan.

- Azuma, H 2009, *Otaku: Japan's Database Animals*, Minneapolis: University of Minnesota Press.

- Bacon, F. (2017), *Novum Organum*, translated by Spedding J., Ellis R. L., and Heath D. D. Cambridge (UK): Cambridge University Press.

- Bacon, F. (2012), *The Great Instauration*, Jersey City (USA): Start Publishing.

- Barilli R. 2005, *Bergson. Il Filosofo del Software*, translated by the PhD candidate Andrea Bergamini, Milan: Raffaello Cortina Editore.

- Barthes, R. (1977)*, Image, Music, Text*, essays selected and translated by Heat, S. London: Fontana Press.

- Baudrillard, J. (1989), *America*, translated by Turner, C. London: Verso.

- Baudrillard, J. (1994), *Simulacra and Simulation,* translated by Glaser, F. S. Ann Arbor, Michigan: University of Michigan Press.
- Baudrillard J. (1995), *The Gulf War did not take place*, translated by Patton, P. Bloomington: Indiana University Press.
- Baudrillard, J. (1996), *The Perfect Crime*, translated by Turner, C. London: Verso.
- Baudrillard J. (1988), *The System of Objects*, translated by Benedict, J. London-New York: Verso.
- Baudrillard, J. (1993), *The Transparency of Evil,* translated by Benedict, J. London: Verso.
- Bauman, Z. 2003, *Liquid Love*, Cambridge (UK): Polity Press.
- Bauman, Z. 2015, *Liquid Modernity*, Cambridge (UK): Polity Press.
- Benjamin, W. (1999), *Selected Writings Volume 2 1927-1934*, Translated by Livingstone R. Cambridge, Massachusetts: The Belknap Press of Harvard University.
- Bentham, J. 1843, *The Works of Jeremy Bentham, Vol. 4*, London: Simpkin, Marshall, & Co.
- Berger, J. 1972, *Ways of Seing*, London: Penguin Books.
- Bergson H. (1998), *Creative Evolution*, translated by Mitchell A. Mineola, N.Y.: Dover Publication.
- Berkeley, G. 2005, *A Treatise Concerning the Principles of Human Knowledge*, New York: Cosimo.
- Berman, M. 1988, *All That is Solid Melts into Air*, London: Penguin Books.
- Bonnet, S. M. (2014), *The Mirror: A History*, translated by Jewett, K. H. New York: Routledge.
- Burn A. and Gareth S., *Heavy Hero or Digital Dummy? Multimodal Player–Avatar Relations in Final Fantasy 7*, Journal of Visual Communication, Vol 3, Issue 2.
- Burch, N. Spring 1981, "Charles Baudelaire versus Doctor Frankenstein", *Afterimage*, 8/9.
- Cavell, S. 1979, *The World Viewed: Reflections and the Ontology of Film*, Cambridge, Massachusetts: Harvard University Press.
- Chee L. & Lim, E. 2015, *Asian Cinema and the Use of Space: Interdisciplinary Perspectives*, New York and London: Routledge.

- Clark, T.J. 1984, *The Painting of Modern Life: Paris in the Art of Manet and his Followers*, Princeton, New Jersey: Princeton Press University.

- Clarke J, 2014, *the cinema of James Cameron: bodies in heroic motion*, New York: Wallflower Press.

- Cole C. May 2017, Interview of former RAF Reaper pilot 'Justin Thompson' (a pseudonym), Drone Wars UK.

- 1 Corinthians 13:12, Holy Bible: King James Version.

- Crary, J. 1990, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, M.I.T, Boston.

- Cutting, J.E. 1986, *Perception with an Eye for Motion*, Cambridge, Massachusetts: MIT Press.

- Dante Alighieri (1867), *The Divine Comedy: Paradiso*, translated by Longfellow, H. W. Cambridge, Massachusetts: Welch, Bigelow, & Co.

- Debord, G. (2006) *The Society of the Spectacle*, translated by Nicholson-Smith D. New York: Zonebooks.

- Der Derian J. 2001, *Virtuous War/Virtual Theory*, International Affairs (Royal Institute of International Affairs 1944-), Vol. 76, No. 4. (Oct., 2000).

- Descartes, R. (2001), *Discourse on Method, Optics, Geometry and Meteorology*, Translated by Olscamp P.J. Indianapolis: Hackett Publishing Company.

- De Duve, T. 1978, *Time Exposure and Snapshot: The Photography as Paradox*, Photography, Vol. 5 (Oct., 1978) pp. 113-125.

- Deleuze G. 1998, *Bergsonism,* translated by Tomlinson, H. & Habberjam, B. New York: Urzone Inc.

- Deleuze, G. (2015), *Cinema 1: The movement image*, translated by Tomlinson, H. & Habberjam, B. London: Bloomsbury.

- Deleuze, G. (2014), *Cinema 2: The Time-Image*, translated by Tomlinson, H. & Galeta, R. London: Bloomsbury.

- Deleuze, G. (2014), *Difference and repetition*, translated by Patton P. London: Bloomsbury.

- Deleuze, G. & Guattari F. 2014, *A Thousand Plateau,* translated by Massumi, B. London: Bloomsbury.

- Diogenes Laertius (1925)*, Lives of Eminent Philosophers, Volume I: Books 1-5.*, translated by Hicks, R. D. Cambridge, Massachusetts: Harvard University Press.

- Drohojowska-Philp H. 2001, *Superflat*, Artnet.

- Foucault, M. (1991), *Discipline and Punish: The Birth of The Prison*, translated by Sheridan, A. London: Penguin Books.

