



# *Infrafaces*

*Essays on the Artistic Interaction*

*by*

*Marco Muñoz*



UNIVERSITY OF GOTHENBURG



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# Abstract

Ph.D. dissertation at University of Gothenburg, Sweden, 2013

**Title:** *Infrafaces: Essays on the Artistic Interaction*

**Swedish title:** *Infrafaces: Essäer om den konstnärliga interaktionen*

**Author:** Marco Muñoz

**Language:** English, with a Swedish and Spanish summary

The essays collected in this dissertation introduce a new concept in the field of interactive art: the concept of *infrafaces*.

This thesis shows how a new zone is discovered when two or more elements connect. In the space that arises, a contact area comes into being between the elements involved, and this takes place at the moment of their contact and information exchange – forming an interface. This interface can in turn be manipulated to generate a new space, which forms a contact zone that can be opened even further, thus creating new spaces. The new segments created within the practice of interactivity are named *infrafaces*.

*Infrafaces* are a series of interrelated interfaces within an interaction that adapt time and/or space to transform connecting elements into new spaces. These spaces act as an interface for the next transformation to take place before a new space is opened. The *infraface* is an artistic interpretation of the process of interactivity and has the ability to expand the time or the space in between the elements interacting, in order to embed new stories between them.

This dissertation explains how, by means of artistic experimentation – through video, installations and the design of interfaces – this new area was uncovered: an area that is an infinite zone, close to the paradoxical, but that offers endless opportunities to develop art, and instead of solving the paradoxes that arise in art or technology, develops a way to use these contradictions to create a different understanding of our relation to the world.

This thesis also proposes a new approach to the relationship between art and technology, hereby manifesting the ways in which our senses adapt to technology. Instead of pretending to define and change the world, this project proposes new forms of connectivity that produce different interactive applications and whose aim is to produce new knowledge.

This dissertation presents five essays interwoven with artistic exhibitions, and also includes the documentations of these experienced practices, demonstrating the literary and visual potential of the *infraface* – a new concept within artistic research.

**Keywords:** interaction, artistic research, digital art, infrafaces, interface, paradoxes, art and technology.

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In memoriam Alberto Díaz

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## Introduction

**In** your hands is a collection of texts conceived between 2007 and 2013. Each of these small narratives is part of an ongoing struggle to understand how we are connected to each other and to the world, a struggle as desperate as it is delightful and rewarding. We are not only spectators in these texts, but also actors who are creating the story through our actions. Action is important in this struggle, rather than observation or description, and so each story was intertwined with a documented artistic exhibition.

The stories and the artistic acts share a common denominator that encourages both the reading of the texts and experiencing of the exhibitions: interactivity. Interactivity through tools, our bodies or cultural elements. This work questions the spaces inbetween every interaction, the borderline between two or more elements exchanging information. This book plays with the idea of crossing these borders, limits and lines of understanding<sup>1</sup>—nevertheless sometimes stopping endlessly on the way, in the transit zone, at the contact area.

I discovered that in the process of any interaction a new place arises, a bridge. This place is paradoxical in the sense that it does not only separate and unify, but it can be extended *ad infinitum*. I thought about every time this bridge – this zone of contact or interface – is put to use, and that lead me to develop a neologism, something within the interfaces, something below this intermediate zone. This new space can be extended. Extending a physical area or space in time to embed new stories or actions is the basis on which this neologism stands. This artistic interpretation of the process of interactivity is what I call *infrafaces*.

As a result of my research, the five essays forming this thesis are based on that neologism. Each story was written using the structure that best helped to reinforce its main concept.

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1. Though sometimes crossing this line, like the idea of beings who have crossed the border between different countries – Mexico and the United States – or the boundary between life and death, or the conscious and the unconscious, or the concrete and the abstract.

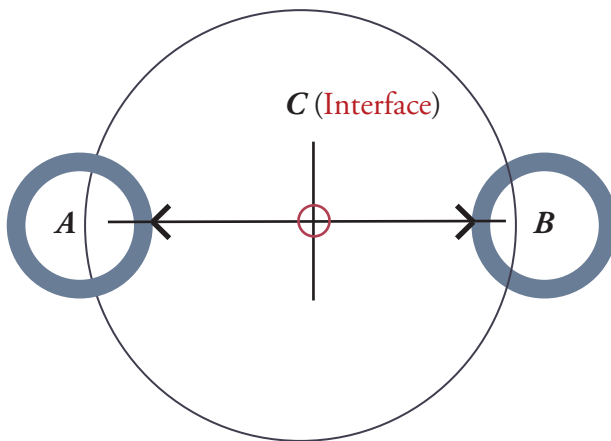


## Background // Context

Geographically the works were created in the Mexican Caribbean and in west of Sweden; conceptually they are located in the context of digital art and sometimes made with the aid of electronics. Although my area of work is digital art, I wanted to address the technology from a wide historic perspective, and to focus not only on the latest gadgets. As such, this thesis is not limited to computers and electronic art, but also provides examples from the Babylonian cuneiform tablets up to the presentation of the iPhone 4. Time will tell if the artworks and technological examples are still relevant.

As a visual artist I have been working basically with interactive art for the past 15 years, producing works that react to the user or viewer's input or participation. I have also worked with technology and digital media, electronics, video, sensors, computers and installations. I have left aside the discussion between digital or analogue art and focused instead on playing with the border between humans and technology.

I design devices that help us to communicate or interact with an object or work of art. It may be helpful to understand how the most basic model of interaction works:



And because interaction is a central part of my discourse I find it important to claim that:

A body can only be defined in terms of its relationship with other bodies. That is, the inter-relation between objects is more valuable than the object itself. The object in isolation, its contemplation or definition, does not arouse interest in the same way as when it comes in contact with other elements or spectators, or when it takes on the wonderful value as a unifier or bridge for an active system of participation where the assistant is no longer passive.<sup>2</sup>

Those devices that help us to manage the communication between an object and a person, or a person and several people, or an object and other objects, are known as “interfaces”. Then the interface, or *gränssnitt* in Swedish, is the contact area between a viewer or user and its environment. So an interface can be remote controls, displays, joysticks, mice, keyboards or cell phones. But this definition allows us to encompass other things. So an interface

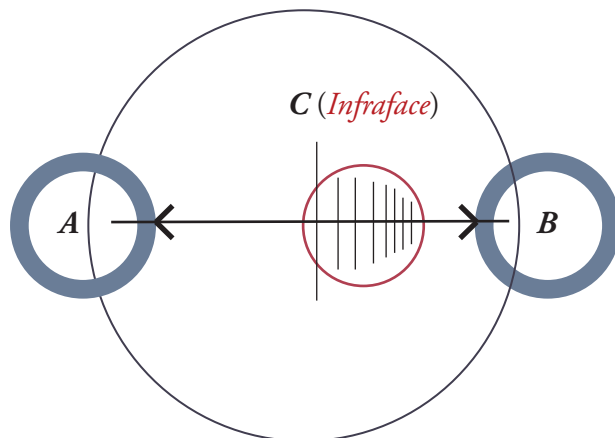
2. Cfr: Chapter II *Infrafaces*, p.49.

can also be a book, clothes, fashion, computers, and even language itself. As mentioned in Chapter II, “interfaces are more than a functional technology, they have a cultural meaning shaping the way we think.”<sup>3</sup>

It is worth noting that there may be different interfaces in an interactive process. The most interesting thing is that an interactive system can include several interfaces: a cell phone contains a display, a display contains buttons, buttons contain text, language, etc. We can sort out, analyze, investigate and dig up new relations or descriptions indefinitely. When one analyses or creates interfaces, new definitions can be developed. Each of these contact lines can be extended in the same way each encounter can be delayed in order to generate or insert new stories.

Including a story within another is an approach that creators have always used in films, literature, music or theater creating new spaces. Several visual artists decide to seize those non-existent neutral areas for themselves and do something new there, rendering the invisible visible.<sup>4</sup> Similarly, the relationship that exists between human beings and their environment can be zoomed-in or extended several times and, in turn it can be subdivided again in order to create new rooms, and we can play in the same way with time. But sooner or later this would lead us into a paradox, because we could zoom in on a process and dig up new interfaces, generate a narrative inside another narrative and so on, over and over, but when would it end? Where is the limit in the number of times we can deconstruct, sort out or analyze a space, and extend it to find new frontiers? In fact, it can be done as many times as we want! *Ad infinitum*. This is one of the basic ideas in the thesis.

This paradox was already of concern in ancient Greece, namely for Zeno of Elea in 430 BC. He formulated this dichotomy paradox among others, such as, the arrow paradox. This paradox, in turn, has appealed to other contemporary writers such as Borges, Carroll or Deleuze.



3. Koefoed, Hanson Lone and Pold, Sören: *Interface: Digital kunst och kultur*, Aarhus Universitet, Aarhus, 2009, back cover.

4. *Cfr.* Chapter II *Infrafaces*, p.62. n. 31.

I thus went from the development of functional systems called interfaces to the creation of another new concept: the *infraface*. The difference between an interface and an *infraface* is that an interface focuses on the assumption that the connection must have a rational function. The user wants the response of the process to be practical and predictable. While the *infraface* is more focused on the process itself, finding or creating new places. This may be seemingly paradoxical, absurd. But as we will see, the nonsense is not as opposed to the truth, it is a different kind of truth.

### Description of the text // Essay map

To surface these questions, I wrote each essay using a specific structure which is relevant to each issue and art production. All essays are performed in an intermediate space: The first narrative is carried out between 1210 AD and 760 BC, the second story takes place between the distance of a window and the floor, the third story happens between the conscious and the unconscious, while the fourth chapter takes place between the distance of a gun and its target, and the last essay between an intermediate zone when an action is carried out between the literary and the real.

1. The first story, ***Extispicia: Guts as interface***, is a compilation of human inventions that each strove<sup>5</sup> to tame, measure, communicate or understand the world and its phenomena – and of course to also understand ourselves as influential parts of this world. Each of these creations, in my opinion, oscillates, between the art object and the object tool (between the useful and the aesthetic). Each of these works or devices demonstrates the special relationship we have with technology and also how this technology is designed to help us understand time, and even to predict it. This is not a collection of significant gadgets; these are examples of works that function with an extra axis, time. They demonstrate the fragile and changing line that has existed between art, science and the esoteric. The story is told backwards starting from 2010, the year of the final presentation of the late entrepreneur Steve Jobs. It reflects upon an enigmatic photo of Jobs holding a mobile phone. The story goes through 1934 and the completion of a mural by Diego Rivera, and back to the 7<sup>th</sup> century BC to the founding of the royal library of Assurbanipal, a period in which tools were more organic and closely linked to rituals. The story finds an analogy between *extispicia* – a ritual to predict the future – and modern man with a cell phone in his hand.

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5. We could add the word *strive* to each sentence, and have called this *A Treaty on Striving* rather than *Infrafaces*.

2. The second story, ***Infracfaces: Beyond interfacing***, gives name to this treaty, *infracfaces*, and is told as a man is falling from a window towards the ground. As this man tumbles through space towards the inevitable contact with the ground he has the opportunity to remember his life, and to live it again. This essay helps us understand the fundamental principle of *infracfaces*: how a physical and temporal space can be endlessly divided, each division creating a space of possibility for new stories. This essay is based in Zeno's second paradox.

3. This story, **Superficial Blue: A moment can hold an eternity**, is an infinite chess game. It is a nightmare that takes place in the fevered sleep of chess grandmaster Gary Kasparov the night before he loses the famous match against the computer Deep Blue in 1997. A moment can hold an eternity. This essay plays with time and reflects upon the border between the technological and the human. Language can act as an interface; this is the basic idea in both the essay and exhibition. At the same time the essay discusses our relationship with technology and how we perceive time.

4. The fourth story, **Burroughs: The paradoxical division of physical and temporal spaces**, is intertwined with the second and is based on an event that would change the life of writer William S. Burroughs forever in Mexico, 1952. It emphasizes the artistic possibility that *infracfaces* create in the potential of infinitely division of physical and temporal spaces. It reinforces how *infracfaces* as art are deeply related to the nonsense and the paradoxical. It is inspired from Zeno's third paradox, the paradox of the arrow. It approaches us to the insight of the paradoxical; how nonsense is necessary for the sense, and not the opposite.

5. The fifth and final story, ***Infracfaces II: The origin of life. In the beginning was the action***, ends with the beginning: a set of representations of the theory that water is the origin of life. It is presented with a series of images of bodies passing through different mediums. Images of men diving in the Pacific Ocean. Again, this story stops and focuses on the borders, horizons and on the surfaces. Though it focuses on the border between water and air, it could be any boundary: the human and the technological, sense and nonsense. I am interested in the behavior of entities as they make contact with other elements, how bodies change both themselves and their environment as they cross these limits.

One objective of these five stories, that were developed in an intermediate space, is to create an understanding of everything that happens within us and around us, and to propose new ways of connectivity.

## ***Praxis***

Parallel to these stories, I experimented through video, installations and a number of other different interfaces, collecting documentation of these experienced practices, which are presented in this dissertation. Interaction is a central part of my artistic research, so this thesis, was intertwined with artistic acts created in Mexico and Sweden. The three exhibitions seek to encourage a different understanding of our environment by means of interaction.

1. ***Extispicia*** consists of three installations presented in 2007. The exhibition is based on a ritual used to predict the future in ancient cultures and practiced as a science. Extispicia helps us understand the way we try to assimilate our environment using metaphorical systems common in diverse domains of thought.

2. **Superficial Blue** was presented as an interactive audio and video installation, from October to November 2010. The project *Superficial Blue* explores the relationship between the human and technology not only from a technical point of view, but also approaches to this relationship from an aesthetic and cultural perspective. It focuses on language as a cultural catalyst and binder between the human, matter and environment.

3. ***Infrafaces*** was the final show of my research project, presented in August 2013. It accompanied the defence of the dissertation at the Faculty of Fine, Applied and Performing Arts in Gothenburg. *Infrafaces*, the exhibition, consists of a series of video of bodies passing through different mediums. Concentrating in the zone where the *infrafaces* moves, in the border lines, in the contact zones. I am interested in the behavior of entities as they make contact with other entities, how bodies change both themselves and their environment as they cross these limits and in the inter-relation between elements.

## **Method**

*Infrafaces* propose a new space for the realization of art demanding its own methods. I wanted to reinforce the idea of the concept *infrafaces* in the structure of every chapter. That is why each story is written in a form that best represents its unique problem. This book is an interface, in the sense that it is an organization of cultural codes arranged in approximately 650 grams of paper; it serves as a bridge towards an understanding. But it gradually became an *infraface*: an open wound, a crack in this bridge, opening a new place for the realization of art.

Acquiring knowledge can't be separated from action. We are not entities that exist and then create symbolic forms to comment on our practices. Art and language are actively participating in our formation. There is a constant and simultaneous interaction between our practices and our constitution as beings. Artistic research has given the opportunity to exercise this interrelation. But as the reader will notice, there are even paradoxes in this interaction, and this dissertation asserts that it is important to analyze and take advantage of these contradictions. These essays and artworks are nourished by paradoxes, they refuse to be explained using functional processes and they have to find their own methods. Is it therefore difficult to reach an understanding of the art form via traditional rational processes? These stories lead us to the insight of absurdity, showing that nonsense is necessary for sense. This form was chosen because I have the opportunity to challenge conventional ways of thinking and established truths and show the need for complementary aspects in our understanding. Paradoxes are not failures in logical systems, "but forms that reveal how a contradiction is generated",<sup>6</sup> encouraging us to think in a different manner. The paradox has its own meaning which does not contradict truth in the same way that nonsense is not the opposite of sense.<sup>7</sup>

The concept of *infraface* focuses on the process rather than on the function, underlining the *ad infinitum* extension of the space in between. It avoids Heidegger's division between *physis* and *tekné* and all kinds of divisions of the being.<sup>8</sup> I do not consider the intervention of nature as opposite to human production.

This work was not conceived as a story one will read from beginning to end. Every chapter can be read independently. That's why some ideas might repeat, but still the narratives are affected by surprise. The way I work with art is based precisely on these astonishments: The last chapter is a good example of creation as a result of practice. The unpredictable, the unknown, to challenge and surprise ourselves and others, is part of art's great adventure.

*Infrafaces* finds its own form of expression based on interrelations and self experiences, in the actions. As mentioned, we are not only spectators in these stories, but also actors who are creating the plot through our actions. Action is in this case more relevant than examination or depiction, so each chapter is in dialogue with an artistic act. In this way I put myself as the creative subject. I strongly believe that the artistic creation by self-reflection can be a source of knowledge. It has been an ideal for the academy to reflect itself on its own practice and this is my contribution to scientific research.

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6. Cf: Chapter IV, p.87, n. 12.

7. Deleuze, Gilles: *The Logic of Sense*, the Athlone Press, London, 2001, in the *Eleventh series of nonsense* and *Twelve series of the paradox*, pp.66ff and pp.74ff.

8. Badiou, Alain: *Deleuze "El Clamor del Ser"*, Manantial, Buenos Aires, 1977, p.51.

## A new space for the realization of art

The neologism *infrafaces* presented here is the idea of extending an area or space in time to embed new stories or actions. The essays and exhibitions in this dissertation have one thing in common: the search for an understanding through interaction, that is, interactivity through devices, cultural elements or our own bodies. In this interactive process everything that can help us to exchange information acts as an interface, as a border line. At the moment of contact between two or more elements, an area of transformation – a line, a border, a changing space, an intermediate space – is created; it is this space that interests us because it can be manipulated to include other spaces.

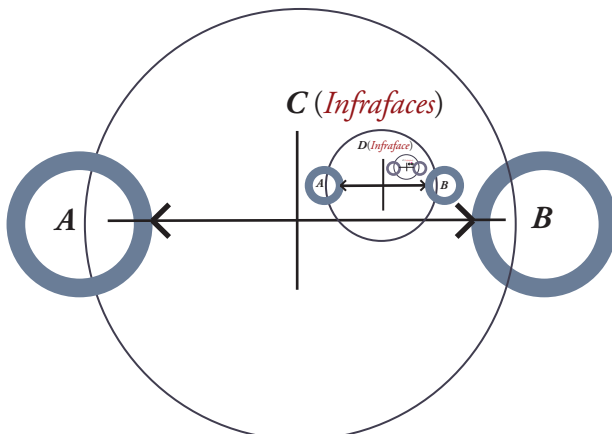
An interface can contain different interfaces, buttons, display, text and language, and those in turn can contain new interfaces. In the same manner, a space can be divided and embrace another space, a story within a story, or a time within another time, and so on *ad infinitum*. These connections form endless chains of moving definitions. The possibility of playing with these connections is the foundation of the concept I refer to as an *infraface*. Thus the *infraface* creates a new intermediate space between two or more elements, and it activates this area according to the artist's intentions.

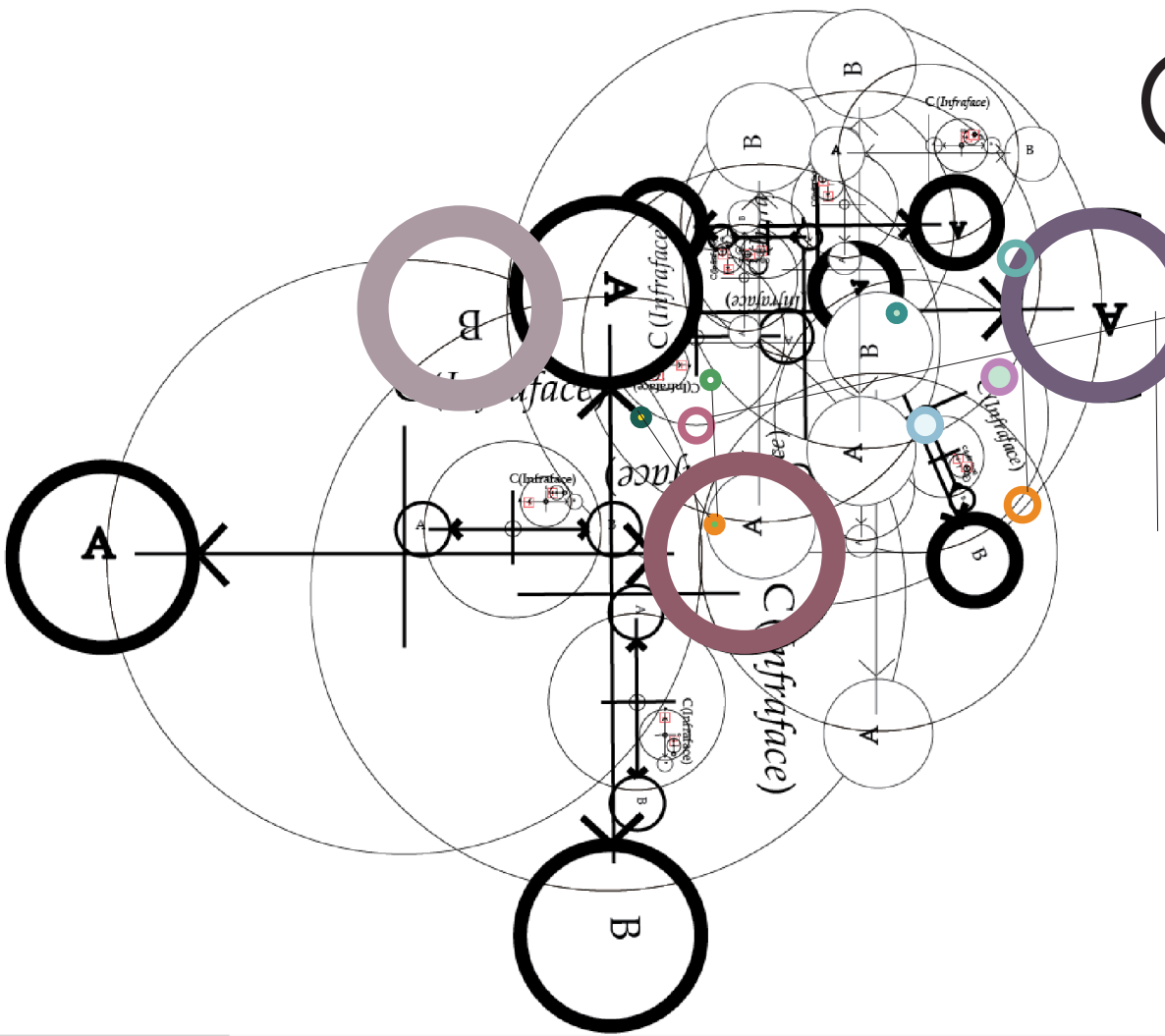
*Infraface* is an artistic interpretation of the process of interactivity. It is what occurs beyond interfacing. *Infraface* is the option to extend or delay a physical area or space in time in order to embed new stories. *Infraface* is a different way to develop interfaces in order to size up the inbetween spaces in an interaction to perform art.

Although this might lead to a paradox, it does not need to be negative. It can open up a creative possibility, because this new space between things can be exploited as something effective. As we will see in many works of art, neither congruent outcomes nor function are indispensable. A paradox has its own meaning that is not opposite to truth; it is a different kind of truth such as humor, irony, or art itself.

*Infrafaces* is the possibility to delay the moment of union when we perform some action. *Infrafaces* open up or expand, as many times as is necessary, the contact field that emerges when we relate to others or to the environment. All the stories presented here play with the idea of crossing this contact zone towards an understanding, but sometimes stopping endlessly in the transit zone, in the process, even if this maybe paradoxical.

*Infrafaces* propose a new room for the realization of art that demands its own methods. This work emphasizes the process rather than the purpose, the *ad infinitum* extension of the space in between: the *infraface*.

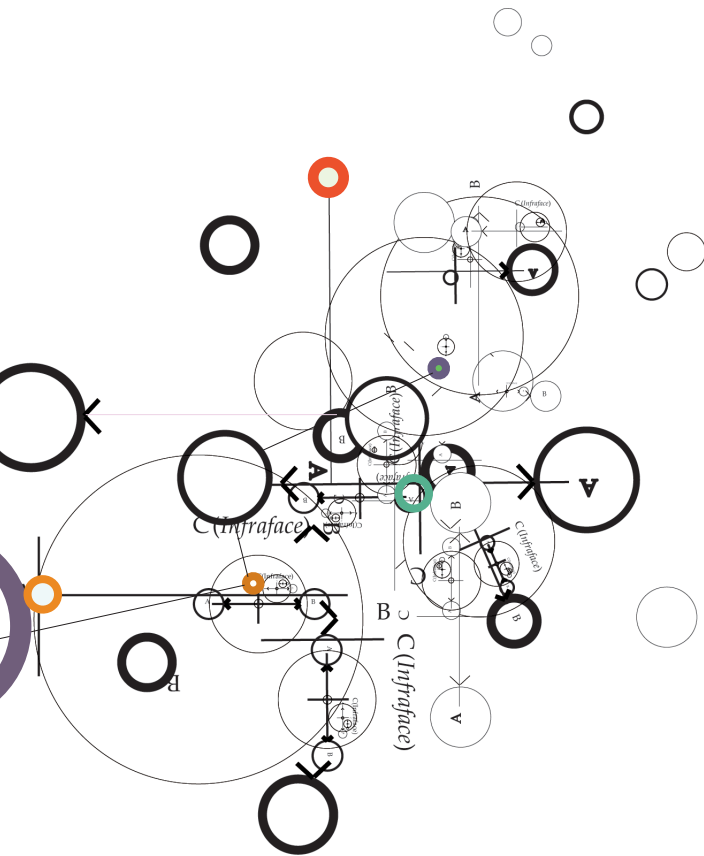






...understand it well as I may, my comprehension can only be an infinitesimal fraction of all I want to understand about the many connections and relations which occur to me, how the matter in question was first thought of or arrived at, etc., etc.

Ada Lovelace





# I. *Extispicia*

## Guts as interface



f.01\*

\* The seer Calchas practicing an extispicy ritual, interpreting the entrails of a sacrificial animal.

This trip begins in California. There, there is a man controlling the universe. Measuring it. Communicating. The man holds in his hand a device. A device with interfaces. A crystal ball. To control the future, we must predict it. He uses technology to understand his environment, to know his position, to see into the future. He has learned from history and he knows that he can change the world he lives in. The future of this man is very short. He knows it, yet he smiles. It is June 7, 2010, and the entrepreneur Steve Jobs has his last appearance at WWDC.<sup>1</sup> Since 2003<sup>2</sup> he has lost over 20 kilos because of an illness, so the wrinkle of his smile appears to be more deeply inset into his cheeks. Always with the black sweater that makes him look even thinner. The cancer eats his liver. He remembers that once upon a time the liver was considered the vital center of the body, until Vesalius in 1540 demonstrated the importance of the heart. In his outstretched hand, Steve Jobs holds the latest version of an iPhone 4, an electronic device the sales of which saved the company Apple from an economic crisis. This is the company he developed in his youth in a garage in California. This tool is intended to summarize the advances in communication and information available to the Western middle class: games, interfaces, calendars, maps, motion pictures, telephony... It has been nearly six centuries since the first ingenious inventions of the Renaissance, where the *logos* of the Platonists pretended to make statues talk. This led to the ingenious ideas of building residences where, inspired by magic, but by physical means, both beautiful and complex palaces were created, high walls with acoustic holes in a spiral that ended behind the heads of some statues. In this way, an early telephony was invented with a communication range of over 200 metres.<sup>3</sup>

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1. Apple Worldwide Developers Conference.

2. Jobs was diagnosed with cancer in October 2003. Isaacson, *Steve Jobs: en biografi*, p.513.

3. Carlsson, Göran och Ågren, Per-Uno: *Tankens bilder: om människors vilja att synliggöra kunskap och idéer – att förklara världen i bilder*, Raster, Stockholm, 1997, p.36.

This leads him to think about the sad story of Antonio Meucci who invented the telephone in 1849 to communicate with his ill wife still badly suffering from rheumatism, but in his misery Meucci could not afford to pay the patent for his invention, something that Alexander Graham Bell would take advantage of, patenting the telephone and taking the honours in 1876. This causes Jobs a little remorse when he thinks of the inventions covered by the iPhone 4 and the thought of who actually enjoys the benefits and the honors of those patents. Jobs smiles. This device is not only a medium for communication – it helps us to organize and to remember. Mental systems to help the memory seem vain, such as the mnemonics, developed by Giordano Bruno, who was burned at the stake in 1600 for his controversial ideas. This device would claim to enable us to understand or to connect us with our environment. It tries to be all-encompassing. The real-time network connection gives us instant access to all the information required in a 10 cm tablet, connected permanently to a digital library. Jobs then thinks about the Royal Library of Assurbanipal, founded in 668 BC. The library consisted of thousands of clay tablets with cuneiform inscriptions. The Babylonians wanted to document everything and for centuries stored information about the political, military and intellectual events with a huge bureaucratic system of notaries. In the same way as his successor Nebuchadnezzar, Assurbanipal knew the importance of information and history and tried to document every event, even the results of soothsayers and clairvoyants. The Babylonians believed that the will of the gods was manifested in nature or in the entrails of animals. They carried out rituals and offered sacrifices to understand their environment and even to predict the future. The *extispicia*, for example, was an act of premonition in which a priest held in his hand an entrail such as a liver, and tried to read the divine signs on it in order to interpret, communicate and interact with his environment. For Steve Jobs, these stories come to mind, and he proudly holds the phone, as one who interprets, communicates, interacts and controls the environment. Although, for a moment, the device gives him pride, he feels momentarily terrified at the idea of how all the information available, paradoxically, opens up more questions than it answers. Just as the almost maniacal need of the Babylonian scribes. He wonders how much we actually reach out to one another or to the world around us, how much we understand each other and the world, and which tools we are missing to properly interpret our environment. He wonders if the media link or divide us. For a moment he puts the device in the palm of his hand and looks at it as someone who looks into the past divining the future. He knows that his future is already very short. Only few months later would he leave this world shrunken by many inventions such as the one he is holding in his hand. “Oh wow, oh wow ...”<sup>4</sup>

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4. Steve Jobs' final words according to his sister, Mona Simpsons' Eulogy at his memorial service on Oct. 16.  
<http://www.nytimes.com/2011/10/30/opinion/mona-simpsons-eulogy-for-steve-jobs.html?pagewanted=all>

This trip goes backwards. This trip continues in Mexico City at the Palace of Fine Arts. There is another man controlling the universe. In front of this man is a hand extended toward us holding a crystal ball. He also uses technology to look into the future. He has learned from history and knows that he can choose the world we want to live in. Around the man and the crystal ball science, politics and history spin as the man struggles in a dialectical conflict between two worldviews: capitalism and communism. The year is 1934 and the author is Diego Rivera. To control the future, we must predict it.

Diego Rivera painted the mural *Man Controlling the Universe* at the Palace of Fine Arts in Mexico but, originally, the images of this mural were designed to be housed at the Rockefeller Center in New York. There is perhaps no better place to describe the tensions of a world divided into two political mindsets than at the center of capitalism. Rivera is at the peak of his artistic career and will not miss the opportunity to take part in this debate between art and power. Rivera painted the mural which depicts, on one side, the atrocities of capitalism and religion, conveyed as a warning. On the other side Rivera depicts Lenin as a redeemer among workers: an African-American, an Asian and a Russian. Rivera's description is simple: On each side of the crystal ball is good and evil: *pars familiaris* and *pars hostilis*. In the middle, is the man choosing his future. Hence the original title for this mural in Manhattan: *Man at the crossroads*. Nevertheless, the unleashed wrath directed towards the client who commissioned the work, Nelson Rockefeller, at the time, the richest man in the world, is unstoppable. *Man at the crossroads* was destroyed on February 9, 1934. Rivera does not even have the opportunity to document his work before it is destroyed; Rockefeller prohibits the entry of press photographers as he wishes to leave no trace of this *offense* to capitalism. However, thanks only to the speed of one of Rivera's assistants, it is possible to photograph some parts of the mural which was later to be reborn in Mexico City with the name *Man Controlling the Universe*.

This time the man has taken a step forward towards his destiny; in the second version of the mural Rivera predicts another of the misfortunes of mankind. On the right part, using the theories of Darwin, Nazi soldiers are marching to commit one of the biggest butcheries in history. The police in New York control the protests while, in the midst of this decay, Rockefeller drinks alongside the aristocracy. On the other side of the mural, to the left of the man, the promise of another just world is revealed. But who is the seer at the center of the picture who uses his environment and his past to look into the future? Perhaps it is a magician or a scientist? an artist? An entrepreneur? A researcher?



f.02. Diego Rivera, *Man Controlling the Universe*, 1934.

This journey takes a step back in time. Rivera presents a map, tells us where we are and warns us about the path we want to take. Rivera's map consists of all that surrounds us. It is Rivera's profound belief that politics and history are essential to enable us to determine who we are. Rivera is not alone in his warnings. In Europe, Pablo Picasso has started resenting the conflicts of the old continent. The modernist Pablo Picasso has been living in exile in Paris. It is the time of The Spanish Civil War and the war is costing millions of lives. Even Picasso, the rebellious and revolutionary artist, is aware of the value of the works of art of his ancestors. Especially obsessed with the *Black Paintings* and the *Disasters of War* of Goya, he smuggles treasures belonging to the Prado Museum out of the bloodbath of Spain. Picasso knows that all the brutality of the rituals and mythology that we hardly strive to ignore, still live among us. For him, it is an undeniable truth in Spain. The Spain of fatal events and religious flagellants, anarchists and the communists. The Spain that wants modernity and "the dark Spain". When the country is divided, there is no forgiveness for the opponent. Franco is said to be willing to kill half of Spain if necessary, and he proves that on April 26, 1937. The Minotaur, horribly frightened by Picasso in his nightmares, appears one afternoon in a Basque village. The nightmare or a premonition comes true: a rain of five thousand bombs was followed by a machine-gun attack upon the survivors on the streets directed at children, women and the elderly. Picasso's participation in 1937 in the Paris pavilion passed almost unnoticed. But Picasso's famous painting *Guernica* was more than an allegation of the possible monstrosities by Italy and Germany. The painting *Guernica* was a prophecy: Germany occupied Russia in 1941.

The man uses art and technology to interpret their environment and to look into the future. He has learned from history and knows that he can choose the world he wants to live in.

These stories have in common the fact that both the paintings and the technology to interpret or measure our environment, interfaces, are intended to give an idea of who we are, of our position. Technology is not an extension of our physiognomy, but a reaffirmation of what we are, where we are and where we are heading. Although, in the case of works of art mentioned, here there is a negative warning tone. For Steve Jobs the technological apparatus represents the triumph of art in conspiracy with neo-liberal economics.<sup>5</sup>

Rivera and Picasso both witness the impact of the failure of the romance of modernism. Nevertheless, the existential reflections upon knowing where we are and where are we going, have not always been fatalistic. In the picture of Picasso's *Guernica* we find the *evil eye* and the painter uses the flame of art as an antidote. However for Steve Jobs and Diego Rivera, technology and science have a positive value and are at the center of the universe of the entrepreneur's and the muralist's vision. A few years before, another artist had proposed other means of conveying this. For Paul Gauguin, it is not science or technology that is the method or the means with which to understand humans, but nature. In the center of his vision he put a free man, natural, and in his outstretched hand the man is holding an apple, the embodiment of knowledge. The entrails in Gauguin's animals are not shed like the horse in *Guernica* by Picasso. The goat in Gauguin's painting lives in harmony with humans. Religious sculpture does not cause conflicts as in Rivera and the picture is not divided in two parts in opposition. The map Gauguin describes has a cyclical narrative: on the right side we see a newborn baby as a symbol of rebirth. The work of art *Where Do We Come From? What Are We? Where Are We Going?* was finished in the Caribbean in 1898.

This trip continues in Haiti, the year is 1898, there is a man with his hand extended in which he is holding an apple as a symbol of knowledge. Around him, religion co-exists in harmony with nature. He has learned from history and knows that he can choose the world we want to live in. Gauguin rejects modernity and technology. The painter has taken refuge in the Caribbean, far from a world that begins to change at speeds never seen before. Photography had begun to revolutionize our worldview and our vision of ourselves as a people, while more advanced systems are being developed for surveying, with the use of theodolites for example, an optical instrument for topographic measurements. This will enhance the accuracy of maps, not only the geographical maps, but also give them more accurate scales. Religious, romantic or metaphysical explanations of our origins give way to biological theories. Darwin's work, published in 1859 entitled *On the Origin of Species* and *The Descent of Man* was published in 1871. Thus, the realistic painters make painting a physical language. Religious mysteries have a response here, around us. The history of mankind will no longer be formed by the movements of the planets nor by the power of God.

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5. Another example is Salvador Dalí's *Oneromantía*. Dalí painted in 1936 *sofi construccions with boiled beans*. Dalí also sees in Goya the cannibalism in the myth, and imagine a Saturn devouring his own children, as a symbol of the slaughter of Spanish people among themselves. In the picture stands the decaying and repulsive figure of the war devouring his own children; the co-title of the work is *Premonitions of the Spanish Civil War* six months after the premonition became true.





f.03. Paul Gauguin, *Where Do We Come From? What Are We? Where Are We Going?* 1898

The second half of the nineteenth century will have to engage religious truths and new scientific knowledge until finally God would die in the pages of *The Anti-christ* in 1890. In the same way as for the artist Courbert, and for the writers Balzac and Dickens, man no longer has a guide in the heavens rather he seeks truth on earth, in everyday life.

Some years earlier the Napoleonic campaigns helped to form the sense of national romanticism. The European map has been quickly re-drawn and Napoleon was keen to take control of the new territories gained by the technical military advances. He improves techniques for measuring heights by means of triangulation and trigonometry. In 1811 it is possible to make a scientific measurement of terrestrial degrees by the geometrist Jean Baptist Biot, while Napoleon is invading Russia.<sup>6</sup> While the world is changing, the artist makes his observations, but not as a historical illustrator. They have learned from history and know that they can transform the world we want to live in.<sup>7</sup>

6. Bachman, Emil: *Att mäta himmel och jord: från pyramid till vädersatellit*, Generalstabens litografiska anstalt, Stockholm, 1973, p.169.

7. For the Spanish painter, Francisco Goya as well, the new Napoleonic map does not represent a single relief. For Goya, there is no religious retreat in the catastrophic images of torture. From 1810 to 1820 he produced a series of paintings called *The Disasters of War* which depicts the engraving *Sad Premonitions of what must Happen*. When Goya looks into the future in the silent night of his consciousness, he knows about the sleeping monsters waiting. Goya uses the art to understand his environment and looks into the future with sadness. In the *Capriccios* he ridicules the absurdity of the cruelty of the Inquisition, the arrival of the French army would offer an even more hellish spectacle. The spectacle of the disasters of the war. However, with the victory of England, Goya knows that the church would return to power, and will create the necessary environment for more nightmares to come. Years before in 1825, while in exile, and burdened by the conflicts in the country, he created terrifying murals in his *Quinta del Sordo* (Deaf Man's Villa). Among these is the work, *Saturn Devouring His Children* and *Duel with Cudgels*.

Artists and scientists who also create maps, tools, devices or interfaces, by interpreting the symbols around them and organizing information through cultural codes. They create maps predicting what may happen. They use technology to understand their environment, know their position and navigate into the future. A few years earlier in England, William Blake also interprets the events around him as evidence of advents. Blake makes prints, writes both poetry and prophecies.

(...) he spoke to England with the voice of prophecies as authentic as that of his Hebrew predecessors, with no less immediacy on national events, passing on what the Irish mystic AE called 'the politics of time', the judgment of 'the politics of eternity'. If Blake was a mystic and visionary his was no private world – on the contrary his judgments are on public events, on institutions both civil and religious, on false ideologies, on the exploitation of women and children, on the Industrial Revolution, on the atrocity of war.<sup>8</sup>

Blake created the work *Newton*. This engraving is particularly interesting because of the tension between art, science and religion that it achieves. We do not know whether the figure of Newton, depicted naked and athletic, squats to make his observations as God on earth, or if Blake is using this to criticize Newtonian theories. Blake is a deeply religious person, but it is a religion created by himself and influenced by the Swedish mystic, Emanuel Swedenborg. He even illustrates his own mythology. Newton's work obsesses about Blake, but, at the same time, it is a hindrance to him: Newtonian mechanics allow no room for God. Newton's engraving is almost ironic, because what Blake never knew was that the scientific world of this time had little interest in publicizing their findings. Newton is an alchemist, writing more on thus than anything else. Although Blake's major influences are religion, Milton and Neo-Platonism, Newton's system is in conflict with his theories. "The Newtonian system had, Blake held, externalized the 'outer' spaces of the universe from the living and universal imagination."<sup>9</sup>

This engraving by William Blake (probably from 1795, although it was dated 1804) shows the graphical representation of two worlds in conflict. Both Blake and Newton are religious but they develop their own religious vision in very particular ways. Newton's mathematical demonstrations are opposed to the principles of the creation as postulated by Blake; science versus imagination. Blake considers Newton to be pessimistic in his reasoning. Blake depicts the figure of Newton as a man obsessed with geometric forms that explain, but which do not produce. In his outstretched hand the man has a compass, an interface. He uses technology to understand his environment, to know his position, to see into the future. For a moment he puts the device in the palm

8. Campbell in Blake, William: *Poems and prophecies, Introduction, Bibliography and Chronology* by David Campbell. Everyman's library, London, 1991, p. xiv.

9. Ibid.

of his hand and looks at it as someone who looks into the past to divine the future. Around the man with the compass, art, science, politics and magic are revolving as the man is struggling in a dialectical conflict between two worldviews: science and religion.



f.04, William Blake, *Newton*, 1795.

Newton is essential in giving us a finite understanding as to how we should perceive what we see. I imagine him introducing pins behind his eyes and blinding himself by staring at the sun to convince himself of the mistakes in the Cartesian vortex, or separating the colors into light rays and perfecting the telescope – which in the sixteenth century would become unwieldy with its 200-foot-high form. Newton helps to put the final nail in the coffin of the principles of Aristotelian teaching revolutionizing scientific thinking. Newton has a side to his character that Blake would have found fascinating. Newton is absorbed by the notions of Hermetic Philosophy and the *Prisca Sapientia*. He searches for a way to demonstrate the system of the world and he predicts the end of the world in 2060.<sup>10</sup>

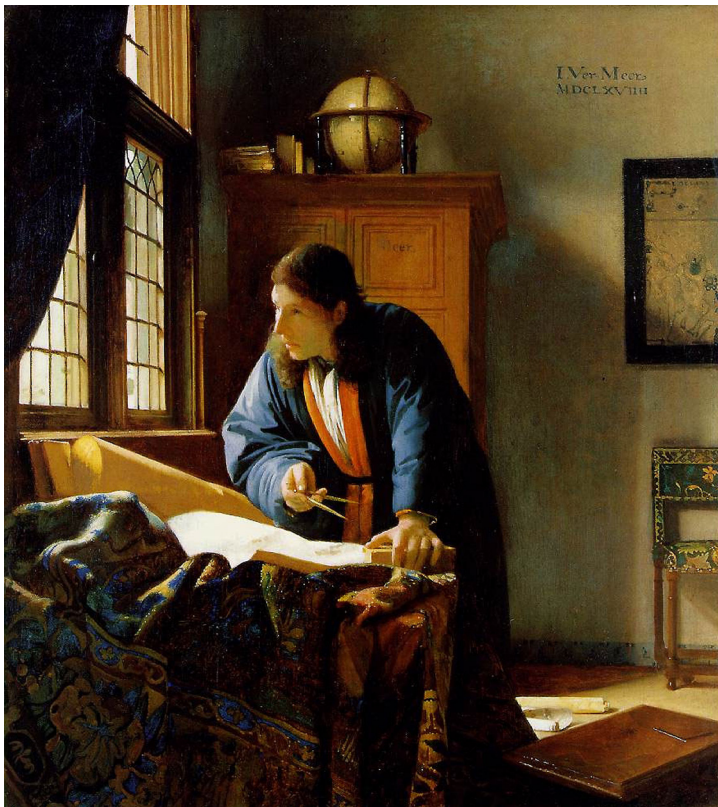
The optical revolution and the different understanding of our position in the universe will end with old systems and beliefs. Astrology will cease to be taught in universities. Although advances in discoveries in optics will give way to other philosophical issues. Baruch Spinoza polishing lenses until he burst his lungs with glass dust is a good example. The debates as to whether or not our senses can be deceived even by the finest lenses would encourage discussion about our realities. Similar to a Newtonian room in which a halo of light has been decomposed, the painter Johannes Vermeer designs similar cabins for decomposing the light. Witty chambers where he managed to set up his tripod to paint.<sup>11</sup> Vermeer's paintings are a kind of interface; a contact zone towards an understanding, they are like maps with an axis of temporality. The time in the

10. <http://www.britannica.com.ezproxy.ub.gu.se/EBchecked/topic/413189/Sir-Isaac-Newton>

11. Steadman, Philip: *Vermeer's Camera: Uncovering the Truth Behind the Masterpieces*, Oxford Univ. Press, Oxford, 2001, p.p.26-42.

works of Vermeer gets in through the half-opened windows and he wants to be sure it is exactly there that time and space intersect. Vermeer often painted maps. There are maps depicted both in the work, *An Officer and a Boy* and *The Painter in his Study*.

Vermeer's paintings evoke the calm after Rembrandt's Baroque storm. In 1615, geographical measurements were revolutionized using trigonometry. When we look at Vermeer's picture *The Geographer* in the Netherlands, we see a man who is measuring the universe. In his outstretched hand he has a compass: an interface. He wonders how much we understand each other, the world, and which tools we are missing to properly interpret our environment. For a moment he puts the device in the palm of his hand and looks at it as someone who looks into the past to divine the future. He uses technology to understand and measure his environment. But he wonders if technology will link or divide us. He has learned from history and knows he can choose the world we want to live. Around the man with the compass in his hand revolves art, science, politics and magic, and the man is struggling in a dialectical conflict between two worldviews: science and religion. The year is 1668 and the author is Johannes Vermeer. In order to control the future, we must predict it.



f.05, Johannes Vermeer, *The Geographer*, 1668.

Astronomy, cartography and the new inventions aimed at understanding the universe and finding our place in the world, replaced our view of a world of perfect relationships. During the Renaissance humankind had accrued knowledge so that the human body – the microcosm – was in perfect harmony with the universe – the macrocosm. The perfect spheres of Aristotle moved in harmony, in perfect circles, producing celestial music, which made it possible to predict its movement and thus the future. Nevertheless Galileo published in 1616 the book *Sidereus Nuncius* showing the irregularities of the moon and in 1665 Robert Hook's book *Micrographia* shows a sub-world of imperceptible fleas dwelling in us.<sup>12</sup> Paradoxically, if there were not perfect spheres and other worlds of microorganisms inhabiting our world, relating these to the entire universe would become an exhausting and futile task.

The etching *Melancholy*, of 1514 by Albrecht Dürer, perfectly expresses this feeling. Alongside a man there is an angel holding the geometric figures known to mankind; signifying the more he is aware of his position in the world, the more he is lost and alone. Even the melancholy would not be understood as one of the diseases produced by the liver. Not only are the observations of the world and the universe reformed, but also the anatomical atlas showed us still other secrets we did not know about. Melancholy was then accepted to be caused by a liver dysfunction because the liver had a central symbolic value in their lives. Although Leonardo da Vinci in 1507 had drawn the most important organs connected to the arterial system, the liver was at that time still considered the central and vital pump for our bodies' vital functions. Rather than the heart, it was considered the distributor of blood. In 1540 Vesalius confronts a tradition of over a thousand years inherited from Galenus. In Bologna, with the viscera in his hands, he invited the students to discover the secrets of the blood's circulation. "Feel for yourself" he exhorted.<sup>13</sup>

Galileo had the virtue of gaining and compiling knowledge relating to the astronomical inventions known at that time. He also had the wisdom, or cowardice, to regret some of his controversial statements before being sent to the stake. So we can still see the mummified finger of the illustrious hand pointing to the heavens on display in a museum in Florence.<sup>14</sup> However, Johannes Kepler's mother was not as lucky as Galileo and she spent 14 years in jail accused of witchcraft. This was despite the fact that Kepler, upon Tycho Brahe's death, succeeded him as royal mathematician to the Roman Emperor Rudolf II.<sup>15</sup> He was occasionally assigned to predict horoscopes of the nobility in Prague.

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12. Carlsson and Ågren, *Op. cit.*, pp.104 and 105.

13. *Op. cit.*, pp.109 and 113.

14. Atkins, Peter: *Galileo's Finger: The Ten Great Ideas of Science*, Oxford University Press, 2003, p. 1.

15. Bachman, Emil: *Att mäta himmel och jord: från pyramid till vädersatellit*, Generalstabens litografiska anstalt, Stockholm, 1973, p.109.