- Foucault, M. 2002, *The Order of Things: An Archaeology of the Human Sciences*, New York: Routledge.

- Gaboury, J. 2015, "*Hidden Surface Problems: On the Digital Image as Material Object*", Journal of Visual Culture pp. 40-60.

- Gadamer, H. G. (1989), *Truth and Method*, translated by Weinsheimer J. & Marshall D. G. London: Sheed & Ward.

- Galinsky, G.C. 1975, *Ovid's Metamorphoses*, Bath, UK: The Pitman Press Ltd.

- Gasché R. 1986, *The Tain of the Mirror: Derrida and the Philosophy of Reflection*, Cambridge, Massachusetts: Harvard University Press.

- James 1:23-24, Holy Bible: King James Version.

- Jay, M. 1994, *Downcast Eyes*, Berkeley and Los Angeles, California: University of California Press.

- Hadot, P. (1998), *Plotinus or The Simplicity of Vision*, Chicago and London: The University of Chicago Press.

- Rosa, H. 2013, *Social Acceleration, A New Theory of Modernity*, New York: Columbia University Press.

- Harvey, D. 2000, *Spaces of Hope*, Berkeley and Los Angeles: University of California Press.

- Heidegger, M. (1977), *The Question Concerning Technology and Other Essays; Science and Reflection*, translated by Lovitt, W. New York: Harper Torchbooks.

- Henry M. (2012), *Barbarism*, London: Continuum.

- Huntemann N. B. 2010, *Joystick Soldiers: The Politics of Play in Military Video Games*, New York: Routledge.

- Huizinga, J. 2014, *Homo Ludens: a Study of the Play-Element in Culture*, Mansfield Centre, Connecticut (USA): Martino Publishing.

- Latour, B. (2013), *An Inquiry into Modes of Existence*, translated by Porter, C. Cambridge, Massachusetts: Harvard University Press.

- Latour B. 2007, *Reassembling the Social*, Oxford: Oxford University Press.

- Latour B. 2001, *Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern*, Critical Inquiry (The University of Chicago Press Journal 1974-), Vol. 30, No. 2. (Winter 2003).

- Leibniz, G.W. (1991), *Monadology*, Pittsburgh: Pittsburgh Press.

- Leibniz, G. W. (1988) *Political Writings*, translated and edited by Riley, P. Cambridge: Cambridge University Press.

- Locke, J. 1846, *Essay Concerning Human Understanding*, translated by Kay, C. H. Philadelphia: Kay & Troutman ed.

- Lucretius (1924), *On the Nature of Things*, translated by W. H. D. Rouse, W. H. D. revised by Martin Smith F. Cambridge, Massachusetts: Harvard University Press.

- Martin, J. C. 2000, *The Brain is the Screen: Deleuze and the Philosophy of Cinema*, Minneapolis: University of Minnesota Press.

- McIntyre, A. 2007, *After Virtue*, Notre Dame, Indiana USA: University of Notre Dame Press.

- Miller J. L. *The Mirrors of Dante's Paradiso*, University of Toronto Quarterly, Vol. 46, No. 3. (Spring 1977).

- Murray, J. H. 1997, *Hamlet on the Holodeck: The future of Narrative in Cyberspace*, Cambridge, Massachusetts: MIT Press.

- Nonnus (2014), *Dionysiaca Books 1-15*, translated by Rouse W.H.D. Cambridge, Massachusetts: Harvard University Press.

- Ovid (1876), Metamorphoses, translated by Riley H.T. London: George Bell and Sons p. 103.

- Power, H. 1966, *Experimental Philosophy*, New York and London: Johnson Reprint Corporation.

- Plato (1964), *Alcibiades I*, translated by Lamb, W. R. M. Cambridge, Massachusetts: Harvard University Press.

- Plato (1990), *Theaetetus*, translated by Levett M. J. Indianapolis/Cambridge: Hackett Publishing Company.

- Plato (1968), *The Republic of Plato*, translated by Bloom A. Library of Congress, Washington, DC: BasicBooks.

- Plautus (2011), *Casina. The Casket Comedy. Curculio. Epidicus. The Two Menaechmuses.*, edited and translated by de Melo, W. Cambridge, Massachusetts: Harvard University Press.

- Plotinus (1984), *Enneads* IV, translated by Amstrong A. H. Cambridge, Massachusetts: Harvard University Press.

- Rorty, R. 1980, *Philosophy and the Mirror of Nature,* Princeton: Princeton University Press.

- Sartre, J. P. (1993), *Being and Nothingness*, translated by Barnes, H. E. New York: Washington Square Press.

- Seneca (1971), *Natural Questions, Volume I: Books 1-3*, translated by Corcoran, T. H. Cambridge, Massachusetts: Harvard University Press.

- Snyder J. Spring 1980, "Picturing Vision", *Critical Inquiry*, 5, 3.

- Sotamaa, O. & Karppi, T. (2010), *Games as Services: Final Report*, [online] available at: http://www.trim.fi

- Virilio P. 2007, *Negative Horizon: An Essay in Dromoscopy*, London: Continuum.

- Virilio P. 2006, *Speed and Politics*, Los Angeles: Semiotext(E).

- Virilio P. 1994, *The Vision Machine*, Bloomington Indiana: University Press.

- Wardrip-Fruin N. and Harrington P. 2004, *First Person: New Media as Story, Performance, and Game*, Cambridge, Massachusetts: MIT press.

- Williams R. 1974, *Television*, New York: Routledge.

- Willson, C. January-March 1988, "Visual Surface and Visual Symbols: The Microscope and Early Modern Science", *Journal of the History of Ideas*, 49, 1.