From Copernicus to Galileo, thinkers contributed to revealing imperfections in the crystalline spheres of Aristotle. Notwithstanding the Renaissance is a period where astrology, magic and alchemy were avidly practiced. The border between being judged by the Inquisition and the free study of secret knowledge was uncertain. The history of the Medici family – with which Galileo had problems so he had to leave Tuscany – can give us clues. Marsilio Ficino was the protégé and translator of Cosimo de Medici. It took the fascinating text of the *Corpus Hermeticum*, a body of literature attributed to Hermes Trismegistus, to induce Ficino to interrupt the translation of Plato's work by order of Cosimo de Medici. He started immediately with the translation of this new mystical book that assured to reveal the hidden truths of life and the universe. It is possible that, in a deeply religious and intolerant society, Trismegistus' thoughts were acceptable because of the alleged connection between the Old Testament, Egypt and ancient Greece. The frontier between art, religion, magic and science would therefore become fragile, tantalizing and dangerous. Not only do we see a blending of religious thought with the ideas and theories of the Renaissance, the Kabala, alchemy and astrology earned an important place in Court. Through the use of magic, it was possible to understand the secrets of the cosmos as reflected in humans. Other thinkers, such as Proclus and the ideas of Neoplatonism, became significant in the alchemy tradition of the fifteenth century. The idea of influencing the physical world through magic helped to develop complex architectural forms. The *logos* of the Platonists, which claim to make statues talk, lead to the ingenious idea of building palaces inspired by magic, but using physical means. Amazing gardens and hydraulic systems, as complicated as they were beautiful, were created. Even buildings with great walls, with acoustic holes in a spiral formation that ended behind the heads of the statues, were built. These ultimately lead to the first telecommunication systems with a range of over 200 meters.<sup>16</sup>

In this way, alchemy inspired the imagination of science. It was the time when Paracelsus had great successes in medicine even though he mixed charms, poisons and the influence of the stars in order to heal. The influence of the heavenly bodies is important in the Renaissance mind. Man's place in time and space is decided according to the relationship of the celestial bodies, according to books of antiquity as the *Almagest* and *Tetrabiblos*, written by the Greco-Egyptian astronomer, Claudius Ptolemy. Everything in the world, was influenced by the planets. When the mathematician, Girolamo Cardano, who received protection from Pope Gregory XIII, received a copy of *Tetrabiblos*, he quickly claimed that he had to change all the ideas of astrology; especially since he also had to find a relationship with past events. Thus, thanks to the analysis of these events and their recompilation, some of the most beautiful engravings of this epoch were created. These were meticulously detailed with systems, ornaments of the era, and metaphorical illustrations representing the planets and their influence on man.

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16. *Cfr.*, p. 20. n.3. Carlsson, Göran och Ågren, Per-Uno: *Tankens bilder: om människors vilja att synliggöra kunskap och idéer -att förklara världen i bilder*, Raster, Stockholm, 1997, p.36.

Although astrology was accepted in higher intellectual circles, it was still criticized. Pico Giovanni della Mirandola, under the protection of Lorenzo de Medici, wrote *Oratio de hominis Dignitate, The Oration of the Dignity of Man*, considered a symbol of Renaissance humanist thought. While Mirandola strongly criticized astrology, this practice was nevertheless taught in universities. The kings relied on the positions of the planets to plan important events and physicians also relied on these to detect and cure diseases. But astrology was in conflict with the church if used for divinatory purposes: if everything was made up of cyclical patterns, then one could predict the future, something that opposed the will of God.

Astrology not only claims to discover the structures in the universe as a method of prediction but the astrologers approach also wanted to find a way to understand correlation with the whole. Mnemonic devices used to express correlations with the whole resulted in the thinker Giordano Bruno, a specialist in Mnemonics, being sent to the stake. Mnemonics are a strategy for creating imaginary rooms for organizing and remembering creating mental images, a system for remembering through spatial associations in the mind. They are credited to Simonides of Ceos in antiquity.<sup>17</sup> Bruno developed a complex mnemonic system where everything is in absolute correspondence with everything. Astrology, the Kabala, alchemy, necromancy... everything is in correlation like a gear system of a universal clock where time and space come together. From music to the zodiac, from minerals and botanics to the spiritual, from memory to divination, everything was inter-linked. On February 17, 1600 in Campo de' Fiori in Rome, the originator of the most complex and evolved mental systems for association and memory, was burned at the stake. Many of Bruno's writings have not yet been deciphered.

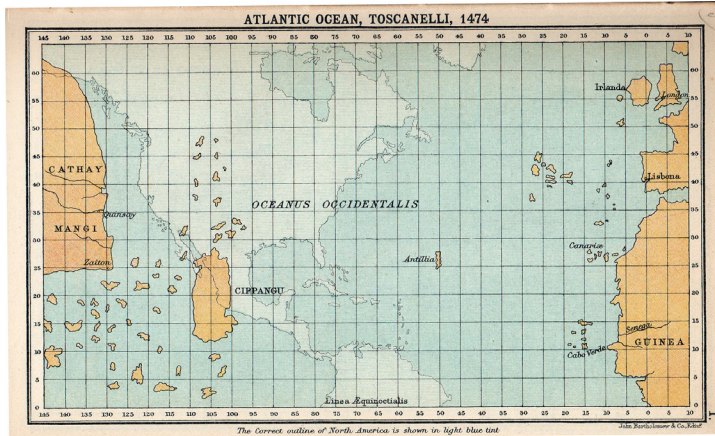
Advances in astronomy obviously contributed to the improvement of navigation maps. The roundness of the world was already accepted,<sup>18</sup> and Christopher Columbus was preoccupied only by the thought of how many food supplies that would be needed to travel around the world. Uncharted seas no longer terrified sailors since the navigation compass became a well-known invention. The sextant allowed sailors to find their latitude position and the first armillary sphere gave them a reliable meridian approach. The map created by Paolo dal Pozzo Toscanelli in 1474 showed Asia and Europe juxtaposed separated only by a vast ocean.<sup>19</sup> It just reminded a challenge for sailors to estimate this distance. The Portuguese arrived in Africa in 1445 and the Spanish, by coincidence, reached the new continent in 1492. In 1500 Juan de la Costa had drawn a map of the world with America included.

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17. Draaisma, Douwe: *Metaphors of Memory, A history of ideas about the mind*, Cambridge University Press, Cambridge, 2000, p.39.

18. Numbers, Ronald L.: *Galileo Goes to Jail and Other Myths about Science and Religion*, Harvard University Press Cambridge, Mass, 2009, pp.21-34.

19. Bachman, Emil: *Att mäta himmel och jord: från pyramid till vädersatellit*, Generalstabens litografiska anstalt, Stockholm, 1973, p.79.



f.06, A modern version of Toscanelli's map 1474.

During the Renaissance divination and astrology not only contributed to the observation of the world through experimentation, creating works of a technical nature never seen before but was also seen as a direct link to the thinking of the era, with magic being more closely associated with wisdom than quackery. In the fifteenth century this was, quite literally, a “renaissance”. Divination was commonly practiced although, during the Middle Ages, the rituals were performed in secret.

The Middle Ages had the necessary time to flatten the earth.<sup>20</sup> Man's position in the universe was poised between the promises of the highest heaven and the tortures of hell in the depths of the earth; in the past was the genesis and in the future was the final judgment that should have arrived in the year 100. Nevertheless, celestial phenomena were still heralding the end of the world or future misfortunes; especially those comets that were purportedly connected to the beginnings of the plague. The plague and pests regularly scourged Europe in 1346,<sup>21</sup> 1371, 1383, 1385, 1400 and 1665. The most recorded cases in history related the presence of comets and plagues, including the arrival of The Plague in London in 1664 and 1666. Consequently since the Middle Ages, a deeply religious society was born with obscure cults. Efforts were focused on rescuing scholastic teachings. Even magic, astrology and science had trouble finding their place in Europe. Advances and intellectual ideology exchanges were mainly happening in the Arab domains. The map of al-Idrisi, drawn about 1160 without parallel circles or meridians is a good example of Arabic influence combined with the Ptolemy's theories.<sup>22</sup>

20. Nevertheless, L. Numbers sustains that the idea of the people in the Middle Ages believed that the earth was flat, is a nineteenth century myth. L. Numbers, Ronald, *Galileo Goes to Jail and Other Myths about Science and Religion*, pp.29-34.

21. De Landa, Manuel: *A thousand years of nonlinear history*, Zone Books, New York, 2000, p.124.

22. Bachman, Op. cit., 63.



It would seem that during the Middle Ages, religious fanaticism led to more practical and secret cults. Certain divination practices, survived from antiquity; took new forms and were threatening the teachings of the church. The Inquisition succeeded in frightening many practitioners, but in the Arabian domain, these ungodly practices were to develop more freely. The *scapulimancy* practiced in Andalusia is a good example. This is a sort of divination performed by reading the symbols on the scapular of a lamb, a ritual which seems to have been practiced in countries from China as far as North America. The parts of the scapula, its reliefs and cavities were associated with the life of the enquirer. In medieval manuscripts that have survived with Arabic inscriptions, we can see the zones, their names and their functions. According to the characteristics of certain parts, some future events could be predicted, including the death of the person or their relatives, health, home problems, even adultery. Everything could be linked to the names of the bones: *the sea, the socket, the big column, the small cartilage*. On the back of the shoulder blade the soothsayer had a map with certain associations with places in Andalusia. These included Seville, Toledo, Jaen and Cordoba and the soothsayer probably exchanged those names when he was practicing his runes in another country or region. Thomas Aquinas condemned these practices. It is precisely the individuality of the practice of divination, the personal aspect, that was most widely criticized during the Renaissance when astrology was enjoying widespread acceptance. Another method of divination a little more individual in technique and then still popularly practiced is *quiromancia*, palmistry. It is relevant in this case because of its similarity to the *scapulimancy* and *hepatoscopy*, but more accessible, and with some respectability because Aristotle had once mentioned it.

Within the practice of symbolism and divination in the Middle Ages there was a tendency to combine numerology with religious symbols. The Holy Trinity, for example, corresponds to the number three. Hieronymus Bosch, *El Bosco*, like other artists of his time, painted triptychs. The painting, *The Garden of Earthly Delights* created between 1480 and 1490 is a good example of the understanding then of time and space. Closing the doors on the triptych shows *the Creation* with the celestial dome over a flat land. Opening the triptych we can see, on one side the past with original sin, the present at the center with humans enjoying earthly delights and at the other end, the future, with hell represented by warnings for our sinful life. However, Bosch blends Christianity with his own beliefs in a secret sect. It is said that Bosco was a member of the *Devotio Moderna*, and a follower of the ideology of the mystic Meister Eckhart, whose Neoplatonic influence led to him being accused of heresy. The art historian Marilyn Stokstad speaks of an alchemistic interpretation of the traditional symbols in the triptych between the salvation of man and the creation of philosophic gold. The mixing elements are the men and the women by means of distillation in the “marry chambers” and the trees are represented as stills for collecting vapors. This is all is represented as a game where “play” means distillation.<sup>23</sup>

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23. Stokstad, Marilyn: *Art History*, Prentice Hall/Pearson, Upper Saddle River, N.J., 1995, p.725.

Art, divination and the position of man in relation to the universe, lost their astrological dimension simply because the vision of the cosmos was very limited. The pilgrims looked to the stars of the Milky Way only because these would lead them to Santiago de Compostela. Detailed maps and life in general focused on the recovery of the holy lands during the Crusades. Mysticism linked the Middle Ages with the classical Greco-Roman period. Gradually, Christian symbolism would take over the Roman symbols and would mystify them. Theology replaced philosophy based on the observation of nature. The artist's primary concern was to approach spirituality and he thereby convinces or redeems others to Christianity through art. Christianity was adopted in Roman times. In 380, the Emperor Theodosius declared Christianity as the official state religion. The monk Dionysius Exiguus proposed to change the accounting system of the time in accordance with the birth of Jesus, not according to the foundations of Rome. The festival of the birth of the Unconquered Sun, *Dies Natalis Solis Invicti*, was replaced by the birth of Christ. With the advent of Christianity, the worship of Roman deities and divination practices were forbidden. The last accepted ritual would be the Eucharist. According to the Revelations of Job, the vision of the world is not only flat but square. The four corners were confined to Ethiopia, India, the Celts and the Scythians.<sup>24</sup> The maps created during the period of Christianity were completed with fantasies added by Christian monks without any "scientific" aspiration nor were they based on actual observations. The library of Alexandria was destroyed while full of Papyri and maps, and Plato's Academy was closed in 529.

During the Roman period, the world's geographic vision was based on the knowledge of Ptolemy. The *Almagest* is the work that would define the world view for hundreds of years. The earth was the center of the universe surrounded by layers of fire and air, followed by the seven planets including the moon and sun.<sup>25</sup> The vision of the universe was thus complete. Everything in the world was categorized by Aristotle, the description and relationship of the planets in the *Almagest*, and their influence among them was described by the *Tetrabiblos*. To complete the entire worldview Ptolemy drew maps based on the histories of Herodotus and Eratosthenes.

Geographical knowledge was essential for the expansion of the Roman Empire. The recording of time was also improved according to the needs of agriculture, and feast days and holidays. Julius Caesar also introduced the Julian calendar in 45. Political and military life was based on the worship of the gods of the Roman tradition. Although several authors began to attack divination, this represented an important part of political and military life in the Roman Empire. Romulus even had a college of soothsayers. The *extispicy* was practiced professionally and priests accompanied the emperors in their military campaigns to guide them in battle. In the year 48 BC, the army of Pompey faced the army of Julius Caesar

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24. Bachman, Op cit., p.56.

25. Ibid. 43.

as they fought in a battle that was to define the history of the Roman Empire. The battalions had come very close to each other and waited for the best strategic moment in which to attack. During this stressful time, diviners played an important role in advising the emperors since they could interpret the conditions of the universe and therefore assess the chances of success. In the same manner as in the ritual of *scapulmancy*, the priests were able to see signs in animal entrails. These were associated with geographical locations and the position of the enemy. The will of the gods written on a liver would show them the way on the night of August 9 at Pharsalia.

Artists made sculptures and busts of emperors giving them divine qualities as a means of propaganda. The divinities were also related to mythology inherited by the Greeks. The artists were trying hard to control the representation of the classical tradition without resorting to paganism. Heroic and erotic enterprises gave the artist an opportunity to represent the naked man in complicated compositions. The gods and demigods, bearing human and animal characteristics, occupy the highest levels on earth and in the heavens. Sacrifices to Apollo and the consultation of oracles were greatly respected. The interpretation of symbols and signs had a profound impact on the Roman mentality. Even the flight of the birds was decisive in determining military action. The symbol on the coat of arms of Constantine was to frighten the superstitious soldiers in the enemy camp, helping him to rise to power in 330.

The Romans assimilated from the Greeks cosmological vision, the Pantheon, rituals, art, festivals, architecture and philosophy of the Hellenic culture. However, another civilization was to have a decisive influence on the Romans, from the letters of the alphabet to the tradition of the gladiators, architectural advances such as aqueducts, divination techniques and artistic traditions; the Etruscans. It is precisely during this period of Etruscan influence that one of the most famous bronze sculptures in the study of hepatoscopy (a form of divination) was made, namely the well-known bronze Piacenza liver. This is a bronze reproduction of a lamb's liver bearing Etruscan inscriptions. It is probable that an Etruscan priest lost the artifact while on the run from being attacked by the Romans in 100 AD.<sup>26</sup> The identification of the gods and the actual text has always been associated with the mysteries of the Etruscan language and the origins of the Etruscan culture. Recent studies of this work of art clarify some missing pieces in the understanding of the divination during that time. For example the Dutch researcher, L.B. Van der Meer, who analyzed the bronze Piacenza liver in 1987 argued that the figure can be divided into *pars familiaris* and *pars hostilis*.<sup>27</sup> ( a positive and negative side.) It is thus important to know the correct orientation of the figure. Van der Meer proposes that, although there is a debate as to whether the positive side is on the right, this must be placed facing down and looking towards the east.

26. "Because of style this statue is generally dated about 150B.C." claims L.B. Van de Meer, *The Bronze Liver of Piacenza*, pp.17 and 18.

27. Van de Meer, L.B.: *The Bronze Liver of Piacenza*, Dutch Monographs on Ancient History and Archaeology, Volume II, Amsterdam, 1987, p.147.

The names of some deities appear on the divisions of the liver. Another researcher, Galeotti-Heywood E. resolves some of the questions by postulating that the figure enables a play of light and shade, from the sun and the moon, on the reigning deities depicted in each of the sculpture's two fold divisions.<sup>28</sup> This figure, only 20 centimeters long, synthesizes much of the knowledge of man at that time in representing the relationship between humans and the world. Like a sundial, the shadows tell the onlooker who is the reigning deity. The experience handed down over thousands of years gave onlookers the means with which to interpret the events around them. Everything is important and everything is inter-related. The gods, along with their respective planets, influence the microcosm and, by recognizing the paths of the stars, the priest feels he can predict the future and somehow control it by asking the gods for their influence. The bronze of Piacenza liver was probably used as a schematic model for teaching divination. Similar models which appeared were used as evidence of events that had occurred. This device would claim to enable us to understand or to connect us with our environment. It tries to be all-encompassing.

In his outstretched hand an Etruscan priest has this artifact, an interface. The year is 100 AD. He uses technology to understand his environment, to communicate, to know his position and to see into the future. For a moment, he puts the device in the palm of his hand and looks at it as someone who looks into the past divining the future.



f.07, Piacenza liver, 150 AD.



f.08, iPhone4, 2010.

28. *The Shadows of the Bronze of Piacenza* by E. Galeotti-Heywood, Review by: W. M. Lindsay  
*The Classical Review*, Vol. 36, No. 7/8 (Nov. - Dec., 1922), p. 193

This trip continues back in time. It is said that the only significant mathematic intervention of the Romans was the murder of Archimedes, son of the astronomer Phidias. Archimedes estimated the diameter of the earth in 300 000 *stadiums* or 55, 000 km, a more accurate number than the 40, 000 km of Aristotle. The way to learn Euclidean geometry had no shortcuts. Euclid was a contemporary and friend of Archimedes and Eratosthenes. With the aid of a Gnomon (instrument to calculate the length of shadows cast by the sun) it was possible to estimate the length of the earth to 250 000 stadiums, or 37 200 km, which is very close to the actual measurement of the earth of 40 thousand kilometers diameter. Although Aristotle had erred in his estimations relating to the earth's size, his evidence – as opposed to that of Pythagoras – was based on an observation of natures such as changes in sea levels, the stars, height of the sun in different places and the shadows during lunar eclipses.<sup>29</sup>

The brotherhood to which Pythagoras belonged was, to some extent, secret. They searched through the numbers for the intimate harmony of the universe. At that time, the earth had to be spherical because this shape is the most harmonic. The vision of man and the universe was completed with the ideas of Protagoras and his aphorisms, in which he postulated man as the measure of all things. Although no one wanted to openly pronounce on the existence of the gods, these had a vital role in the Greek mind. Greek culture, considered as the beginning of Western culture, strives to assimilate the mythical past and tame the wild. Philosophical schools coexisted, but not without friction, in a culture full of rituals and sacrifices. Politicians consulted priests and made pilgrimages to the Oracle of Delphi. If Homer was seen as representing the poetic vision of the myth, secret symbols and premonitions were to be searched for in his writings, as in the Kabala or in the Old Testament. The *extispicy* is a common practice with seers or clairvoyants having a important roles in public life and politics. We will try to ignore the link to the east. It will be a fierce struggle to tame the savage in man. He believes he can kill the Minotaur with order and rationality, but this scary Minotaur will follow him and will be awoken while our conscious minds are sleeping, as depicted by Picasso and Goya hundreds of years later.<sup>30</sup> The tranquility and leisure of the Greek philosophical thinker is dependant on slave labor. The dismembered body of Aristotle, colluding with the Jewish and Christian traditions will be the most accepted spiritual guide of man in the West for over 16 centuries.

Copernicus, Galileo and Newton will contribute to challenge the Aristotelian doctrine, but already by 310 another school was opposed to some of Aristotle ideas, the Stoics. The Aristotelian being can be defined by the qualities of his nature, while the stoics will define him by actions, through the interactivity of the being with other beings or things. In the relations between everything.

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29. Bachman. Op cit., pp.27 and 34.

30. *Cf.*: p. 23.

Because everything is full of symbols, and God is everywhere Thales would consequently argue that “everything is full of Gods”. The historian Michael Wood says:

David Hume thought the abstract idea of God was civilized, while the concrete idea of god was primitive. Friedrich Nietzsche thought the reverse. But the point of Thales phrase is not argue for polytheism, or to get us to argue against it. The point is to ask us to think of the world as haunted by the divine, and to see how the divinity can talk to us through the world. If the divinity is the single Jewish or Christian or Islamic God, he can and he will talk to us through the world, but he also talk in other ways: through direct revelation, for example.<sup>31</sup>

In man’s desperate attempt to find this revelation, to understand and control his environment, he ascribes meaning to everything around him. He asks the oracles and searches for signs in nature (*mantik*), by observing thunder and lightning (*keranoscopy*) and the flight of birds (*ornithomancy*).

The Olympian gods will create and prolong the conflicts of mankind. Humans will struggle to shake off their influence by means of reason, turning to the oracles to ask for help or to rituals of divination. Thus we see the expansion of the Homeric world painted on the *Shield of Achilles*: this is delimited by the hazy north and by the warm south of the Kingdom of Nubia and to the east/west by the extension of the Mediterranean. Everything is surrounded by water, by the River Ocean and inhabited, at the bottom of the Shield, by the Chimeras, all surrounded by the starry vault.<sup>32</sup>

The battle of Thermopylae in 480 BC is another turning point of Western thought and mans sense of independence. It reinforced the identity of the West. They seek to reassert themselves as different to the East as opposed to Hellenism.<sup>33</sup> But the Homeric miracle did not flourish isolated from the rest of the world. History took thousands of years to recognize the constant exchange not only of techniques but also art. The gods of the Babylonian literature took new forms in Homer and Hesiod’s mythology. Hammurabi became Chronos. The scholar of Greek mythology, Walter Burkert, claims:

‘Craftsmen of the sacred,’ itinerant seers and priests of purification, transmitted not only their divinatory and purificatory skills but also elements of mythological ‘wisdom’. Indeed Homer, in an often quoted passage of the *Odyssey* enumerates various kinds of migrant craftsmen...<sup>34</sup>

31. Wood, Michael: *The Road to Delphi*, Farrar, Straus, and Giroux, New York, 2003, p.9.

32. This might be an interpretation of the whole world or a premonition of the brutality during the Trojan War. Homero: *La Iliada*, Editores mexicanos unidos, México D. F., 1981. Book 18, Lines 478 –608.

33. During the Hellenistic Period the oldest known complex gear mechanism was created, the Antikythera. Called the first known analog computer estimated to have been made around 100 BC. Ifrah, Op.cit., p.155.

34. Burkert, Walter: *Creation of the Sacred – tracks of biology in early religions*, Harvard University Press, Cambridge, Mass, 1998, p.6.

In the Babylonian songs, we can listen to priests performing rituals such as divination. In the same manner, Priam – king of Troy – often consulted his priests. The boats are still on the coast and wait impatiently for Acayos to penetrate the gates of Troy. These are the last days before the death of Hector, son of Priam, and the fall of the walls of “the city of wide streets”. The priests believed in the designs of their gods, which they saw as auspicious, and they relied on their system. The gods should be by their side, according to the reading of the intestines in the sacrifices. Reading the position of the liver is not a consequence, rather it has become accepted as a code by a group of individuals. Here we find one of the natural boundaries of semiotics, physical phenomena from nature in which similar effects are observed. However, it is of the utmost importance to recognize that these consequences must have a culturally accepted and systematically coded association.<sup>35</sup> This happens when a group of people, in this case the priests, decide to use something (i.e. the intestines of animals) as a sign of something else (auguries).

The Persians will take over the Babylonian calendar after their conquest in 539 BC, in the same way as the Jewish captives did in 587 BC. From 1500 BC, Mesopotamia had a calendar based on twelve lunar months. The numeric system was based on units of 60 and survived until today for example in the 360 degree circle and in the 60 seconds of the minute. The legacy of Babylonian astrology and the Zodiac reached India, Arabia and Europe. However, it differs from the tradition of the *Almagest*. The historian of science Francesca Rochberg said:

The legacy of Babylonian astronomy in Greek, Indian, Arabic, and European astronomy was demonstrable, but differences were also discernible between Babylonian astronomy and its western descendants. Babylonian astronomy did not rely or depend on a spherical cosmological framework, nor did it make use of geometrical models of a celestial body in motion around a central earth, although celestial coordinates, primarily degrees of elliptical longitude and latitude, were used. Its goal was not to devise a model of a planets motion such that visible synodic phenomena, such as first and last visibilities, stations and retrogradations, would be secondarily derived from the model.<sup>36</sup>

The Babylonians believed that the gods could write in the heavens or in the viscera of animals, just as scribes wrote in the tablets. By making an accurate interpretation of this scripture they were able to interpret future events. Thus, the scribes began to systematically collect omens and presages. The Babylonians were convinced that the gods were responsible for the auspices. The official compilation of astral omens was called *Anuma Anu Emlil* and was consulted by the priests in combination with the observation of stars. In the same way, they undertook the task of compiling omens read in the entrails of animals: *Baratú*.

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35. Eco, Umberto: *A Theory of Semiotics*, Indiana University, Press Bloomington, 1979, p.36.

36. Rochberg, Francesca, *The Heavenly Writing: divination, horoscopy, and astronomy in Mesopotamian culture* Cambridge University Press, New York, 2004, p.24.

After a process lasting thousands of years, the Babylonians had developed a writing system evolved from the pictograph. This was first developed for narrating and then for mathematical calculations; when the level of abstraction was sufficiently complex they did not stop. It seemed that the Mesopotamians had to register everything and had maintained large bureaucratic systems for hundreds of years. They were interested in all kind of subjects ranging from literature to law and mathematics. The royal library of Assurbanipal, founded in 668 BC, contained thousands of clay tablets with cuneiform inscriptions. The Babylonians wanted to document everything and stored for centuries all records relating politics, military incidents, intellectual thought, via a huge bureaucratic system of clerks. The kings Assurbanipal and Nebuchadnezzar knew the importance of information and history and thus wanted to collect everything, even the results from soothsayers and clairvoyants. The Babylonians believed that the designs of the gods were manifested in nature or in the viscera of animals. They thus carried out rituals to understand their environment and predict the future.<sup>37</sup> An example was *extispicia*, the act of premonition, in which a priest holds in his hand a viscera such as a liver, and seeks to read the divine signs on it to interpret, communicate and interact with his environment. In his outstretched hand the Babylonian priest thus holds an organic device, a map and an interface. He thus uses technology to know his location, and interact with his surroundings.

These stories have a common thread in that both the works of art and the technology created to interpret or measure our environment, interfaces, are striving to give oss an idea of who we are, and our position in the universe. Technology is not an extension of our physicality but a reaffirmation of what we are, where we are, and where we are going. These technologies generate a paradox in that we develop a sense at the expense of others. Our story is that of the technology of the interfaces,<sup>38</sup> the desire to dominate or control the outside, without realizing that, in fact, our history is the adaptation of our perceptions to interfaces or machines. These stories demonstrate the fragile and changing border line that has existed between art, science and the esoteric and how this is constantly changing.

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37. “The image of the heaven as a stone surface upon which a god could draw or write, as a scribe would a clay tablet, complement the metaphoric trope of the heavenly. In their discussion of the term *lumāšu* “constellation,” used in a sense of a form of writing with astral pictographs or “astroglyphs.” As they have been called,(...) [the] Sumerian *mul* “star” (or *mul-an*. “heavenly star”) “can refer both a star in the sky and to cuneiform sign on a tablet” (...) Time metaphor of the heavenly writing therefore related to the constellation to cuneiforms signs from which one could read and derive meaning, and thus expressed that idea that written messages were encoded in celestial phenomena.” Rochberg, *Op. cit.*, p.2.

38. “Recognizing that our history is itself technological, a history made up of reconfiguring, mutating and proliferating machines” says Colebrook reflecting upon Deleuze’s book *Cinema* in *Deleuze: a guide for the perplexed*, p. 10. I will reuse these thoughts throughout this dissertation, Colebrook, *Op. cit.*, p. 10.



For Steve Jobs these stories will come to mind as he proudly holds the phone as one who interprets, communicates, interacts and controls the environment. Although, for a moment, the device gives him pride, he feels momentarily terrified at the idea of how all the technology and information available, paradoxically, opens up more questions than it answers, in the same way as the almost obsessive need of the Babylonian scribes. We can ask ourselves how much we actually reach out to others or to the world, how we are interconnected, how much we understand, which tools we are lacking to properly interpret or interact with our environment. A Babylonian priest in Ashurbanipal's service holds a liver in the palm of his hand for a moment as one who looks at the past while divining the future. He knows his future is already very short. Only a few months later he would leave this world that will shrink due to many inventions like the one he is holding in his hand. "Oh wow, oh wow ..."



The liver works as an interface between time and space. The middle point of the work is the intersection of the future with the past, the presence and the absence. The installation encourages the viewer to find the interconnections in our perceptive world through associative ideas depending on the viewers position around the artwork.

**Title**  
*Extispicia*

**Year**  
2007

**Place**  
Gallery 300m<sup>3</sup>, Gothenburg

**Technique**  
Mix media, high definition video, digital sound stereo, bones, organic materials, glass, plexiglas, compass.

## *Extispicia*

Three art works. Installation, video, mix media.



*Extispicia* was a ritual used to predict the future in ancient cultures and practiced as a science, especially in Mesopotamia, to collate many different disciplines, for example medicine, astronomy, and astrology. *Extispicia* is the inspection of the entrails (especially the liver) of a sacrificial animal. It helps us understand the way we try to assimilate our environment using metaphorical systems in-common between different domains of thought. The story of Mankind is a tale of interconnections. In order to express this, I presented three works in Autumn 2007 in Gothenburg.





To use those metaphorical systems we establish codes in our cultures. Some of these codes are clear and easy to identify, others have become ingrained for in our conceptual systems over thousands of years. This installation develops some of these codes. An arrangement of bones and a repetition of patterns based on the history of science in early cultures.

## II. *Infrafaces* Beyond Interfacing

A man falls from the window of his apartment on the Avenue Niel at an acceleration of  $9.81 \text{ m/s}^2$ . Motive: indefinite and irrelevant to this essay. He is the victim of respiratory insufficiency, it is said. On his way towards the ground, a considerable part of his life goes through his mind: The death of his brother in a Nazi concentration camp, his time as a student of philosophy at the Sorbonne, the publication of his writings, his marriage in 1956, his retirement from university life in 1987, and an anarchist book that he will never finish ... the constant struggle against the dichotomy of *Arché*.<sup>1</sup>

Time remaining before contact with the ground: 3.5 seconds. Life: 75 years. Year 1995. Month: November. Is it possible that 75 years will fit into those 3.5 seconds?

As he is leaving the window-ledge, the faster he falls paradoxically, the more stories of his life are coming to his mind. The man recalls his childhood and with sorrow and bitter acceptance the death of his brother in a concentration camp. When his feet leave the window-ledge, he thinks about the relationship we have with things. How we relate with others and with the world and how, in order to understand and facilitate this relationship we necessarily invent artefacts for organizing information. These are elements that function as interfaces.

The man will feel his body traveling towards the ground without resistance, the wind will ruffle his hair, the walls of his house will move quickly into his view, then he will recall the time as a student at the University of Paris; he will feel young and strong and a huge creative desire to write will fill his chest again. The man will experience the feeling that life is a story within a story. And this, in turn is a story embedded inside another story and so on, *ad infinitum*. These processes of endless repetition lead us to arrive at the foundations of a neologism: the *infraface*.

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1. The beginning of the universe or the elemental of the matter.

After two seconds, he will remember with great joy his marriage with Fanny and the birth of their daughter. He will contemplate bodies, how they relate to other bodies and he will consider that these interactions determine their state.

After three seconds He will think about paradoxes, about how technology helps us to develop one sense at the expense of others. He will think about how we interpret the world through codes. He will think about technology, what is it and what it represents. He will also feel melancholy, as he recalls an engraving made by Albrecht Dürer in 1514 and how useless tools can be.

Before hitting the ground he will neither feel pain nor regret, he will re-live his experiences, feel satisfied as he leaves university life and, maybe a little nostalgic pang for not having had the time to finish his anarchist book. He wonders if time really exists. He considers the possibility of eternity fitting into the interval of 3.5 seconds thus giving him enough time to review and finish his uncompleted book and still have some time left over. He will feel that time only exists if we can measure it or articulate it with words. He will think that one way of relating with the world is through language, but this can be a dictator from which we can only escape through action. He will understand that language helps us to relate to the world, but he will emphasize that there are paradoxes in this relationship.

Finally, a few moments before reaching the ground the man will recall more details of his life, until he reaches the point where he will see himself again approaching the window of his apartment one November afternoon. Paradoxically, the faster he falls, the more stories of his life will come to mind.

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While the man falls from the window of his apartment in Paris much of his sufferings and attainments in his life goes through his mind. As he dives from the window, the faster he falls, the more memories come to him. The man remembers his childhood and then again with bitter sadness and acceptance the death of his brother in the concentration camp. When his feet leave the window-ledge, he thinks about the relationship we have with things. How we relate with others and with the world and how we to understand and facilitate this relationship necessarily inventing devices for organizing information. These are elements that work as interfaces.

Time remaining before contact with the ground: 3 seconds. The man reflects upon interactivity, exchange, penetration and mixing.

When he is thinking about the relationship we have with others, he will assert to himself that a body can only be defined in terms of its relationship with other bodies. And it is precisely at this junction between elements that a contact area, a surface arises, and it is at this border where the exchanges occur, where everything happens. Everything happens at the border. Thus the fundamental importance of interactivity, because is precisely the exchange between

bodies that enables us to reach out for the essence of these. Bodies which penetrate each other, blend, merge, intertwine, accept with tenderness or reject one another with violence, or vice versa, they exchange forms as lovers, or impart and receive harm as enemies, they are incorporated as the wine in the glass or the roots in the soil. It is only when they are combined that we are able ascertain the true state of things. An isolated body lacks interest. It is also tedious to try to determine what can be found within the depths of this body, that is, trying to define it by its constitution; to try to define it by how it is formed is an endless and purposeless task. That is, the man will reflect on the constitution of his body as mere flesh, blood and bones falling freely to the ground at an acceleration of nine meters per second squared. It is then that he will realize that his body is a mere combination of carbon, hydrogen and oxygen and nine other elements in different quantities, and that all these elements which form his physical constitution can be found in the corner drugstore. The man had already reflected on this in a discussion with a pharmacist on Avenue Niel. He visited the pharmacist one afternoon because of a pain that he had begun to feel in his chest five years prior. As he falls, he will then reflect on the theme of science relating to cells and molecules. He will consider that these elements are formed of cells and that a combination of organic elements and neurons allows him think and to articulate his thoughts. He will consider that these cells are divided into molecules, and that Democritus had already thought, over 2500 years ago about these particles which are small enough as to be indivisible and he called them atoms. Nevertheless, we now know that these atoms consist of a group of electrons attracted to one nucleus. He will recall that a few days ago he went for the last time into the cathedral of Notre Dame and he looked at an insect flying inside the cathedral, reminding him about Lord Rutherford's metaphor in which the size of an electron inside an atom is just like a fly flying inside a cathedral. However, these subdivisions do not end there because these nuclei of the atoms are made of a mixture of protons and neutrons, and furthermore these protons consist of other fundamental particles called quarks... as he falls, he considers the endless and absurd task of defining himself on the basis of the innate properties which make up his constitution. On the other hand, it is only when his body goes into action and is willing to resist or accept exchanges that it becomes seductive, attractive, repulsive or magnetic when its surface layer is exposed to and willing to open up to receive other bodies. On the surface and not in the depths. Everything happens at the border.<sup>2</sup>

This layer or outer surface and the design of these models which enable us interact with others or to interpret the world is called interfaces. It is the emerging field of contact when we interact with others or with the environment.

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2. "Everything happens at the border between things and propositions" argues Deleuze in *The Logic of Sense*, Deleuze, Op.cit., p.8.



The term, interface is mainly related to the development of elements exchanged by means of electronic devices or within the context of industrial design. In this work I intend to expand this concept to include other cultural activities with a primary focus on interactive art. However, I am not only interested in analyzing the interaction between humans and computers, electronics or artwork, but rather in man's relationship with others and the world. Considering the interrelation between objects and organisms, even at a biological level, cells are interconnected within the organisms by cooperating with other cells. This exchange is reflected in the impact on our environment and culture. Thus, I propose this as an ideal starting point for a new artistic space. It is not only the design of new interfaces or the definition of these that is important. The idea of manipulate the possibilities of using the interface will lead us in this essay – as the man falls – to introduce a neologism where the role of these interfaces is no longer central, but rather the possibility of playing with the interconnections within the interfaces, playing with this processes of interactivity and delay or expand the time or space at the moment of encounter: *the infraface*.

As the man sees the gray asphalt approaching, he will recall an art exhibition that he saw in his childhood in 1920, in Paris. This displayed a work created by the French artist, Marcel Duchamp in a small gallery. No one would ever have thought that this would become an icon of interactive art. Interactive art has its roots, on the one hand, in the development of military technology and popular culture, and on the other hand, in the Dada and Fluxus art movements in which audience participation was already important. This seems now more relevant to his thoughts, because interactive art, rather than the physical characteristics of the work, focuses on concept, event and active audience participation. The art historian Christiane Paul says:

Digital art did not develop in an art-historical vacuum either, but has strong connections to previous art movements, among them Dada, Fluxus, and conceptual art. The importance of these movements resides in their emphasis on formal instructions and in their focus on concept, event, and audience participation, as opposed to unified material objects.<sup>3</sup>

That is to say, the instructions to carry out an inter-relation between objects, is more valuable than the object itself. Again, the object in isolation, its contemplation or definition, does not arouse interest in the same way as when it comes in contact with other elements or spectators, or when it takes on the wonderful value as a unifier or bridge for an active system of participation where the assistant is no longer passive.

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3. Paul, Christiane: *Digital Art*, Thames & Hudson, London, 2003, p.11.

Terms such as virtuality and interaction were already used in the 1920's, not only by Marcel Duchamp but also by Man Ray and Laszlo Moholy-Nagy in relation to objects and optical illusions. Christiane Paul also mentions, as an example the work of M. Duchamp *Rotary Glass Plates (Precision Optics)* created in 1920 with Man Ray<sup>4</sup>. This work consists of five separate painted plates that form a circle when the viewer turns on the switch to activate the piece. The idea of inviting a user to turn an appliance on or off in order to experience the changes in a particular work of art, as in the case of this Duchamp's work, requires a prior context which the user is already familiar with, and intuitively knows how to operate and create the optical effects of the machine being opened. This work is interesting as an example of early interactive art because demand the viewer's active participation in various forms (i.e. requires that the viewer stands at a certain distance and at the correct angle), and more obviously demands to participate by starting the engine of the rotating plates in order to form the optical illusion. So there are several elements that are between the work and the viewer, and the artist creates links between those, between the subject and the object *Rotary Glass Plates*. Duchamp plays with different interfaces: an electronic element – the switch; and adds the user experience as a cultural element. Thus, an interface is what helps us to organize information in a context of communication, a link. In this sense not only electronic elements or tools serve as binders, almost anything can act or be used as an interface. This is exploited continuously in art. In turn an interface may contain other interfaces. Interfaces also help us to sort and select what we are trained to experience with our senses. Thus, this idea of interacting with our environment, to interpret it through codes, could be extended to include other fields and culture in general, We can even look back thousands of years to the rituals practiced, as we have seen in the previous chapter. The cultural significance of the interfaces goes beyond its technological function. Interfaces have cultural significance that are decisive in the way we relate to each other and transform ourselves and the way we think. “We live in an interface culture”<sup>5</sup>

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4. Paul, Op. cit., p.13 vv.

5. Pold and Koefoed, Op. cit., p.7.



f.09, Marcel Duchamp, *Rotary Glass Plates*, 1920.

As mentioned, this work consists of five separate painted plates, and an electronic mechanism. However, analyzing this artwork through physical properties is not as interesting as to highlight their qualities when activated, and when the user decides to interact or not, to see how the piece is transformed and it impacts the viewer. We can agree with the claims of the Stoics, in the same way as the falling man will agree with their philosophies. The Stoics claimed contrary to Aristotelian tradition, that bodies are best defined not by analyzing their substance, rather by their interactive relationships with other bodies.<sup>6</sup> In a similar way, the verb is more relevant than the substantive, and action or interaction is more relevant than the definition. This interaction occurs on the surface, since this is the contact zone, through the interfaces and not in the depths.

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6. In *the Second Series of Paradoxes* Deleuze rediscovers the Stoic sage, Deleuze, Op. cit., pp. 4-5.

Time remaining before contact with the ground: 2 seconds.  
He reflects upon contact zones, borders and skin.

Since the interaction occurs at the surface, this is the more significant field. Everything happens at the frontier. The man, as he continues to fall, will not be concerned about which part of his body will come in contact with the ground first, because the first contact will always be with the skin, but he will try to guess which part of his body will suffer the most. He will think about this outermost edge and he will understand that this border is not merely physical or corporal, that everything can be or can act as an interface. However, in this case, he recalls that he read somewhere that the skin is the largest sensory organ, being composed of 13, 000 nerve cells registering outside information. It protects us, regulates our body temperature, it enables us feel; it gives us pleasure or pain. Falling downwards at an acceleration of  $9.81 \text{ m/s}^2$ , of the 84 kilos of this man include two kilos of skin. Then he imagines the skin as a great interface. An interface that changes approximately 900 times during our lives, but his skin will only be changed approximately 700 times. He will wonder where the frontiers of this sensory edge are, which has a depth of only 0.5 mm. In this respect, artists such as Nam June Paik<sup>7</sup> have developed several works of art. If then the bodies first exchange sensations through the skin, and if any body can only be understood through its relationship with other bodies, then the technology and its interfaces, is this contact zone that makes this connection possible. The skin is therefore a technology. Paik portrays technology as our new skin which enables a technological interaction with the world. This is even more relevant if we are to accept that this surface is paradoxically the most profound. The French Philosopher, Gilles Deleuze<sup>8</sup> refers to this in *The Logic of Sense*, paraphrasing the poet Paul Valéry.<sup>9</sup> “*Ce qu’il y a de plus profond dans l’homme, c’est la peau,*” “The deepest is the skin.”

For us, the skin is not only an interface (the frontier between the internal and external) but as we shall see, this is an *infraface*. This is because the skin is the expression of the depth at the surface. Gilles Deleuze helps us to appreciate there is more understanding on the surface than in the depths of knowledge. In the Second Series of Paradoxes, he argues that:

Here events, differing radically from things, are no longer sought in the depths, but at the surface, in the faint incorporeal mist which escapes from bodies, a film without volume which envelops them, a mirror which reflects them, a chessboard on which they are organized according to plan.

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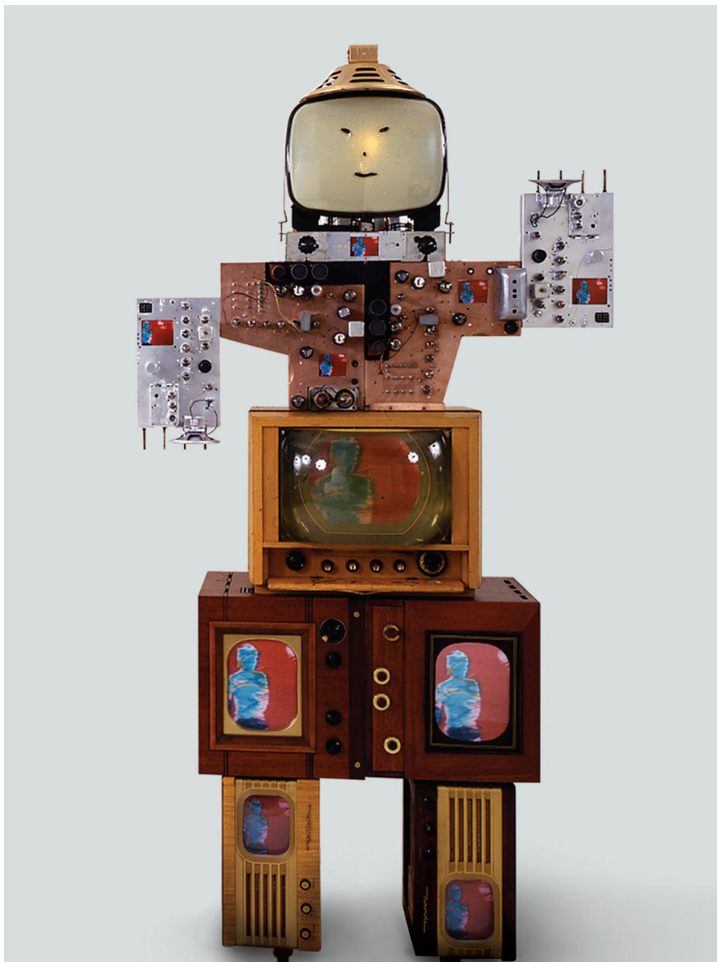
7. Nam Yune Paik. Korean American artist considered the father of video art. (20 July 1932 - 29 January 2006)

8. Gilles Deleuze. Born January 18, 1925 in Paris, died 4 November 1995. In 1969 he published *Logique du Sens*. *The Logic of Sense*, explores the relationship between meaning and meaninglessness, “common sense” and “nonsense”. The book consists of a series of 34 paradoxes.

9. Paul Valéry (1871 -1945). *L'idée fixe. la Pleiade, oeuvres II*, p. 215,216.

(...) *It is by following the border, by skirting the surface, that one passes from bodies to the incorporeal.* Paul Valery had a profound idea: what is most deep is the skin. This is a Stoic discovery, which presupposes a great deal of wisdom and entails an entire ethic. It is the discovery of the little girl, who grows and diminishes only from the edges – a surface which reddens and becomes green. She knows that the more the events traverse the entire, depthless extension, the more they affect bodies which they cut and bruise. Later, the adults are snapped up by the ground, fall again, and, being too deep, they no longer understand.<sup>10</sup>

It is the surface of things and bodies that allows the exchanges, the interface towards the outside. Nam June Paik makes us reflect on the limits of this area in relation to technology and comments on this as one of his most quoted sentences: “Skin has become inadequate in interfacing with reality. Technology has become the body’s new membrane of existence.”



f.10, Nam June Paik, *Family of robots*, 1986.

10. Deleuze, Gilles: *The Logic of Sense*, the Athlone Press, London, 2001, p.10.

Time remaining before contact with the ground: one second. The falling man reflects upon technology.

“I use *technology* in order to *hate* it more properly”<sup>11</sup> claimed Paik, the pioneer of electronic art. He puts technology at the center of his philosophy as Deleuze does, but from a different perspective. Paik, can help us to understand that art in the same way that technology, but, on another level, serves to interpret, exchange, or transform our environment. Technology is not only an extension of the potential of life, but also, both for Deleuze and Paik, technology extends and transforms the capabilities of life. It is worth mentioning some further examples of Paik’s work<sup>12</sup> since he is probably the most representative artist in helping us to understand this shift in our thinking. Standing out among his works is a series of sculptures and installations called *Family of robots*, 1986. With this work he begins a generation of video sculptures representing members of a family, including babies created with Samsungs monitors (the most advanced video monitors at the time) while the parents of this family were created with old fashion televisions and radios. With these video sculptures, Paik relates to the fact that the human brain is a consequence of the vertical development of humans. And Paik made a comment about our constant exchange with technology. By creating anthropomorphic figures with television monitors, he makes an ironic example of the humanization of technology. Since by developing technology, ironically and inevitably, we transform ourselves.

Thus, with these works Paik continues to experiment with the frontier between where the human ends and where the technological begins. However, Paik’s intention is not to define this line; rather he experiments with this changing frontier. Paik is one of the first artists to exploit the possibilities of the creative process unlike the inheritance of Modernism which is focused on the qualities of the material.

If technology becomes our skin, the new frontier between the human and the world, this border does not really exist, at least not passively, that is why in fact technology becomes not an extension, rather it is thought of as a part of our senses, it is another sense such as taste, touch or balance. Thus, technology is not in contradiction to the human, rather it represents the reaffirmation of our limits and potentiality. Technology helps us to understand ourselves. We can only understand ourselves in relation to other things, and therefore this shows us how important they are. If we are to look at *Cinema* – Deleuze’s treatise on the creativity of the brain confronted with the existence of machines – the writer Claire Colebrook says:

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11. Paik in Elwes, Catherine: *Video art, a guided tour*, I.B. Tauris, New York, 2005, p.35.

12. Other significant works are: *Concert for cello and videotape*, 1971 and *Electronic Super Highway*, 1993. (This is probably the work which gave the name to the term *Information superhighway*).

Deleuze installs technology at the heart of philosophy and life. Human life does have a power or a potential to think, but we can only understand this power, not when life unfolds from itself, but when this power encounters other powers. Only when the human brain confronts what is not itself can it be pushed to the maximum (...) only when the human encounters the inhuman will we know what the human body can do.<sup>13</sup>

One second before contact with the ground, the falling man is reflecting upon technology and confirming to himself that in the same way that his potential can only be validated when it is confronted with other potentials, his brain can only think in terms of what is not human. Technology is not only an extension or a supplement of the powers of life. His life changes simultaneously with every invention. Technology reaffirms his mental capacities and his perceptions at the same time, because his consciousness cannot be isolated from external stimuli. There is not a mind and then a perception, rather there is a constant relationship and exchange between his brain, body and external stimuli.<sup>14</sup>

That is, in the falling man, he “is” not, he is not living first and then he imagines that he falls, his thoughts formed him, they are forming his life, and they will form his life. The books he wrote are not a consequence of his unchanged life, there is a simultaneous transformation, every decision, every written word, every memory during his 55 years are adapting his perceptions, the man does not fall down and *then* he sees or imagines his fall, rather everything happens instantly. Thus, there is not first a life and then an imagination or symbolism, “life is *imaging*.”<sup>15</sup> Life is that which is transformed simultaneously with its own thoughts, productions or inventions and the evolution of human life is an adaptation of perceptual reactions.

It is slightly misinformed to say that life is permanent and then that life thinks, remembers and imagines and then invents devices to enhance these powers “such as writing, recording or symbolism,”<sup>16</sup> making us believe that we are creating a stable system to control the universe or at least to understand it. However, technology and interfaces are not just an extension of life; rather they are primarily the interfaces and the connections that attach the mind to the world, which are life itself; these vital elements give us our potential. These inventions or “technology are a repeatable practice that maximizes the efficiency of life,”<sup>17</sup> but each invention with its interfaces does not extend our skills, on the contrary, it transforms our perceptions, it does not expand them, rather it adapts them! It reaffirms us and at the same time causes us to take new paths in our evolution. That is why technology is thus a sense

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13. Colebrook, Claire: *Deleuze: A guide for the perplexed*, Continuum, London, 2006, p.4.

14. In these paragraphs I use the introduction that Colebrook makes of Deleuze's *Cinema*, in Colebrook, Op. cit., p.5.

15. Loc. cit.

16. Colebrook, Loc. cit.

17. Op.cit., p.10.

as the skin, in the same vein as sight. Technology and its interfaces transform us and transform life itself. Thus, our story – as we saw in the previous chapter *Extispicia* – is a story of the technology of the interfaces, the desire to dominate or control everything around us, without realizing that in fact our history is the history of the adaptation of our perceptions to interfaces or machines.<sup>18</sup>

Technology is both an extension of the potential of life – as writing is an extension of the brain – and the transformation of life, for once we can write we can create sciences and philosophies that open up new potentials. A technology is therefore both a continuation of life and a loss of life (...) some paths will be actualized, others will not.<sup>19</sup>

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Time remaining before contact with the ground: Half a second. He reflects upon the paradox of knowledge and technology.

When the man has traveled three seconds, he will experience the feeling that life is a story within a story. He will contemplate paradoxes, about how technology helps us to develop our physiological capacities at the expense of other capacities. He will think about how we interpret the world through codes. He will reflect on the fact that the rapid technological development in recent years has facilitated many of our capabilities, but at the price of losing other potentials in our perceptions. This tension has always existed in our relationship with technology, but it has perhaps been most evident with the advent of the electronic digital boom of this century. Technology, in the same way as art, is therefore not in conflict with the human, it helps us to understand ourselves; however this understanding, the same as art and technology, involves certain paradoxes: We have seen that the skin or the eyes are also an interface or a form of technology in the sense that they are selective. We cannot see everything at once nor can we feel everything at the same time; sight and touch, as interfaces, help us to sort through and select exactly what we are trained to see or feel. Technology marks the evolution of our lives through selective connections; it helps us to give priority to certain stimuli, to select the information in the world around us by reducing the chaos and complexity, but paradoxically at the expense of rejecting other connections.<sup>20</sup>

As the man falls he will have enough time to reflect on the concept of technology and what this represents. He will feel melancholic as he recalls an engraving by the German Renaissance artist, Albrecht Dürer and how he expresses in his painting the futility of tools. The man will claim that technology and art are not opposed to the human and that they help us to understand ourselves, but this understanding, in the same way as art and technology, involves paradoxes, possibly caused by this traditional way of looking at technology. The interaction with others and our environment is

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18. "Recognizing that our history is itself technological", Colebrook, Op.cit., p.10.

19. Op.cit., p.10.

20. Op.cit., p.13.



the result of our search for the secret of how to define ourselves, to know what we are and where we are, the place we occupy. It is a constant search for answers, speculation and extensive analysis. In order to control or at least understand our environment, we use interpretation systems or tools, interfaces. Yet in this search, it seems that the more we try to approach an understanding of our reality, the more reality slips away; it becomes complicated or thickens as an abysmal fog, as if it were to open up a space between us and our goal. This disappointment, or rather melancholy, of knowledge seems to come periodically in history as new paradigms, like the collapse of optimism at the end of the Renaissance.<sup>21</sup> I mentioned in the previous chapter how the new inventions designed to know, more accurately our place in the universe, namely cartography and astronomy, replaced our conception of a world of perfect relationships. During the early Renaissance, mankind had improved their skills so that the human body, the microcosm, was in perfect harmony with the universe, the macrocosm. The Aristotelian model of perfect spheres moved in harmony in perfect circles, producing heavenly music, which made it possible to predict the movement of the celestial bodies and thus the future. Until Galileo, in his book, *Siderus Nuncius* published in 1616 wrote about the irregularities of the moon while the scientist, Robert Hooke published his book, *Micrograph* which shows a sub-world of imperceptible fleas dwelling in us.<sup>22</sup> If there were not perfect spheres and other worlds of microorganisms inhabiting our world, the task of establishing a correlation of the entire universe would become a task as extensive as it would be futile and paradoxical.<sup>23</sup>

The engraving called *Melancholy I* from 1514, by Albrecht Dürer<sup>24</sup> perfectly expresses this sentiment. Dürer created a sort of angel holding some geometric shapes and he realizes that the more humanity is aware of its position in the world, the more lost and alone he is. Melancholy would even cease to be understood as one of the personalities which are the diseases or conditions produced by the liver. This means that, since ancient times it was believed that melancholy, or the melancholic personality, was a disease or condition caused by an abnormality of the liver, forming part of the four temperaments of the being: phlegmatic, choleric, sanguine and melancholic. This belief was accepted since Hippocrates's time until the knowledge of the Renaissance's thinkers such as Vesalius contradicted and complicated this understanding. The meditative figure depicted by Dürer holds, disappointed, in his hand a compass. An interface. He collects work tools without getting anywhere. On the ground are several carpentry and architecture tools – hammer, pliers, nails, saws an inkwell and a pen, which lie there untidily.<sup>25</sup>

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21. *Cfr.* previous chapter, *Extispicia* formed by a series of examples of paradigms shifts.

22. Carlsson and Ågren, *Op.cit.*, pp.104 and 105.

23. *Cfr.* p. 29.

24. Albert Dürer (1471 - 1528). German painter and mathematician.

25. Charles, Victoria. Dürer. New York: Parkstone International, 2011.

<http://gu.eblib.com.ezproxy.ub.gu.se/patron/FullRecord.aspx?p=791316>



window and is recalling his life. He contemplates Robert Hooke's book, *Micrographia*, and he has a sense of *déjà vu*; he is not sure whether this thought had already been formulated, or if it is merely the persistent memory of a man falling without resistance. He recalls having thought that this book shows sub-worlds inhabiting other sub-worlds, and so on possibly until infinity. These processes of infinite repetition and the paradoxes already mentioned lead us, ultimately to the foundations of this neologism: the *infraface*.

The falling man is not surprised by the foundation of the paradoxes of knowledge. The understanding that the more we know, the less we understand, is not new for him. But another, even more disturbing paradox would give him a great fright. He would be terrified for a moment in the same way as when having an uncontrollable reflex. Even more frightening than the idea of the contact that his body is about to have with the asphalt, is the idea of the paradox of the infinite. The thought that one space can be divided and embrace another space, a story within a story, or a time in another time, and so on *ad infinitum*. This thought scares him momentarily like the feeling of an irrepressible reaction. Then he would know that when he is seeing his life passing by, he can recall it and re-live it and at this moment when he is re-living it he is able to recall it to memory. Then he will recall some passages from his stay in Orleans and some of the essays by the writer Jorge Luis Borges, which I have used as a pretext to develop this concept. It is this concept that lends its name to this entire essay.

The thoughts expressed by Borges regarding some paradoxes serve as theoretical support for us in differentiating between an interface and *infraface*. The Argentine writer wonders about the possibilities of endless repetitions or time paradoxes. Infinity. In this regard, he is particularly drawn to the second paradox of Zeno and wrote in *The Avatars of the Tortoise*, published in 1924, starting by evoking the idea of the philosopher of Elea:

Achilles runs ten times faster than the tortoise and gives him a head start of ten meters. Achilles runs those ten meters, the tortoise runs one; Achilles runs that decimetre, the tortoise runs a centimetre; Achilles runs that centimetre, the tortoise, a millimetre; Achilles the Nimble-Footed, the millimetre, the tortoise a tenth of a millimetre and so on ad infinitum, with Achilles never overtaking the tortoise. This is the usual version. Wilhelm Capelle (*Die Vorsokratiker*, 1935, pag. 178) translates Aristotle's original texts as follows: "Zeno's second argument is the so-called Achilles argument. He reasons that the slower will not be overtaken by the faster, because the pursuer has to pass through the place that the pursued has just vacated, so the slower always has a decided advantage." The problem does not change, as we see; but I should like to know the name of the poet who endowed it with a hero and a tortoise! The argument owes its diffusion to those magical competitors and to the series:

$$10 + 1 + \frac{1}{10} + \frac{1}{100} + \frac{1}{1.000} + \frac{1}{10.000} + \dots$$

Scarcely anyone can remember the argument that precedes it – the one about the racecourse- although its mechanism is identical. Movement is impossible (argues Zeno) because before a moving body can reach a given point, it must traverse half of the distance, and before that, half of the half, and before that, half of the half of the half, and before...<sup>26</sup>

This paradox was created primarily to discern the impossibility of movement about 480 BC and it was compiled by the philosopher, Diogenes Laertius. Although there have been replicas of the paradox like the one proposed by the mathematician, James Gregory (1638-1675) using the infinitesimal calculation or the one proposed by the historian, Carl Boyer<sup>27</sup> as shown in *The History of the Calculus and Its Conceptual Development*. Another argument against it is that this paradox requires a continuous and divisible amount of time.<sup>28</sup> Nevertheless the important thing is the idea of exposing the fallacious labyrinths of reasoning. Zeno wanted to support Parmenides and warned about the illusions by saying that the movement does not really exist. However, rather than emphasize the refutation of the movement, the constant possibility of opening a new space is just as valid. The movement exists and the falling man sooner or later will arrive at the inevitable contact with the asphalt, and yet – in the same way as Achilles running in a space, giving the turtle the advantage of another stretch – the man, in his fall reflects on stories embedded within other stories. Sub-worlds within other sub-worlds. The infinite reflection of a mirror in front of another mirror is as real as the movement.

These infinite spaces – as we have seen – are not only created in the physical phenomena, but also in every interaction. Each area of contact, where there is an exchange, offers opportunities to be expanded *ad infinitum*. This is not strange with the problem of knowledge. It is the melancholy of a constant and returning slide. There is a paradox in our way of approaching knowledge because, in order to know we need to refer to another prior knowledge, which in turn calls for another knowledge and so on until infinity. The problem of knowledge is demonstrated historically and in various disciplines, Borges continued:

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26. Borges, Jorge Luis: *Labyrinths: Avatars of the Tortoise*, Penguin Classics, London, 2000, p.237.

27. Carl Benjamin Boyer (November 3, 1906 – April 26, 1976) In *The History of the Calculus and Its Conceptual Development* from 1959 describes the development of both integral and differential calculus from antiquity to the mathematical problems of Newton and Leibniz. Boyer says that: "If the paradoxes are thus stated in the precise mathematical terminology of continuous variables (...) the seeming contradictions resolve themselves." p. 295. Other solutions have been addressed among others by Bertrand Russell, Peter Lynds or Hans Reichenbach.

28. One of Aristotle's refutations in *Physics*.

Descartes, Hobbes, Leibniz, Mill, Renouvier, Georg Cantor, Gomperz, Russell and Bergson have formulated explanations- not always inexplicable and vain in nature – of the paradox of the tortoise. ( I recorded several in my book *Discussion*, 1932, pp. 151-161.) There applications are also copious, as the reader has been able to verify. Not only the historical ones: the vertiginous *regressus in infinitum* can perhaps be applied to all subjects. It can be applied to the matter of aesthetics: a certain verse moves us for a certain reason, a certain reason for another certain reason... It can be applied to the problem of knowledge: to know is to recognize, but it is necessary to have known in order to recognize, but to know is to recognize. How can we evaluate such a dialectic? Is it a legitimate instrument of inquiry or merely a bad habit?<sup>29</sup>

This fear of constant regression is actually a possibility for us and it helps us understand how a certain art form and its procedures work. This art form consequently moves away from the more traditional scientific methods of analysis. We can cite, for example, the work by the Mexican artist, Gabriel Orozco, *Ping-Pond Table* from 1998. The work consists of a ping-pong table with a fountain in the center, in the middle section where the net should be. Orozco says about his work:

The *Ping Pond Table* is connected to this idea of a new space, a new possible space. When you have a normal ping-pong game you have a net which is enough space between two spaces. But when you multiply that space by four, instead of two people playing you have four people playing in four tables. You open that space so the net is also open. And what you have there is a new space because it did not exist before. I am thinking of a new game when I multiply by four the knights in the chessboard or when I made the pendulum and the billiard table. In this case I opened the ping-pong – the net (sic.), that space in between two spaces – I opened it up. And I have a tri-dimensional space now in-between four spaces.

That is the space that I am interested in, the in-between space. Even in photographs I think what is interesting is in between the photographer and the space, which is the same as the in-between of the photograph and the spectator. To activate that space. To activate means to fill it with meaning and connections so that we can think about it. We can connect with it and make it happen as a space and time in between things.<sup>30</sup>

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29. Borges, Op. cit., p.242 .

30. <http://www.art21.org/texts/gabriel-orozco/interview-gabriel-orozco-games%E2%80%94ping-pong-billiards-and-chess>



f.12, Gabriel Orozco, *Ping Pond Table*, 1998.

Orozco appropriates a new space to create a new story, which in turn could include a new narrative. The artist emphasizes his interest in the intermediate space and the possibilities this offers. It is the activation of a neutral zone appropriated by art. Thus, a space may contain another seemingly nonexistent space. Is it not art that helps us to visualize that which does not exist? As in the paradox of Zeno, this temporary space or time does not exist, but it is possible. In this regard, Borges continues to highlight the ability of art to display the nonexistent.

According to this doctrine the world is a fabrication of the will. Art – always – requires visible unrealities. Let me cite but one example: the metaphorical or rhythmical or studiously casual diction of the characters in a play. Let us admit what all idealists admit: that the nature of the world is hallucinatory. Let us do what no idealist has done: let us look for the unrealities that confirm that nature. We shall find them, I believe, in the antinomies of Kant and in Zeno's dialectic.<sup>31</sup>

Thus art not only has the ability to display the non-existent or the paradoxical; as in the case of Orozco's work, art is able to play with this, apparently unreal area. Interactive art constantly uses this opportunity; it does not reject or frighten it, but thrives on it. Art can create a new zone that escapes sense, and through action it can create endless repetitions. In this way art, and especially interactive art, can transform the area of contact – the interface – into a new active zone, into a zone which is alive, into an *infraface*. Thus the *infraface* creates a new intermediate space between art and the spectator, and it activates this area according to the artist's intentions, producing bottomless abysses through the medium of the action performed. Obviously this is not unique to visual art, but is perhaps more obvious there, it is an act which is common to both literature and other creative areas. Borges says about literature:

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31. Borges, Op. cit., p.243.

Lotze inserts Zeno's periodic chasms between the cause and the effect; Bradley, between the subject and the predicate, if not between the subject and its attributes; Lewis Carroll (*Mind, volume four*, page. 278), between the second premise of the syllogism and the conclusion. He relates an endless dialogue, whose interlocutors are Achilles and the tortoise. Having now reached the end of the interminable race, the two athletes calmly converse about geometry...<sup>32</sup>

Thus, these paradoxes can be exploited in art or literature and they become a resource which is as scary as it is seductive. Deleuze or Borges discuss the work of the author, Lewis Carroll. They both admire the ability of Lewis Carroll to manipulate time between cause and effect. Carroll's work takes place among the space in between the sense and non sense, in the intermediate space that opens when the meaning collides with the meaningless. A literary game of paradoxes creating unusual or esoteric environments in the contact zone between language and the unconscious. The language itself implies the paradox of infinite repetition because, in order to create definitions we use another definition, and so on in a constant fashion, and these different stages of definitions are linked bilaterally by the action, by the verb, by dynamic systems of interpretation, by interfaces. However, we can only refer to the environment through substantives as fixed or stable things, although these substantives only exist on the basis of one which is to occur. For this reason, they are, in turn, always conditioned by the action, by a verb, they "are". It therefore follows that they are not fixed or stable; their definition is always in a constant slide. These connections form endless chains of moving definitions, which could produce a sudden melancholy as that of Dürer's angel who suddenly finds himself surrounded by instruments of work but he cannot understand the true purpose or the definition of these instruments, and suddenly they become useless for measuring or managing any element. However it is the possibility of playing with the connections between these definitions rather than rejecting or freighting them because of their constant and paradoxical, changing nature, that is one of the foundations of the concept I refer to as an *infraface*.

The man inevitably falling from the window, only falls a distance which is relative to its previous position, he is not a static man, his memories throw him into the past or the future. When the man falls, we do not see or imagine a man "falling", we cannot see the verb if this is not frozen momentarily as a substantive. The action is visible only in relation to other static elements and that is what we notice, the difference, man's relationship between the window and the floor. Both Maurice Merleau-Ponty and Gilles Deleuze argue then that the future is not limited to the future, rather it is both the past and the future at the same time and those paradoxes allow us two meanings simultaneously.<sup>33</sup>

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32. Ibid. p.241.

33. Williams, James: *Gilles Deleuze's logic of senses: A critical introduction and guide*, Edinburgh University Press, Edinburgh, 2008, p.4 and Merleau-Ponty, Op.cit, pp. 477 ff.

This idea can also be exploited in the design of interfaces in interactive art. Deleuze's conception of time in terms of paradoxical associations between the past and the future and the *ad infinitum* repetitions create labyrinths that invite us to be endlessly explored over and over again. At the moment of contact between two or more elements, between two substantives which are seemingly static yet interacting, an area of transformation is created, a line, a border, a changing space, an intermediate space; it is this space which interests us because it can be extended to include other spaces, it can be retraced back, it can be expanded to include other zones, and it can be paused. Any physical and temporal space can be divided, extended, paused, stretched, etc, and furthermore – and this is something that is as scary as it is attractive – they can do this until infinity.

Interface design has a functional purpose, as claimed, for example in industrial design; an *infraface*, on the other hand, concentrates on the process and not on the goal. It does not have to respond to false or true outcomes. Thus, on the one hand, the interface is the area of contact, the moment of encounter, and on the other hand the *infraface* is the activation of this space between the elements in an interactive system, in a story, in a play, in one action, in the jump of a man from the window of his apartment on the Avenue Niel at an acceleration of  $9.81 \text{ m/s}^2$  in a desperate attempt to live once again. The *infrafaces* include the ability to increase speed, to slow down, accelerate, delay, freeze, detain, retard, decelerate, pause, expand, extend, magnify, contract, shrink, dilate, prolong, intensify, stretch, amplify, enlarge, multiply or divide this meeting in order to unravel the opportunities for experimenting with art.

In the case of Paik the artist decides to play with the process, with the possibility of manipulation that the novelty of the videos in the 80's gave to him. The *video loop*, for example, will be a constant technique used in video art. In the case of Orozco's works, the artist arbitrarily decides to double one area duplicating the number of participants invited to play the game of ping-pong. That is, paradoxically he multiplies the consequences by dividing a space, but in the same way we could divide this space again and create new dimensions and in turn divide it into other dimensions, creating a reflection within a reflection and so on endlessly, *ad infinitum*. Artistically, any temporal or physical space can be divided, extended, expanded, and so on, indefinitely. The *infrafaces* are a creative opportunity. The *infrafaces* should be seen as an artistic possibility, rather than a strictly scientific concept. The idea of extending in time an area or space to embed new stories or actions is the foundation of the neologism presented here: *infrafaces*. *Infrafaces* suggest a new space for the realization of art.

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Just before reaching the pavement the man asks himself if it is possible that, in those 3, 5 seconds of his fall, 75 years will fit?

When he was leaving the window-ledge, the faster he fell paradoxically, the more stories of his life came to his mind. The man recalled his childhood and then again, with sadness and bitterness



came an acceptance of the death of his brother in the concentration camp. When his feet left the window-ledge, he thought about the relationship we have with things. How we relate with others and with the world and how, in order to understand and facilitate this relationship we necessarily invent artefacts for organizing information. He considered how we interpret the world through codes and devices. These are elements that function as interfaces. The term, interface relates mainly to the development of artefacts for the exchange of information by means of electronic, interactive design, or technology in general, and it is my intention here to expand the concept to all cultural activity, and to focus fundamentally on interactive art. The man had enough time to think about how technology paradoxically helps us to evolve one sense at the expense of others. He reflected upon technology, what is it and what it represents. The man felt melancholy, as he recalled an engraving made by Albrecht Dürer in 1514 and he reflected on how useless tools and devices can be.

When the man felt his body without resistance traveling to the ground, the wind shook his hair and the walls of his house moved quickly into his view, then he remembered his time as a student at the University of Paris; he felt young with an immense, strong creative desire to write filling his chest again. The man experienced the feeling that life is a story within a story. And this, in turn is a story embedded within another story and so on until infinity. These processes of endless repetition lead us to arrive at the foundations of a neologism, *infraface*. The possibility of delaying a moment of interaction to open up or expand the contact field as many times as is necessary. While the man fell, he recalled an exhibition of the work of Duchamp which helped us to understand the beginning of interactive art, and the work of Orozco gave us an example of the possibilities of new spaces, while the work of Nam Yuk Paik helped us to comprehend our relation with technology. But we were not only interested in analyzing the interaction between humans and artwork, computers or electronic devices, rather its impact on culture and as a starting point to propose a new artistic space.

When the man travelled two seconds, he remembered with great joy his marriage with Fanny and the birth of their daughter. He contemplated bodies and how they relate to other bodies and he considered that these interactions determine their state. He understood that the definition of the being is not in the adjectives, substantives or proper names, nor in the flesh and substance, nor in the analysis of the elements of a human being, rather in the actions that occur between these, within the relationship between bodies, in the meetings, is the verb. It is in the relationship of a man moving from the window to the ground or from the ground to the window, or from his birth to the moment of contact with the asphalt passing through all his life. Thus, *infrafaces* also are more Stoic than Aristotelian, that is to say, the Aristotelian being can be defined by the qualities of his very nature, while *infrafaces* stoically define him by the action, through the interactivity of the being. In the encounter between the bodies.

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Before reaching the ground the man will not feel pain or regret, he will re-live his experiences and will feel satisfied as he leaves university life, maybe there will be a little nostalgic pain from not having had the time to finish his anarchist book. He wonders if time really exists. He considers the possibility of eternity fitting into the interval of 3.5 seconds before he comes into contact with the ground thus giving him enough time to review and finish his uncompleted book and then he would still have some time left over. He will feel that time only exists if we can measure it or articulate it with words. He will think that one way of relating with the world is through language, but this can be a dictator from which we can only escape through action. He will understand that language helps us to relate to the world, but he will emphasize that there are paradoxes even in this relationship.

Thus, these lines formed by the thoughts of a man falling are intended to expand our relationship with the environment, delaying the moment of union when we perform some action in order to open up or expand as many times as is necessary the contact field that emerges when we relate to others or to the environment.

Finally, a few moments before reaching the ground, the man recalls even more details of his life; he even sees himself once again approaching the window-ledge of his apartment one November day ready to jump again. In this manner, we allow the man falling at an acceleration of  $9.81 \text{ m/s}^2$  from his apartment in Avenue Niel, the possibility of unfolding the course of time before reaching the ground and re-living his experiences as often as is necessary, recalling and recounting his stories in different ways and times, with infinite possibilities for re-living his life.

*Pero el dos no ha sido nunca un número  
porque es una angustia y su sombra,  
porque es la demostración de otro infinito que no es suyo  
y es las murallas del muerto  
y el castigo de la nueva resurrección sin finales.*<sup>34</sup>

*But two has never been a number  
It is merely an agony and its shadow,  
It is the demonstration of someone else's infinity  
and the dead man's walls,  
and the punishment of the new, unending resurrection.*<sup>35</sup>

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34. Lorca, *Pequeño poema infinit*, *Selected Poems*, pp. 296-97.

35. Lorca, *Little infinite poem*, *Selected Poems*, translated by Greg Simon and Steven F. White, pp. 296-97.

### III. Superficial Blue

A moment can hold an eternity

*Dios mueve al jugador, y éste, la pieza.  
¿Qué Dios detrás de Dios la trama empieza  
de polvo y tiempo y sueño y agonías?*  
Borges

To think is to remember.

**A** moment can hold an eternity. On the night of May 9, 1997, the number one chess grandmaster, Garry Kasparov, was caught in a dream. The next day he was going to confront the most significant game of his life. The international press had their eyes on this event. He was confident, sure of his mental abilities. Time stops. The next day, Kasparov was going to be measured against a machine; a computer developed by a group of researchers at IBM. Kasparov, the invincible player from Baku, understood at that moment that there was only one thing worse than insomnia: not being able to wake up.

He knows he is dreaming and yet unable to return to real life; a life of continuous and tidy time. Measurable time. He cannot be sure he is awake because the smells, the sounds and the sensations in his hands seem real, and yet he knows he is dreaming because he sees himself surrounded and forced to finish a chess game that seems endless. And because he has had similar dreams before. He can see himself in a gray jacket, a cream-colored shirt and a striped tie that he knotted tightly in front of the mirror yesterday. He thinks that the only way to escape this dream is not by winning the game, but simply by ending it even if he loses. He plays with the black pieces. The bishop, as we know, can be moved, like the tower, constantly around the board any number of squares until it finds another piece or until the chessboard ends. But wanting to slide the piece, Kasparov realizes that the board has no end. The black and white squares of the chessboard intertwine with each other endlessly, one after another, frame after frame. Kasparov remembers the first time he played chess with his father and he asked his father after each piece of advice he gave: “and why?” to which his father gave him another explanation and Kasparov would repeat, “and why?” and after his father had entrusted him again with another response the child Garry replied again, “and why?” transforming the teaching of the game into a childish game that they both found absurd and funny, “and why?”. Until one day in adolescence he found that this innocent children’s game hid an incomprehensible mental trap. This trap of knowledge seemed to change a naive

recreational activity into a sort of fear of unattainable knowledge. Each answer requires another question which, in turn, requires another “because”. The questioning eventually consumed his childhood. And that feeling causes a lump in his throat today when he wants to move the chess pieces. After a black square, there is another white one, only to give way to another black piece, like a hungry mouth that constantly opens and closes. Kasparov tries to wake up; he raises his free hand to his forehead. It is not until he passes the bishop piece beside the queen, that he experiences the feeling of having already made this move. So, he realizes, first with the satisfaction of one who understands a theorem that then gives way to sad resignation, that the board has no limits. The board never ends, the board is spherical.

White always moves first. I see the photo of Kasparov, his despair, his mouth half-open. He sweats, bearing in mind the endless dream. Kasparov, 34 years old, had won the first game a few days before, a win about which he had not boasted, but was proud, as one who wins without effort, but the second game is not that easy. The computer seems to remember and learn from Kasparov’s previous moves. The computer is playing whites.

In 1996, after 6 years of research, a group of scientists had managed to perfect a machine capable of learning and calculating possibilities in a split second: *Deep Blue*. Kasparov had already faced and defeated a similar machine a few years earlier, the one called *Deep Thought*, but they agreed on another meeting on the afternoon of May 11, 1997. This, the sixth game was crucial. *Deep Blue* was a machine consisting of 256 processors examining 200 million possible moves per second; it was capable of recalling the scenarios of the chess masters. Ironically, any computer today can have a cheap chess program which is even more effective than the pride of IBM. On *Deep Blue*’s 19th move, Kasparov realizes that he has made an irreversible mistake, and wonders if he, in fact made this mistake years earlier in his childhood, in adolescence; the master of Russia feels trapped, not by the game, but by himself. Garry thinks about surrendering. Time stands still.

Kasparov tries to guess how long he has been dreaming. He looks at the clock on his left that is controlling the rhythm of the game. But the clock stops at the same moment, on the same move: the 18th move. Kasparov knows that it is his turn, and he fears the inevitable. He sees himself; the gray jacket, a cream-colored shirt and a tie. Opposite him there is a man with glasses, a representative of the machine putting the information into the computer. He takes notes and moves the pieces on the board according to the computer’s result. There is an environment of gray and white walls, and some bookshelves in the background and lights and video cameras on the other side, and spectators with the expression of inquisitors. Kasparov shakes his head, remembers his dream, he wants to escape from this dream. In the room, there are some plastic plants, and a carpet with red figures under green chairs. He puts his hands on his head, exhales and his eyes seem to jump out of his face. He rests his beard in his hand, constantly sweating, takes some notes. He would like to stand up and run quickly, opening his arms in an expression of “how is this possible, how is this possible!” But his legs will not respond.

He remembers the story of the Englishman, Charles Babbage who designed what is considered to be the first modern computer.<sup>1</sup> Babbage died of kidney failure complicated by cystitis, alone and without any fame at the age of 79 on October 18, 1871. He was buried in London's Kensal Green Cemetery with only 3 people at his funeral. Kasparov asks himself whether some of his dreams and thoughts are divided. He remembers that half of Babbage's brain is preserved in the Hunterian Museum at the Royal College of Surgeons in London, while the other half is on display at the Science Museum in London. He imagines he could be as dead as Babbage and that one half of his divided brain could be preserved and exhibited and still thinking about the game of chess, while the other half is at home dreaming without being able to wake up. Kasparov tries to return to reality and he remembers some of the works that he once saw at that museum. He does not curse technology – he knows how absurd it is to lose control and kick the edge of the bed after having stumbled over it. He curses neither the abacus nor the calculators and he finds no particular reason to curse an apparatus that the Greeks built to count and predict eclipses over 2 000 years ago, which is actually considered to be the very first computer. But right now he cannot remember the name of this machine. Then he wonders if some day technology will allow a kind of external memory that can be called upon at any time for information, and this thought seems to him so funny because it is like a fantasy. But actually it is not so absurd, and then he understands that Deep Blue is actually a machine that uses a database, in the same way we resort to memory to recall our experiences. Kasparov wonders where the boundary between the human and the technological lies. If technology becomes a new sense, in the new border between the human and the world, then this border does not really exist; technology becomes, not an extension, but a part of our senses, another sense such as taste, touch or balance. It is part of our memory. So technology is not in contradiction to human nature, rather a reaffirmation of our limitations and our potential.<sup>2</sup> Technology helps us understand ourselves, since we can only understand ourselves in relation to the inhuman. Kasparov understands the importance of this. Commenting on *Cinema 1* – Deleuze's treaty on how the creativity of the brain is confronted with machines – Claire Colebrooke writes that:

Only when the human encounters the inhuman will we know what the human body can do, and only when life opens itself up to violence, destruction and zero intensity will we be able to discern just what counts as 'a' single life-its precarious distance and emergence from all its potential not to be.<sup>3</sup>

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1. Ifrah, Georges: *The Universal History of Computing, from the abacus to the quantum computer*, Wiley, New York, 2001, p.191.

2. *Cf.* p.55. n.14.

3. Colebrook, Claire: *Deleuze: A guide for the perplexed*, Continuum, London, 2006, p.4.

In the same manner as the human brain can only think in terms of what is not human; our potential can only be validated when it is confronted with other potentials. Then technology is not only a supplement or an extension of the powers of life. Technology transforms our perceptions, meaning that the evolution of human life is an adaptation of perceptual responses. He understands why it seems impossible to know if he is dreaming by consulting his senses, for his consciousness cannot be isolated from external stimuli. There is not his mind and then a perception, but a constant relationship and exchange between his brain, body and all the external stimuli around him. That is, there is not his life first and then his symbolism or imagination or dreams, life is imagination.<sup>4</sup> Life is what is altered simultaneously with its own productions or inventions. He knows that there is not a body and then a conscience as Merleau-Ponty was determined to prove, creating the *being-in-the-world* to erase the boundaries between being and consciousness. He looks back at the clock on the right and he realizes that the *being-in-the-world* can only perceive time relative to our relation to static objects.<sup>5</sup>

Time is, therefore, not a real process, not an actual succession that I am content to record. It arises from my relation to things. Within things themselves, the future and the past are in a kind of eternal state of pre-existence and survival. (...) What is past or future for me is present in the world.<sup>6</sup>

It then seems to him somewhat wrong to affirm that *life* is unchangeable, and then this *life* thinks, remembers and dreams, and then invents devices such as computers, recording media or symbolic systems to enhance these powers, believing that we are creating a stable method to control the universe or at least to understand it. But technology and interfaces – the computer with its memory, keyboard and screen – are not just an extension of life, they are primarily the interfaces and the connections that bridge his mind with the world. They are life itself.<sup>7</sup>

Even if these inventions or technology with its interfaces are a repeatable practice that maximizes the efficiency of life, each invention does not extend our skills, rather, transforms our perceptions. It does not extend them, it suits them!<sup>8</sup> They reaffirm us and at the same time make us take new directions in our evolution. That is why from this perspective the brain is a technology as well as touch: the feeling of his fingers now holding the black bishop in his hand.

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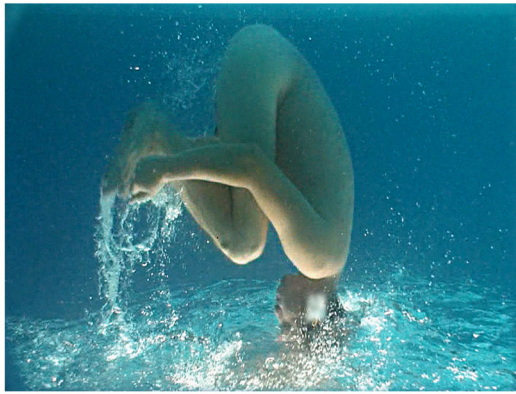
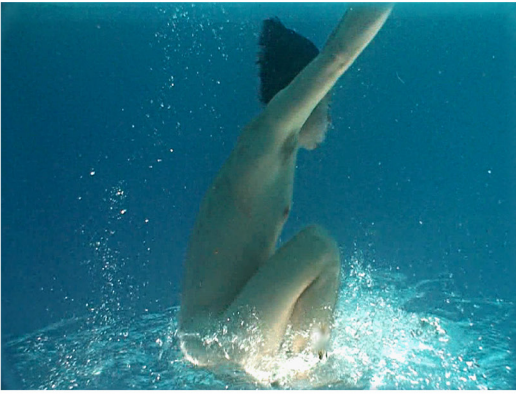
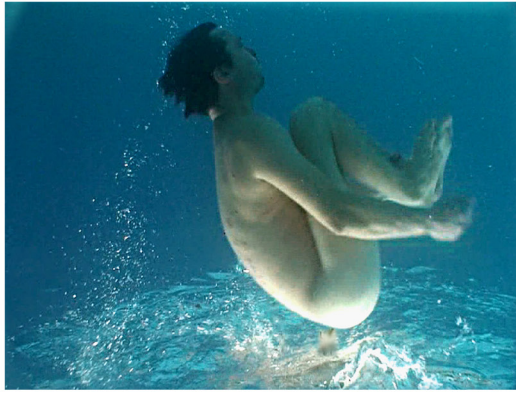
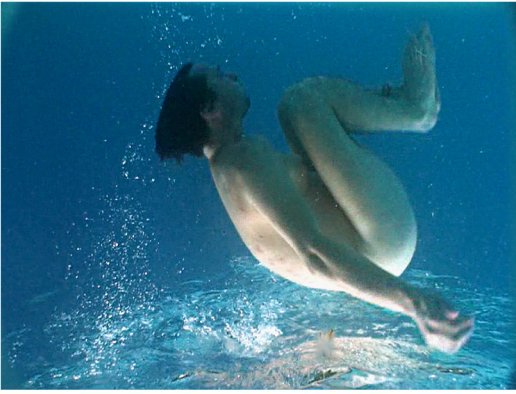
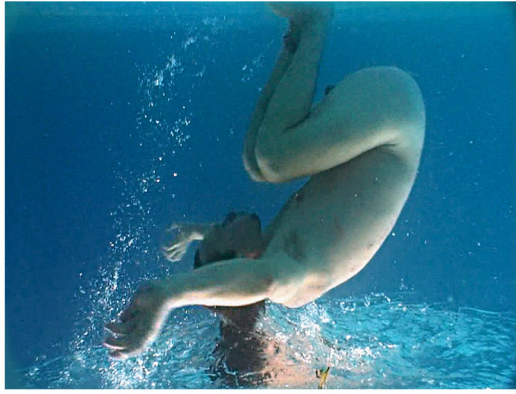
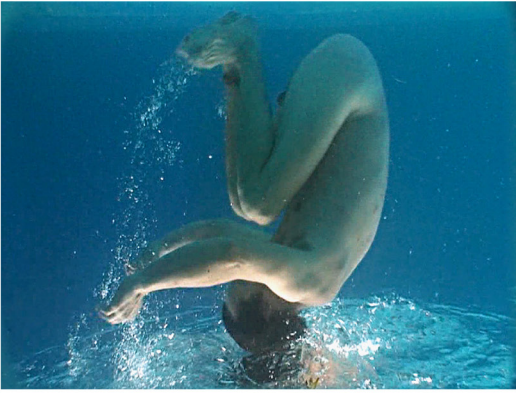
4. Ibid., p.5.

5. In 1945 released Maurice Merleau-Ponty his thesis *Phénoménologie de la perception*, establishing phenomenology in France. He expressed a strong criticism of idealism; he claimed that phenomenology is against the idealist return to consciousness. Man is not pure consciousness.

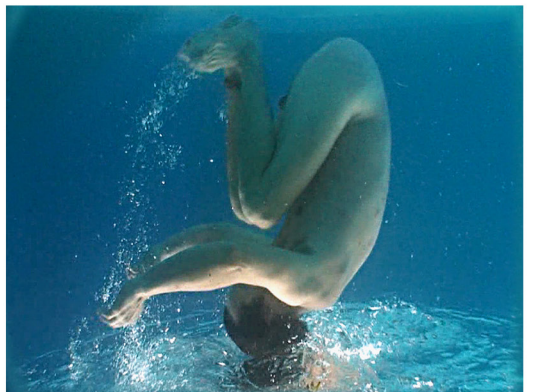
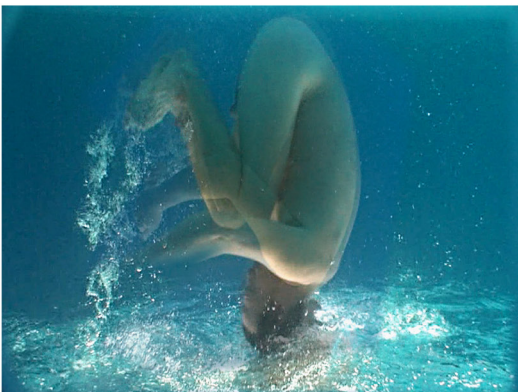
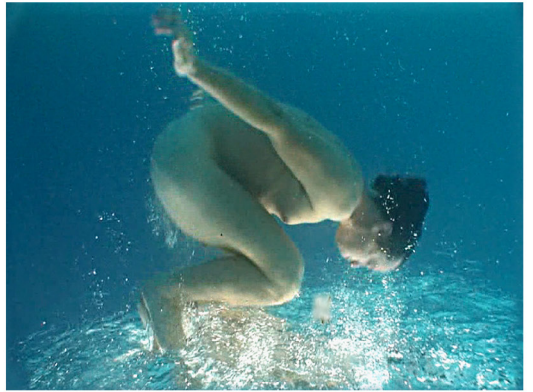
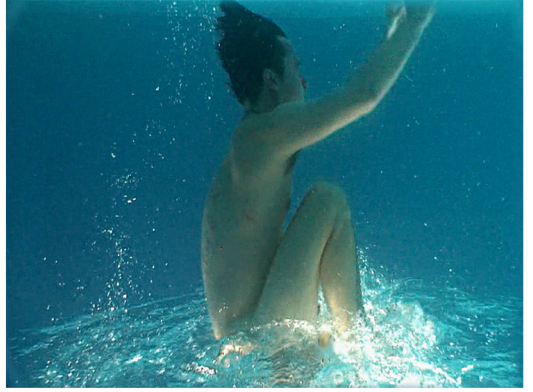
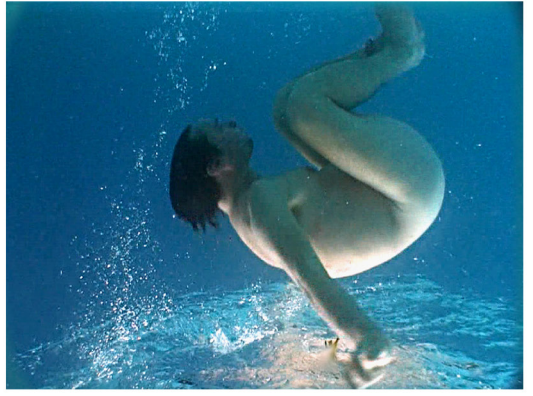
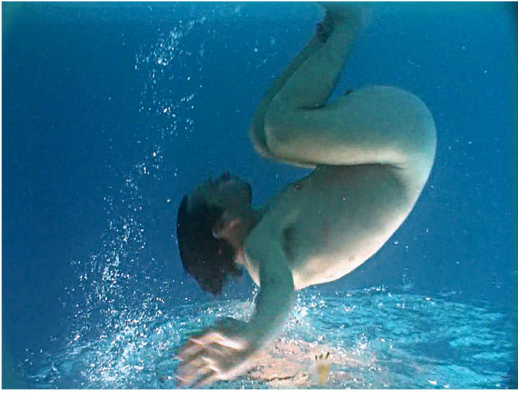
6. Merleau-Ponty, Maurice: *Phenomenology of Perception*, Routledge, London, 1968, p.478.

7. The basic ideas in this paragraph are again borrowed from Colebrook when he introduces Deleuze's *Cinema*. But I reshape his comments in order to adapt them to this essay. Colebrook, Op cit, pp.4-5.

8. Cfr: p.55. n.14 and 15.







*Stills from the video, Superficial Blue, 2010.*

Technology – the computer – is an extension of the potential of life, as writing is an extension of the brain<sup>9</sup> and technology and its interfaces change ourselves and life itself. So our history is the history of technology, the history of interfaces, the desire to understand and dominate the environment, without realizing that in fact our history is the history of the adaptation of our perceptions to the interfaces or machines.

If Deep Blue was programmed to react to the moves of the great master, what if Kasparov played sometimes like a fool, as if he were using deception, sarcasm or irony in his game?

Kasparov asks himself *why* and he imagines that these labyrinths of questions and answers are built by language, perhaps it is language itself that represents the maze that creates new walls to each answer. Kasparov dreams. He is dreaming about clear water, about his body being born again, his body wrapped up in words, formed by means of words. He thinks that the most effective labyrinth is a labyrinth with no walls, like the desert, as Borges said. Now he imagines himself inside the water and this element seems a transparent liquid labyrinth. At the time he dreams that he enters the water, he sees himself crossing the line of language, being born again as he learns language. He thinks that all his education, culture, the advice from his father in his childhood, the lessons learnt from the chess master Mikhail Botvinnik and Vladimir Makogonov when he was young, were forming him. He imagines every council, every word, every letter, every piece of knowledge as a piece of a puzzle that forms him. The word becoming flesh. Or even better, he imagines the words as bubbles giving him shape inside an endless sea of knowledge. He spins around in a fetal position, and he is forming and dissolving in water as the words surrounding him are creating him. Suddenly, at the bottom of the water, the sea, he finds a strange device. The device consists of gears, he wanders what would this strange apparatus be useful for. The mechanism reminds him of the gears of a Swiss watch. Finally the name of the device he wanted to remember previously comes to his mind: the *Antikythera Mechanism*, thus named because it was found sunk in the deep waters of the islands of Antikytheras in Greece. This device is the earliest known example of a computer, using a series of gears to perform its calculation.<sup>10</sup> The device showed sailors the position of the sun and the stars throughout the year, the relation between time and space, and their orientation in this liquid limitless labyrinth. Kasparov imagines a man in the middle of the vast waters holding a device in his hand trying to know his position in the universe. Kasparov asks himself, *why?*

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9. Colebrook. Op. cit. p.10.

10. "Recovered in 1901 and probably made between 51 and 81 BCE. It is a very complex assembly of at least 21 bronze gearwheels. Possibly used in navigation" Ifrah considers it as clearly an 'analogue calculator' and for D. Solla Price as 'the veritable progenitor of all our present plethora of scientific hardware". Ifrah, Georges, *The Universal History of the Computing*, p.155n.50.

Whenever he asks *why*, he knows he is condemned to spin again and again in an endless loop of knowledge. Every response, every definition with adjectives and nouns requires other nouns and adjectives to be defined... until an idea comes to his mind: the definition of things, of being, of itself, is neither in adjectives, nor in nouns nor in proper names, and neither is it in the flesh of his spinning body turning beneath the semiotic waters. This definition is neither in the analysis of the elements that constitute his body nor in the attributes like the gray jacket, the cream-colored shirt or the striped tie that he tightly knotted in the mirror yesterday, but in the actions that occur among them, it is in the relationship of bodies, in the collisions, at play, in the encounter between him and a machine, playing in gerund: It is the verb. In the relationship of a man moving under the water, more stoic than Aristotelian, meaning that the Aristotelian being is defined by the qualities of his nature, while stoically it is defined through action, through the interactivity of being, of the game. In the encounter between the bodies.<sup>11</sup>

The names of the machines seem absurd to Kasparov: *Deep thought* and *Deep Blue*<sup>12</sup> and he understands the scientists' attempt to reach the *depths* of knowledge. But he thinks about the surface. It is on the chessboard surface where the game is played and he says aloud, "Superficial Blue". It all happens on the surface. He thinks. He thinks: thinking is to remember. Thus, the computer *Deep Blue*<sup>13</sup> is in no way smarter than Kasparov. It is simply a reaffirmation of his mental capacity. Deep Blue is not in opposition to his opponent. Technology is not a supplement to the thoughts of Kasparov's life, because his consciousness cannot be isolated from external stimuli. Technology is only an adaptation of the potential of his life.

That is why, to Kasparov the surface seems more important in his dream, it represents the border towards the depths. That area where the language operates. He imagines language as a horizon where our perceptions are translated into signs. A line constantly crossed through a messenger, the symbols. Hence the connection with hermeneutics and the Greek myth of Hermes. Hermes – the messenger of the gods – not only brought the divine or unknown messages to mankind but he also transcribed them and made them accessible to our understanding, he translated the messages and

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11. In this paragraph I use again Deleuze's thoughts about the Stoics in *the Second Series of Paradoxes*. Deleuze, Op. cit., p.4ff.

12. *Deep Blue* was a chess computer developed by IBM. *Deep Blue* was the first computer that made history in 1996 by defeating Russian reigning chess champion Garry Kasparov. Kasparov demanded a rematch; but *Deep Blue* was packed after the winning game in order not to be used in chess context anymore. The project began as one followed by his successor, *Deep Thought*.

<http://www.britannica.com.ezproxy.ub.gu.se/EBchecked/topic/155485/Deep-Blue>

13. "Superficial Blue" was presented as an interactive audio and video installation, on October and November 2010 at Gallerie Konstpedemin. Gothenburg, Sweden.

<http://www.tepez.com>

<http://privat.bahnhof.se/wb821089/superblue.html>

made them meaningful. Hermes was the interface between us and the environment, the mysterious or inexplicable around or within us. Hermes transformed the immeasurable into the measurable, and he also transformed the unspeakable into human symbols, into history. For Heidegger *Hermeneus* was the creature that moves, inspired by a magnetic force. In any case, our catch is supported by the historical network, by memories, by language; Kasparov claims, to himself: thinking is to remember.

Hermes is thus the interface between the human and existence. It is in this relationship that meaning is created. But, as we shall see a paradox, is thereby created. Deleuze and Borges attributed to Gottlob Frege as the developer of this paradox. The paradox of the infinite proliferation of meaning by eternal regression. This is explained as a proposition that needs to be explained by another proposition, and in turn, this requires another proposition and so on *ad infinitum*, an endless proliferation, where there is no previous representation. But as we have seen, to avoid this linguistic determination we should not reduce the sense to mean the extent of the proposition of things, but to the space between them, to the space that separates and joins at the same time, to the game on the surface of the chessboard, to the action.

Kasparov is still dreaming that he is spinning in the water and he wonders how he relates through language to time and space. He wonders how long it takes to rotate on his axis. He wonders if time exists only in relation to things. However, our bodies are not expressed in time as things. Thus, his turning body is not an object within time. It is time. We *live* space and we *live* time. The geometric space and the chronological time are mere mathematical constructs. They are represented by static things to be measured, hence the necessity of the clock which controls the time in the game of chess. Nevertheless we do not measure time, we measure static things. It is not necessary to stigmatize the interpretation of time in spatial terms. The philosopher, Merleau-Ponty criticized Bergson when he condemned the notion of spatial time.

In order to arrive at authentic time, it is neither necessary nor sufficient to condemn the specialization of time, as does Bergson. It is not necessary, since time is exclusive of space only if we consider space as objectified in advance, and if we ignore the primordial spatiality, which we have tried to describe, and which is the abstract of our presence in the world. It is not sufficient, since even when the systematic translation of time into spatial terms has been duly stigmatized, we may still fall far short of an authentic intuition of time. Bergson (...) makes time out of a preserved present, an evolution of what is evolved.<sup>14</sup>

Kasparov is still dreaming that he spins in the water; he feels that, in his turning flesh – occupying a space in the transparent liquid – is where the space and time are joined. It is in his body floating around that he experiences the *before and the after*. The temporary synthesis. Similarly, to Merleau-Ponty time is not a real process but a synthesis of our existential dimension:

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14. Merleau-Ponty, Maurice: *Phenomenology of Perception*, Routledge, London, 1968, p.482.

There must be another true time, in which I learn the nature of flux and transience itself. It is indeed true that I should be incapable of perceiving any point in time without a before and an after, and that, in order to be aware of the relationship between the three terms, I must not be absorbed into any one of them: that time, in short, needs a synthesis. But it is equally true that this synthesis must always be undertaken afresh, and that any supposition that it can be anywhere brought to completion involves the negation of time. It is indeed the dream of philosophers to be able to conceive an “eternity of life”, lying beyond permanence and change, in which the time’s productivity is permanently contained. Yet a static consciousness of time which stands above it and embraces it merely destroys the phenomenon of time.<sup>15</sup>

Although, Kasparov experiences time through a synthesis of movement as he completes a full turn in the water, spinning and returning to his initial position. It is in his body that he reaffirms the temporal dimensions simultaneously. This temporal synthesis can only be experienced through changes. The philosopher Gilles Deleuze says, about time and space in the book *Cinema 1* that:

For antiquity, movement refers to intelligible elements, Forms or Ideas, which are eternal and immobile. (...) Movement, conceived in this way, will thus be the regulated transition from one form to another, that is, an order of poses or privileged instants as in a dance. The modern scientific revolution has consisted in relating movement not to privileged instants, but to any-instant-whatever. Although movement was still recomposed, *it was no longer recomposed from formal transcendental elements (poses), but from immanent material elements (sections)*. Instead of producing an intelligible synthesis of movement, a sensible analysis was derived from it.<sup>16</sup>

Both Deleuze and Merleau-Ponty believe that the future is not limited to becoming, it is future and past at the same time. Paradoxes allow us to express two meanings at a time. Just as in the body, past and future are infinitely divided. Thus, the *before* and *after* brings a paradox. So the future is not limited to a chronological dimension, any statement can have a meaning, but expresses at least one other. Consequently, the becoming can only be expressed as both future and past at once; it is the paradox of the simultaneous affirmation of two dimensions.

In the same way that the becoming is not limited to a chronological dimension, it is impossible to immobilize the sense to define it. The definition of being is not in the static adjectives, isolated nouns or proper names, and it is not in the flesh and its substance either, but in the actions that take place between them, in

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15. Ibid. p.482.

16. Deleuze, Gilles: *Cinema 1: the Movement-Image*, the Athlone Press, London, 1986, p.4.

the verb. It is in the relationship between bodies, in every encounter, the meaning is in the collision between us, in the events. In this way, it is in the action, not in the predicate, but it is, paradoxically, between subject and predicate. Deleuze takes up the theme in the *Second Series of the Paradoxes of the Effects of the Surface* and states:

They are not things or facts but events. We cannot say that they exist, rather that they subsist or inhere (having the minimum of being which is appropriate to that which is not a thing, a non-existent entity) They are not adjectives but verbs. They are neither agents nor patients, but the result of actions and passions. They are “impassive” entities – impassive results. They are not living presents but infinitives: the unlimited Aion, the becoming which divides itself infinitely into past and future and always alludes the present.<sup>17</sup>

The constant transformation of language appears to Kasparov as a living organism created by all of us. Formed at random by an endless chain of definitions, but in a systematic relationship with the human, with himself dreaming, spinning in the water and acting as the physical support of language. “*Deep Blue*,” Kasparov thinks about his dream. Just to correct himself later, *Superficial Blue*, Everything happens on the surface, on the chessboard, in the middle line between dream and waking consciousness. Kasparov is no longer afraid; he imagines his body resting pleasantly in the waters of Genesis. He knows that tomorrow he will face a machine and he is no longer terrified. He does not curse technology. He knows that in this interaction – regardless of victory or defeat – he is reaffirmed. His encounter with the computer appears to be like an *infraface*, it gives him the opportunity to increase, to delay, to postpone or to extend the meeting, expanding the opportunities of the game.

Kasparov remains trapped in his dream on the night of May 9, 1997. Wondering if his dream is not the product of a work of interactive art, and when nobody participates, his dream does not exist. Outside time passes by, the time of the mature fruit and the seasons. Kasparov has realized that the chessboard has no end, that it seems to extend at every move. More squares appear with every move he makes. He knows he is dreaming and yet he is unable to return to real life. To the life of continuous and tidy time. To the life of the time measured with fixed physical elements. He cannot be assured if he is awake because the smells, the sounds and sensations in his hands seem real, and yet he knows he is dreaming because he sees himself surrounded and forced to finish a chess game that seems endless. He thinks that the only way to escape his dream is no longer by winning the game, but simply by ending it, even if he loses. He does not curse technology.

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17. Deleuze, Gilles: *The Logic of Sense*, the Athlone Press, London, 2001, p. 5.

But whenever he asks *why*, he knows he is obliged to spin again in an endless loop of knowledge, every response, every definition, with adjectives and nouns requires other nouns and adjectives in order to be defined... The definition of things, of being, of itself, is not in adjectives, nouns or names, and nor is it in the flesh of his body spinning beneath the semiotic waters. It is not in the analysis of the elements that build up his body, but in the actions that occur among these, it is in the interaction between entities, in the inter-relations, at play, in the encounter between him and a machine, playing in the present participle: it is, essentially the verb.

A moment can hold an eternity. Kasparov is not afraid, he likes the possibility of infinite game, the *infraface*, but he knows he cannot wake up as long as he continues wondering ...why?



**Title**  
Superficial Blue

**Year**  
2010

**Place**  
Gallery Konstepidemin, Gothenburg

**Technique**  
Interactive audio and video installation, dimensions variable.  
Surround sound 5.1  
High definition Video, Interactive loop.  
P C, tangent board, podium, video projector, video canvas for back projections  
(250 cm x 180 cm).  
<http://www.tepez.com>





# Superficial Blue

Interactive video installation





## IV. Burroughs

The paradoxical division of physical and temporal spaces.

I walk through the streets of La Colonia Roma in Mexico City. Here at Medellín Cerrada no. 37 was where William S. Burroughs lived in the middle of the last century. Near his home on Monterrey Street 122-10 at around 3.30 PM his life would change with his wife's – Joan Vollmer's – life ending on September 6, 1951.<sup>1</sup>

... It's time for our William Tell act, we will prove to the boys that I am a good shot.

And rising from his chair, he reached out his hand and grabbed his pistol from the table. Without more ado, Joan stood up from the sofa, took her half full glass – which was small – and placed it on her head. In doing so she closed her eyes, chuckled shyly and said:

—I can't look, I hate to see blood.<sup>2</sup>

Of this event we are particularly interested in two details. The distance of Burroughs's gun, an automatic pistol *Star 380*, from Joan Vollmer's forehead: 2m 90cm; and the speed of the bullet: 320 m/s. How many of Burroughs's stories and thoughts take shape in this seemingly short span of time: 320 m/s? The writer García-Robles states: "Mexico would leave a mark on Burroughs forever, after having killed his wife in a kind of accident and spending a short time in Lecumberri jail, a seed was planted in him that would eventually grow and give birth to one of the most important visionary writers of the twentieth century."<sup>3</sup>

Joan lost her balance and fell to the ground. At first everyone thought, following the shot, that she was joking and waited for a few seconds for her reaction. But when M. saw blood beginning

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1. García-Robles, Jorge: *Den förlorade kulan. William S. Burroughs i Mexiko*, Firework Edition, Hågersten, 2007, p.75. ( My translation)

2. Ibid.

3. Ibid.

to run across the floor, and the intact glass spinning on the tiles and heard strange noises that Joan was emitting, he realized that Burroughs had missed his target. His first thought was to flee and ignore everything, but he pulled himself together and ran for a medical student who lived in the penthouse and told Burroughs:

— Bill, I think you shot her.<sup>4</sup>

Before going into an analysis of the path of the bullet, we should consider the term *infraface*. *Infrafaces* are derived from the functions and definitions that we have seen about the term interface. That is, an interface is a bridge, something that joins or separates the environment (art, the world) with humans or humans with other humans. It has a specific function and helps the exchange of information or interaction between whatever it is that it joins. An interface can contain other interfaces. The pistol a Star 380 in the hand of Burroughs is an interface. The chrome barrel, the armour of aluminium, the plastic-coated handle for a better grip, the fixed frame onto which the trigger is mounted (and the trigger itself), the piston, the percussion cap, the flintlock, which fits over the frame and has a recoil spring, and the firing pin channel that ejects the bullet that would come into contact with Joan Vollmer's forehead .320 split seconds later. The gun connects Burroughs to and separates him from his wife Joan through an action. The function is as stupid as it is straight-forward.

An interface functions as a map to make sense in a communication process, a map in a labyrinth of information exchange. On the other hand, an *infraface* apparently makes this labyrinth more complicated raising changing walls at every step. *Infrafaces* focus on the moment of the encounter and expand it, stretch it or delay it, consequently opening new spaces. All physical or temporal space can be indefinitely divided, sometimes voluntarily and sometimes they have apparently already been predestined. *Infrafaces* are the interaction in this new space. Thus, Burroughs did not realize that in carrying out this game, he not only dramatically changed his own life, he reaffirmed it, and the most important here is the unleashing of all the stories that were waiting. Burroughs does not make up stories; all the stories already existed, and they were predestined, were already there, resting in the depths of expectation, waiting impatiently to be told, to be brought to the surface. "Everything happens at the surface."<sup>5</sup>

Burroughs's case in relation to the concept I'm developing here – *infrafaces* – seems to be relevant. The temporal transgression in the management of his stories is evident. Both his work and his life are intertwined in a particular way, mutually nourishing each other. Garcia Robles proceeds with a description of the events of that tragic afternoon in Mexico City:

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4. Ibid., p.76.

5. Deleuze, Op. cit., p.5 ff.

...He thought that if Joan so rashly agreed to engage in and trust the game it was because of the deep respect she had for Burroughs's aim. In contrast, Woods thought the situation seemed ridiculous: How would he explain to Juanita Peñaloza the hole that appeared in the wall and the shattered glass everywhere? He was about to take the gun when it was still on the table near him, but he thought that this would make matters worse and so he refrained. Burroughs was then nearly three meters away from Joan. He noticed her eyes were closed. He raised the gun. He aimed at the glass. And pulled the trigger. At that time – as he was to discover years later – an addiction to writing invaded his body.<sup>6</sup>

I am forced to the appalling conclusion that I would never have become a writer if it were not for Joan's death (...) I live with the constant threat of possession, of taking control. So Joan's death brought me in contact with the invader [sic], the Ugly Spirit, and maneuvered me into a life-long struggle in which I have had no choice except to write my way out.<sup>7</sup>

For Robles and for Burroughs himself, it is this event, which would change the course of Burroughs's life and his literary work. For me, it is the space between the forehead and the gun what interests me, because this is the space which is being activated, and creating stories, narratives or literary works as the bullet follows its trajectory. So, we can say that it is not after this event, but at this moment, during the *slow* flight of the projectile, that at least four works by this author rise to the surface, are gestated, are incarnated on paper, like a verb incarnated in the flesh.

When aiming the gun, Burroughs thinks he cannot fail and recalls the paradox of the arrow. This paradox states that a flying arrow does not move, in contrast, it is at rest denying motion. This means that a flying arrow is in a specific position at each moment in time. But if the increment of time is sufficiently small, the arrow will not have enough time to move, and consequently, it will be still at that particular moment. Similarly, during the following period of time, the arrow will also be still for the same reason. This means that the arrow is always at rest. According to this paradox motion is impossible.

If everything, when it occupies an equal space is at rest, and if that which is in locomotion is always occupying such a space at any moment, the flying arrow is therefore motionless.<sup>8</sup>

Similar to the second paradox of Zeno,<sup>9</sup> there have been refutations and proposals to resolve the arrow paradox. These postulations argue that rest is always relative. Although an arrow, or in this case a 44 caliber bullet, is perceived as static, we cannot judge their position by observing an isolated moment. It is always necessary to

6. García-Robles, Op.cit., p. 76.

7. Burroughs, William S.: *Queer*, Viking, New York, 1985, p. xxii.

8. Aristotle, *Physics* VI: 9, 239b5. p. 123.

9. *Cfr.* Chapter II, *Infrafaces*.

compare their position with other adjacent moments. Consequently, when comparing different periods of time, an arrow or a bullet is in a different position than it was before and after the comparison; which affirms motion.

Another perspective from which to view this paradox is to go directly to the definition of velocity, which is essentially an idea of change: the change of space at a given time. Thus, by definition, a body moves without altering the volume of the space it occupies at each moment, it changes space. This means that it occupies the same amount of volume, but in a different place at the next increment of time. Movement, consequently, is the succession of different spaces occupied by the moving element in the succession of individual moments that constitute the scale of the considered time. Thus, if we assume that the concept of speed/movement can be defined rationally, we simultaneously admit that movement, rationally, in theory, exists.<sup>10</sup>

Nevertheless the important thing is not to resolve this paradox, or to find a rational definition, on the contrary, the important thing is to understand that “paradoxes are signs that generate and indicate the need for complementary aspects of language.”<sup>11</sup> Art and language are not separate from our practices, they actively participate in the formation of ourselves; interconnected with our actions. “Paradoxes are not mental puzzles and failures in logical systems, but forms that reveal how a contradiction is generated and the limits of common sense and good sense.”<sup>12</sup>

Burroughs, at this moment, is not fully aware of the paradox of playing this stupid game of William Tell with his wife, but he thinks that he can apply the paradox of the arrow, but by using a bullet instead. In the space in between the gun and half full glass placed on Joan’s head. The bullet changes space during a certain period of time, but if the time gap is small enough and the bullet does not have enough time to move, consequently, the bullet will be still at that particular moment, and thereby in this frozen moment there will be enough time for other actions to happen, sufficient time for Burroughs to create his stories, enough time to include his narratives, enough time to shape at least four literary works that rise up to the surface:

1. (When Burroughs raises his weapon and aims at the glass, and with the other hand supports the gun, Burroughs accepts the requests of Allen Ginsberg and agrees to work on completing a certain book. At this moment, he collects the memories of his experiences with the criminals that he runs into in New York, at the Lexington Federal Narcotics Hospital – the Prison in Kentucky, in New Orleans and in Mexico City. When Burroughs feels the texture of the gun in his palm and sees the glass shining on Joan’s head and thinks he cannot fail, when he closes his right eye and

10. Aristotle Book VI of *Physics*, Preamble (239a 23-b4) in Faris, J.A., *The paradoxes of Zeno*, p.37.

11. Williams, James: *Gilles Deleuze’s Logic of Senses: A Critical Introduction and Guide*, Edinburgh University Press, Edinburgh, 2008, p.29.

12. *Ibid.*, p.68.

reaches out with his hand thus shortening the distance by 46cm, he creates a story. A story that takes a personal tone, with descriptions of sexual and addictive acts, this story gestates, waiting and wanting to take shape as a text through the confessions of the main character in this story, an addict. This fierce literary style will mark the 6 remaining years, namely the 3 meters which are the distance the bullet travels toward Joan Vollmer's head).

...when he lifts the gun and aims it he begins gestating the work: *Junkie*, 1953.

2. (Burroughs pulls the trigger, his index finger pulls against his body a small piece of metal that activates the powder in the gun chamber and expels a bullet at the speed of 368 km/s, raising the temperature of the bullet to 456 degrees. The noisy explosion of gunpowder fills every corner of the room and even penetrates some walls. As a continuation of *Junkie*, the bullet will form another short novel, a sequel; the memories are transformed into words and embedded as a disease in the pages when he writes the memoirs of a trip he made to Brazil in the search of *yague* – the drug that promises the possibility of telepathy. Again Burroughs remembers the bars in Mexico City, and in this book he will call himself William Lee. He does not yet know that a trial awaits him for missing with the bullet and this short story will be formed while waiting in the courts).

...pulling the trigger Burroughs unleashes the book: *Queer*, 1955.

3. (The bullet leaves the canon, rotating uniformly at 180 000 RPM or 3 000 feet per second, a heavy cloud of smoke slowly dissipates like blood in water. Both of Burroughs's hands feel the destructive action of the machine furiously spitting out the projectile, every time the bullet spins words are triggered. Each turn of the bullet corresponds to 2 345 strokes of Burroughs's typewriter, ironically with its own brand name, a black Burroughs<sup>13</sup> typewriter that he would bring on his trips to Tangier and which can still be seen in the windowless<sup>14</sup> room where he worked and which is now a museum thanks to a friend who collected Burroughs's belongings, the poet John Giorno. This Burroughs typewriter, [This brand of typewriter, famous among collectors for its sober and silent function, also has the ability to write lines that are 12 inches long and it allows one to manually adjust the paragraphs] types the structure of the Burroughs's masterpiece as disparate vignettes, impressions, as if this structure does not really exist, or as if the structure is in the process of changing, organic, in movement – just like the sense is. Burroughs called

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13. His grandfather William Seward Burroughs was the inventor of the first workable adding machine, he was born in rural area in New York in 1855. By 1887 the American Arithmometer had manufactured 50 machines. The first arithmometer was patented in 1820 by Thomas Colmar. Ifrah, Op.cit., p.127.

14. The "bunker" was the house of Burroughs from 1974 until his death in 1997; it was located in the basement of the YMCA, at 222 Bowery. Baker, Phil, *William S. Burroughs*, p.174.



these impressions *routines* shaped by the memory of his stay in Mexico, U.S. and Tangier, and the experiences of William Lee with heroin, morphine, marijuana, opioid, eukodol. Burroughs would say in the introduction that Jack Kerouac was the one who suggested the title. The bullet seems to stand in his way, in a frozen moment: “The title means exactly what the words say: naked lunch, a moment frozen in time when everyone sees what is on the end of every fork.”<sup>15</sup>)

... when the bullet has travelled 2.10cm the result will be: *Naked Lunch*, 1958.

4. (The ammunition travels 2.50 m. The bullet is deformed only at the back of it by the pressure of the fire, but does not lose its aerodynamic shape and keeps spinning. The bullet turns 456 778 times on its axis after leaving the barrel; 50cm is equivalent to two years in the life of Burroughs and to 1 236 written pages. When the bullet moves through time and space, this work occurs in 1961, two years after the publication of *Naked Lunch*. In this novel, the human body seems to Burroughs to be a tender machine. The literary techniques he was developing, called *cut-ups* and *fold-in*, are imminent, and so letters and words appear based on the idea of travelling through time and space to find a Mayan priest and the struggle to liberate the *soft machine*)

...2m 89 cm: *Soft Machine*, 1961.

The bullet is irrefutably approaching Joan's forehead, she stands with eyes closed, with a calm expression, confident, her mouth slightly open in a smile, the product of alcohol consumption, the empty glass over her head, her last words like an echo in the house:

“I can't look, can't stand to see blood.”

Burroughs plays this game but he does not know that the bullet, as it travels, arouses these stories that are waiting for him. The stories are like independent and living beings and they are there, waiting, taking their own directions, as the tributaries of a wild river. In the same way, language is for Burroughs a living organism, a parasite, a virus that chooses our minds to live in. It is this struggle to liberate language of grammar and syntax rules that would characterize his work. According to Burroughs, humans do not know that they are infected, in the same way that he does not know that his works are being cultivated as the bullet travels. This metaphor of language as a living organism should not be considered only as an absurd experiment, the technique called *cut-ups*, is the tool that Burroughs uses to dismantle these handcuffs of language. In the same vein, a work of interactive art as an *infraface* or certain poems break the barriers of syntax, thus freeing words by weakening the demands of meaning.

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15. Burroughs, William S.: *Naked Lunch*, Grove Press Inc., New York, 1959. p.V.

In this set of interfaces, of stories within other stories, like Russian dolls, we could still include another work: *Interzone*, 1989. This novel functions as a bridge, as a link between the novels *Junkie* and *Queer*. *Interzone* is just an intermediate zone, an interface. This contact zone is represented again by the addict William Lee, Burroughs' Alter Ego. Lee experiments with chemicals to find this middle line between the inner and outer. Even Burroughs uses this book to change his narrative from first-person singular (internal) to a more experimental style (external) in his next works. This collection of short stories, *Interzone*, is for Burroughs like the essays in the collection *The Crack-Up* from 1945 are for Scott Fitzgerald. The French philosopher Gilles Deleuze comments upon these essays. In *The Crack-Up* a concept appears that seems appropriate to Deleuze, the concept of the *crack*. In the *Twenty-Second Series* of his book *The Logic of Sense* Deleuze says that alcohol opens a crack in the work of Scott Fitzgerald.<sup>16</sup> For García-Robles there are also drugs that open a creative crack for Burroughs. Deleuze argues that for Scott Fitzgerald this crack, this wound, is also the interface to the outside. For Burroughs the interface is not only between the inside and outside. It is a space that is opened up, not *with* the drugs but *by* the drugs. Is not a destructive act, as the absurd annihilation of Joan Vollmer, it is an act that opens the necessary crack for the escape of his works, for the accomplishment of the literary fugues of Burroughs.

The real difference is not between the inside and the outside, for the crack is neither internal nor external but is rather at the frontier. It is imperceptible, incorporeal, and ideational. With what happens inside and outside it has complex relations of interference and interfacing, of syncopated junctions – a pattern of incorporated beats over two different rhythms...<sup>17</sup>

For Deleuze syncopated junctions also exist at the border between internal and external. Deleuze puts the real *difference* at the frontier, pointing to an intermediate zone. In this essay, and in the same manner, I focus on this space in between, in an intermediate zone where the apparent repose of a moving bullet takes place. Between Burroughs and Vollmer it is this bullet unleashing words, forming the literary works.<sup>18</sup>

While the bullet irremediably approaches Joan's forehead, Burroughs's stories between 1953 and 1961 take shape. Literature is for him an escape, the only way out, but he must face language that imprisons him, a virus. His technique, *cut-ups*, and fragmentary visions are the tools for this escape, and consequently the reason that his stories seem, at times, senseless. What is actually meant

16. Deleuze, Op Cit., p.154.

17. Ibid., p.155.

18. Rudolf Hermann Lotze (1817 –1881), German philosopher and logician, for example, puts these periodic spaces between cause and effect.

by the lack of sense? By twisting linguistic structures Burroughs approaches the illogical. “Nonsense has the dual function of breaking with the demands of denotation, manifestation and significance, opening up an additional realm for sense.”<sup>19</sup> It is impossible to define sense as a static unit. Although a work of art or a string of words appear to have no reference or reasonable meaning in language, they work positively to dismantle the false contradictions of language. It is impossible to immobilize sense to define it, in the same way that the notion of becoming is not limited to a time dimension. Any statement can have one meaning, but expresses at least one other. It is in this paradoxical relationship of two definitions at once, as the future can only be expressed as both future and past at the same time, that the paradox of simultaneous affirmation emerges.<sup>20</sup> This is the area where *infrafaces* move, in the paradoxical space in-between, where the relations of propositions allow us two interpretations, in the intermediate space of two definitions at once.

The essence of the elements forming the structure of this interaction: the definition of the gun, or the bullet, or Joan’s forehead or Burroughs’s hand are not interesting in terms of *infrafaces*, but the relationship between them, the connections between the entities forming this structure. Because the understanding of the participants in this interactive system is not in their states as isolated elements, such as frozen material and objective matter. The elements that take part in this interaction are instead intertwined by the relationship between their actions, by the stories formed between them. *Infrafaces* prioritize this relationships and the constant unfolding of stories that exist in both the present and the past. A constant sliding of sense; close to nonsense since sense can only be expressed and affirmed by nonsense.<sup>21</sup> *Infrafaces* are the possibility to create new spaces in the action between bodies, between a bullet and a forehead, in order to displace the centre of the artistic discussion to the game, to the interaction. *Infraface* is an artistic interpretation of the process of interactivity. It is the possibility to play with interconnections. *Infraface* is the option to extend or delay a physical area or space in time to embed new stories.

Neither the definitions nor the functions of the different entities in an interaction are attractive for the *infrafaces*, nor the essence of things or elements, regardless whether these elements are a firearm, a bullet, a typewriter, Joan or Burroughs himself, but the sequence of interdependent and connected interfaces within this interaction which, at every stage, transform time and space, to convert their links into new segments. And patiently wait to serve as inputs for the next stories until a new segment is opened, and so on.

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19. Williams, James: *Gilles Deleuze’s Logic of Senses: A Critical Introduction and Guide*, Edinburgh University Press, Edinburgh, 2008, p.68.

20. Deleuze, Op.cit., p.5.

21. This is one of the main arguments of Deleuze in *the Logic of Sense*, I entwined his ideas in this essay to support my concept. Deleuze, Op.cit., pp. 66ff.

This apparently senseless correlation takes form as linguistic elements in Burroughs's typewriter. It is in linguistic or symbolic media as art that it is possible to express these correlations, the interactions between bodies. Sense is not in the essence of these bodies; it is produced (as a bullet or an arrow paradoxically moving and static at the same time and producing stories on the way). From these relationships, in these new and paradoxical spaces a field for the creation of art is opened. Consequently, these spaces then serve as inputs for the next stage until a new space is opened.

*Infracfaces* allow us multiple interconnections through entities interacting and their structures. Through interactivity an act with two ends is created, two-sided, an act that transforms itself. This gap between the gun and the target is not passive, it is transforming, taking energy from the environment, from memories of what has been or could be and is not linear over time; it is fluid and dynamic. Unfortunately, sometimes we tend to look for eternal truths and enduring arguments, instead of changing events and contingent figures.<sup>22</sup> *Infracfaces* do not search for eternally valid arguments; rather they look for constant changes. *Infracfaces* propose in this way new spaces for the realization of art.

*Infracfaces* resist one dimensional demonstrations and unitary forms of understanding, as humor or irony do. Nonsense is not in opposition to sense, like truth to falsehood. Sense is inseparable from nonsense. Therefore reason is not bordering on the absurd. *Infracfaces* are another form of sense, approaching the notion of nonsense or the paradoxical, but not in opposition to it. "Nonsense is not the absence of sense but rather the presence of an important kind of sense that can only operate through nonsense."<sup>23</sup>

The idea of extending an area or space in time to embed new stories or actions is the foundation of the neologism that I have been elaborating in this essay. This time, through the paradoxical idea of a bullet apparently in slow motion across the space in between the gun and the target, and bringing up to the surface supposedly unconnected stories.

The bullet irredeemably approaches Joan's forehead. She stands with eyes closed. Her expression is calm, confident, her mouth slightly open with a light smile produced by alcohol consumption, an empty glass is held over her head. In the room at Monterrey Street 122-10 around 3.30 pm, her last words still echo, "I can't look, I hate seeing blood." The bullet flies spinning on its axis, it has already made 671 987 500 turns corresponding to 68 765 087 217 strokes of the typewriter on Burroughs's black machine. The bullet is always in the now, then the bullet is immobile. For Burroughs this is the event that will change his life and his literary course. The space between the forehead and the gun, the interaction in between, the *infracface*, the game, is what interests us as this event activates, and awakens the stories, narratives and literary works as the bullet passes slowly, very slowly, almost motionless along its trajectory.

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22. Williams, Op. cit, p.7.

23. Ibid., p.68.

## V. *Infrafaces* II

The origin of life. In the beginning was the action

*In the beginning God created the heaven and the earth.  
And the earth was formless, and void; and darkness was upon the face of the deep.  
And the Spirit of God moved upon the face of the waters...  
And God made the firmament, and divided the waters which were under the  
firmament from the waters which were above the firmament: and it was so.*

*Genesis 1:7 (1569)*

**MM** alias “the fifth” had been a diver for six years performing a show in a well-known bay of the Pacific Ocean. Just like some of his fellows, he climbed half-naked about forty meters to the top of a cliff to dive into the ocean in front of a crowd. The popular show known for decades gathered people that hungrily applauded after each dive. However, in the last four years MM had been chased by a constant and disturbing thought. That was because of an accident he had had while diving. Since the accident occurred, every time he jumped off the cliff, in the wonderful release of his thoughts some visions possessed him. He felt he was held prisoner by a text. MM had dived in order to smoothly break on through the surface and he had been caught in an intermediate zone.

His fellows laughed a bit at him and called him “the fifth”, because one time they had gone on a drinking binge he told his colleagues about his disturbing visions, he said that he was the fifth story of a book of essays, and that he was being used to finish this book, and precisely in the fifth and final chapter he was the main protagonist. Therefore, his colleagues attacked him with somewhat tender and ironic jokes not taking him seriously. His teammates also called him “the fifth” because, in the show the five men performed every day, he was the fifth diver due to his diving ability. During the showers after the show, his colleagues would play jokes on each other. They ran naked through the locker room telling gay jokes, striking each other with towels and touching their buttocks. “Come here you fifth”, “take this you fifth”. And the fifth responded defending himself with a wet towel and shouting back at them “fifth your mother!”, “fifth your sister!”. Although sometimes they got upset, the practice of these games was a kind of ritual, especially when a new partner joined them, then they practiced an almost ridiculous rite of passage with the new member. They amused themselves that way, perhaps to forget or to celebrate the fact that they had challenged death at the reefs and that they had come out of the sea alive. Until one day MM said that, in one of the visions he had had about the book, one of his partners would suffer an accident and the body would be found later floating lifeless. MM gave his peers

some details of the events that he had anticipated. He said that as he jumped, it was as if time would unfurl and allow him a glimpse of the past and the future at the same time, *chronos* and *eon* in the simultaneity of events. It was as if a wound in time opened a crack. What MM had seen in his vision happened the following week. MM could not jump that day and he said that, according to the vision he had had the previous week, the life of the one who would replace him was at risk. The man who substituted him found the warning somewhat absurd, and that afternoon, to the amazement of a hundred people, he dived into the sea in a reverse double jump and a half pike. The man went through the water almost without splashing a single drop. As if the water had been hungrily waiting for him since the genesis. People applauded eagerly, but when they did not see him emerge an awkward silence ensued. The water was calm as a satisfied beast sleeping and digesting its food in a leisurely manner. The silence became a worrisome murmur, several minutes went by, people gradually withdrew, various boats went looking for the man without success. The substitute had crossed both the water and another border and he did not come out of the sea that night. Since then, MM was taken seriously and there was an almost religious atmosphere instead of the jokes after the show.

One day his companions asked him if any of them were also caught up in that book. At times people came to ask if he could make any conjectures about the future or see into the future. Gradually even people from other places came to ask for help or advice, as if he were a kind of oracle. MM resisted the temptation to take advantage of his gift of course, since he could easily invent stories and convince them with improvised explanations, as some doctors, scientists, magicians and various artists tend to do. But he could not see events concerning other people, he only knew that, owing to a strange coincidence, he was trapped in the pages of an essay and someone was writing about a life simultaneously, and he was the main protagonist of that essay. He felt that his life was directed by the occurrences of an essay writer and every time he jumped into the ocean, by means of a peculiar connection, he could read what the writer had written in the book. So he could see part of his life ahead. MM had become the fanciful product of a literary work in progress.

While some people respected him others feared him, and some other people looked at him with suspicion and questioned him with tests. They argued that, if he was, in fact the protagonist in the fifth story of this supposed book in progress, they then wanted to know what were the main themes of the book and what were the other four stories about? To which MM answered to the best of his knowledge and understanding:

It is a small book from a university in Northern Europe. On the cover there is a person, a woman, who sticks her tongue out and slowly stretches it towards a huge candle. The flame seems to almost touch the tip of her tongue, but there is a small space, it is just the time of perception without previous experience. A space that is so small and so infinite. The title seemed to him a little confusing, *infrafaces*, it made him think about faces, his own face, he thought about a hero with a thousand masks, he also thought about the

notion of having a conversation with someone who was taking off a mask and when he thought he would get to know that person, the person would remove another mask and so on. What lies beneath or beyond the faces. So the book consists of five short stories.

The first story is about a series of creations that try to bring us closer to the world, to understand it and organize it through the use of artifacts.

The second story reminded him a little of his own story because it was also about a man who is remembering his life as he falls, a space that opens up during this fall. He now understood this phenomenon.

The third story moved him without knowing exactly why, because he did not understand in detail what it was about, but it made him feel an unexplained melancholy. Another man had been trapped in an event when he challenged a chess machine.

Moreover, he remembered many details about the fourth story; it made him feel a little fear mixed with sense of vertigo, just like the way he felt every time he was going to jump. It was about a writer who had dramatically changed his life during the path of a bullet.

All the stories referred, in a different manner to those gaps that arise in every action and how they are manipulated and exploited in various ways. About the fifth story or essay, his own story, he said: "Across the sea there is a man writing a book, that man tries to see how we are connected to the world, how we interact, how we relate to others and what the common bonds are that keep us joined to each other and to the earth".

The last chapter began as follows:

## V. *Infrafaces* II

The origin of life. In the beginning was the action

It carried on with some words in italics taken from the Bible that curiously, he had just heard at church last Sunday:

*In the beginning God created the heaven and the earth.  
And the earth was formless, and void; and darkness was upon the face of the deep.  
And the Spirit of God moved upon the face of the waters...  
And God made the firmament, and divided the waters which were under the  
firmament from the waters which were above the firmament: and it was so.*

*Genesis 1:7 (1569)*



Then the essay started with his name:

“MM alias “the fifth” had been a diver for six years performing a show in a well-known bay of the Pacific Ocean. Just like some of his fellows, he climbed half-naked about forty meters to the top of a cliff to dive into the ocean in front of a crowd. The popular show known for decades, gathered people that hungrily applauded after each dive. However, in the last four years MM had been chased by a constant and disturbing thought. That was because of an accident he had had while diving. Since the accident occurred, every time he jumped off the cliff, in the wonderful release of his thoughts some visions possessed him. He felt he was held prisoner by a text. MM had dived in order to smoothly break on through the surface and he had been caught in an intermediate zone.”

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MM tried to understand how it was possible that his life had been linked to the fantasies of a writer in another continent and he also began to think about the bonds that tied him to other people. He thought about how different forces and feelings joined him or separated him from other people, his family, his friends, or his enemies. Whenever he jumped into the sea, he felt a tremendous fear of death, he was not afraid of his own death and he was not afraid of the feeling of loss of life either, but he thought about the pain that his death could cause to others, especially to his wife who was so proud of him and often went to the cliffs to see him dive. And he called that feeling love. By contrast, sometimes he could not avoid feeling hatred or remorse, followed by a desire for revenge, for example having such a feeling towards the policeman at the border of the United States who had killed his brother when he tried to cross to the other side. He imagined his brother swimming in the cold waters of the Rio Bravo, plunging downwards as much as he could in a desperate attempt to hide while the policeman was waiting for him to come up to the surface to shoot him, leaving him forever in an intermediate zone, at the borderline. He wondered if all borders unify or divide countries, a line, a demarcation. MM wondered then if we were endlessly stuck like his brother in that river, longing to go through the other side, and also wondering if his brother had managed to cross the border physically. In that case, he would have left his soul on the other side.

Where exactly is the limit, when do we cross those boundaries, when do we really understand anything? Do we really understand? Do we surpass the line or do we always remain at an intermediate zone searching for our goal? He knew that although the years would pass, he would still remain involuntarily joined to that border policeman by a circumstance and a feeling of hatred, even if he had a good reason to hate him. So MM understood himself because of a series of events and relationships with others. And not because of his brown skin constantly exposed to the sun, or the physical abilities that allowed him to perform stunts in the air before coming into contact with the water, and certainly not because

of the physical features that his father had implanted in him and he in his son, nor by his organs or his limbs, but because of his ability to relate to others, by interacting with other people and with the world, and also due to the affections he had and the extent to which he was affected by others. The influence that others have on him to make him happy like his wife is able to, or depressed, like that hated border policeman does. MM understood himself better as his potentialities increased or decreased.<sup>1</sup>

Nevertheless, what seemed to be a greater reason for despair was the fact that he was not able to know exactly what it was that linked him to the mysterious man who lived on the other side of the world, and how he became connected to him by means of the words that the man was writing. Then it was the book, the lines dropped from the text, the pages, each proposition, each phrase and sentence that served as an interface, as a contact zone between the two men. That book was the link between their lives, literature was the point of relationship where their circumstances met, it was at that very point, there on the border of the written pages, on the surface of the text where the destiny of the diver and the writer manifested as the writer was writing, as a symbiosis... and the diver was able to catch a glimpse of his future every time he jumped.

But how did he get trapped in the pages that the writer was forming? MM remembered the afternoon he got caught in the fifth chapter of this book. MM used to resort to mind games in which he was making up stories while he was jumping off the reef and then he would wake up from his thoughts as he came into contact with the water. That space, those forty meters belonged to him, it was an open space in which he had enough time to think about anything he wanted to. He stood at the edge of the reef and watched the tide, waiting for the perfect wave to jump in, as that area around which he was jumping was not deep enough to avoid a fatal contact with the ground. He remembered stories about comrades, like “Chucho, the brick”, who was paralyzed from head to toe after hitting the sea-bed, and other, less fortunate colleagues who did not survive. Hitting the surface of the water improperly could also be fatal. MM knew about colleagues who had hurt their spinal columns and busted their backs by hitting the water’s surface. Others had drowned after losing consciousness on impact. He found that fascinating, the contact zone. He was fascinated by the two-fold role of the water which could either gently muffle the fall, or it could receive people violently if they dived in the wrong way. Life is like water. He imagined his body gently penetrating the warm liquid of the Pacific and he remembered the first night he spent with his wife who often went to see him dive. He remembered his body gently passing through other means, incorporating pleasantly into a different environment. But if his body came into contact with the water in the wrong position, the resistance of the water’s surface at about 30 mph. could be similar to that of concrete. Even diving feet first off a cliff a quarter of that size, might cause a compression in the spinal column. He even remembered that falling feet first carried the risk of being massively invaded by the water in the ass causing severe internal injuries.

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1. Spinoza, *Ethics Demonstrated in Geometrical Order*, Part Two: *On the Origin and Nature of the Emotions*, pp.163-225.

In fact, it all began 20 years ago, as a game to overcome his fear of heights. When he was a child MM discovered that he suffered from an acute and uncontrollable fear of heights. Until he became involved in a challenge with other children who urged him to jump into the water from the top of the rocks and then jump off again from a higher summit. So MM developed a mental game to overcome his fear. The trick consisted in diving with his eyes closed, trying to imagine that he could see himself jumping off, it was a kind of mental mirror which reflected him on top of the reef, he looked at himself extending his arms towards the sky and jumping off. He visualized his body, intact coming into contact with the water. As the Zen Buddhist that infallibly shoots an arrow. In the in-between space he could see himself flying through that space, and he could even invert that space, jumping off from the water to the top of the reef, as the one who says a palindrome. Until one day as he pictured himself diving, he went a little bit further into his fantasy in order to not be afraid, and he imagined that the reflection that was about to dive had to imagine another reflection that was going to dive too, but this last one in turn had to imagine another man diving. At first this thought caused him a more terrifying vertigo than heights, but after a while this mental game seemed fun and relaxing, and he imagined five, ten or even tens of MMs diving at the same time, unfolding like a flower in the summer, like the reflection of a mirror in front of another mirror. MM closed his eyes and wondered how many mental copies of men picturing themselves could dive in that period of time, and in the forty meters he thought of up to thirty five men who imagined themselves climbing to the top of the reef, imagining other men climbing and jumping off. And as he fell and felt his hair swirling with the wind, he was mentally going back to his reality... 34, 33, 32, 31... until one day he felt uncomfortably observed, naked. All of a sudden he opened his eyes and then he saw a spectator who was watching him intensely, filming a video. MM lost concentration and the countdown, and he did not perceive the right moment when to straighten his body to go through the water with his spinal column in a vertical position. In a desperate attempt he hardened his abdomen to fix his position,... 30, 29, 28, .. simultaneously the men he had imagined, quickly tried to return to the mind of their progenitors... 26, 25, 24, 23, and yet ... 22, 21, 20 ... the impact was brutal, a warm feeling ran down his neck and he stopped feeling his arms and legs ... he lost count, he wanted to think of something that gave him strength so as to not lose consciousness, his daughter, his wife, but the only thing that came to mind was the half-opened eye of the spectator with his camera on his face and a little black notebook in his other hand ... MM sank without resistance into the sea, trying to wake up, but he had been trapped in one of those mental rooms, caught in the lines of the writer.



Still from video *Infrfaces*, 2013.

MM woke up in a hospital after three days. The doctors had given up and considered his return to consciousness was a miracle; it seemed that life had been granted to him by another incomprehensible channel. The doctors said God did not want to take him and had returned him, and they could not find a scientific explanation for the woman who was holding back the tears because she did not want her husband to see her crying when he opened his eyes. MM had returned to the conscious world as if he had been pulled by some other magnetic force. Since he was a child, MM had been intrigued by magnetic forces, like the one that drew him toward the earth. No matter how high he jumped, he felt he was pulled by an elastic force. In the same way he experienced elastic connections towards humans. Towards his licentiousness or habits, towards other bodies, responding sensitively to the excitement the same as matter does, attracting or repelling away like cells do, or like bacteria responding to or fleeing from toxicity, attracted like animals during the rutting season, or the moon to the earth, or like the insects attracted to light. Gradually he understood that a similar force not only obstinately linked him to the earth, but also attracted him strongly to his friends, to his addictions or virtues and to his wife.

MM remembered the afternoon when he saw his wife for the first time. The first nonexistent contact. It was a Sunday afternoon and they were quite young. They were walking in the town square, around the kiosk in the middle of the square. Men and women were walking in different directions around the kiosk, as it was customary. They bought ice-cream and they passed facing each other exchanging glances and even a smile, which was already a symbol of personal attraction. That evening the young people and children were playing a game, a game as funny and stupid as it was dangerous. No-one knows exactly how they had discovered this phenomenon: but if they made contact with a lamp post on the edge of the square and a bench in the center of it, an electrical circuit was closed. To do that, it was necessary that at least sixteen people holding hands stretched out their arms to touch both sources of energy to produce an electric current distributed among all the participants. They looked at each other in amazement with their hair pointing to the sky. The screams mixed with loud shrieks of laughter filling the square and frightening the birds that always returned to sleep in dense flocks on the electrical wires above the square at exactly 6.30 pm. The parents tried to keep their children from participating in that silly game, telling them not to join in such nonsense, but once the sixteen children had intertwined their limbs, no one dared to separate them. MM remembered having seen a group of people in the village of his father trying to hug the widest tree forming a human chain. It was a human chain that required about sixteen people too. And now, in order to make a circuit, the same number of beings distributing their energy was necessary. But there was a punishment for the one who was first to break the human chain. That person would be attacked with cruel, infantile jokes by the other participants. Therefore, there were always intense arguments about who had released the chain first: “coward”, “chicken” they cried! MM was fascinated by those forces and he imagined all the other kids not as flesh and blood screaming and laughing, but as batteries loaded with invisible energy and different potentiality, transmitting energy, recharging and discharging.

That afternoon the children began to gather from one end to another, usually intertwined, one girl and one boy. MM noticed the human chain was missing about three people to complete the circuit. And another kind of electricity ran through his body when he saw for the first time the woman, who years later would become his wife, waiting at the opposite end. MM ran to the other end of the line of people and extended his hand towards her. In the sky the birds swirled screaming like crazy, just to settle closely and securely beside each other on the electrical wires over their heads.

The sky was turning red, as red as the lips of the girl who was now nervously smiling in front of him. He stretched out his hand and noticed that fell a few inches short of her, but both of them were stretching tenaciously, to close the circuit. Then they saw how a plump, sweaty boy was running towards them, surely to come between them. And they stretched out as much as they could to keep that child from breaking them apart, without releasing the human chain. The other children screamed and closed their eyes with the nervous laughter of first experiences. Then, before their fingers touched, a stream of energy was released and linked their hands without making physical contact. The electricity ran through the limbs of the children that shouted in unison, a feeling of thousands of ants running across their little bodies, tickling from the fingertips to the belly until some of them even urinated. The birds that had just huddled, flew frightened, and the children looked into each others' eyes in a sort of childish ecstasy, connected by energy coming further away from the bench and the lamp post, an energy that seemed to cover the whole square, the church, the forest, the sea, the animals, energy trespassing not only space but also time and suddenly converged there, in that place, in the outstretched fingers of two children who were connected without having touched each other... Suddenly the mother of the girl came and took her by the other arm and pulled her away breaking the human chain apart, but not before receiving a small shock that made her scream! Then the other children let go of the human chain too and laughed raucously clutching their stomachs and kicking on the ground. The mother ran away with her daughter and MM and the little girl did not see each other for some years. And yet they knew that afternoon, they had formed a bond.

Every night, MM would think about the intermediate space, the room between their fingers that had joined without having touched, the unfathomable space, a bridge that divides or splits infinitely and yet unifies. The space both separated and united them. And now she was there, next to his bed in the hospital, taking his hand again and saying, 'I knew you'd come back. Love is stronger than death'.

—You've been asleep for three days —she told him.

He answered slowly — while I was jumping a special man in the audience was watching me in a distinct manner. He saw my impact and then something happened ... I cannot forget his eyes, he was carrying a camera and a notebook. I was falling so I could only see him for a short moment, a small lapse of time, a pause in my

sequence of actions and yet everything happened so slowly as if time stood still. You say it's been three days and I still feel as if I'm falling down, I cannot reach the water's surface, the surface moves further away from me, the faster I fall.

—Well, you've fallen and it's been wrong —she told him.

—No —he said— I keep falling. And as long as he is writing I will continue to fall. I found myself stuck in his book.

Several months went by before he tried to dive again. The doctors had told him not to. And he and his wife thought it was not prudent either. However, one day he was at the show. The village was holding a festival and there were more people than usual. MM, the “fifth”, silently joined his teammates and accompanied them to the top of the reef. People clapped as they watched them climb the rocks. They whistled. As MM climbed it seemed the stones were full of life, almost soft at the touch of his toes and hands that were clinging to the edge of the rocks. He felt the movement of the stones, not the movement at that time, but the geological changes which for centuries had turned those rocks into what they were now, the air, erosion, the sea. He felt the orogenic and tectosedimentary chain passing through the tips of his fingers, the sentence “craton versus orogenic movements” came to his mind. His colleagues thought he had climbed the rocks just to be there with them for a while, and they did not say anything to him, they would only smile at him and then lower their heads. But when he got to the top he took off the rest of his clothes and stood at the edge. All his fellows had already jumped and no-one was able stop him. There was a stir among the crowd. He himself was not sure if he was the one who was going to jump. On the other side of the world, the writer was describing the texture of the stones, he wrote: “craton versus orogenic movements”. MM jumped into the sea ending the show with an impressive dive. The over-excited people were screaming, cheering and shouting. As he came out of the sea, his teammates went up to him and were scornful of him:

—Why did you do that? —They said— you were forbidden to dive!

—It had been written —MM replied.

One night before going to sleep, perhaps seeking an explanation, MM went up to the cliffs alone. He used to go there alone when he felt overwhelmed by anything or just to find some peace. From the heights he watched the confused world that comforted him. At first, he felt a little dizzy due to the vast chaos of information around him, his thoughts, his memories, his wishes intertwining with information from the senses, the wind on his face, the reflections on the surface of the sea, the sound of the tide, the tidal water splashing against the base of the reef to slowly retreat licking the rocks, hundreds of sensations at the same time. The world seemed perfect because it was not human, it was a world that expressed itself independently: the rocks, the water, the clouds, matter expressing

its immanent capacity. MM initially remained oblivious and confused, watching the incomprehensible sea, a blur on the horizon. The strange waters, of an unfathomable and dark depth, urged him to join them, to be part of the whole, to melt into the liquid, to dive into the void like a little piece of butter in boiling oil. He started feeling the necessity to dive, to cross the horizon, to feel his body fused into different surroundings, to feel the resistance and accessibility when entering a new environment. Penetrating the water gave him not only the feeling of understanding, as a spectator, but also of being part of the whole, of being part of the vast sea, “a single voice for thousands of voices, a single ocean for all the drops, a single clamor of Being for all entities.”<sup>2</sup> He wanted to jump and bridge the distance, to exceed his limits and bring himself into the chaos, to stop feeling oblivious, to cease his isolation from the environment, to understand, to feel like a drop in the sea.

MM breathed and the sea salt filled his lungs, below, the sensual sea seduced him — penetrate me! —the waves whispered to him. But, before he dived he saw something floating on the sea. At first it seemed to be a big fish, or a large piece of a tree. The object remained semi-hidden by the foam of the tide, then it disappeared for a few seconds just to emerge again. To his surprise, he discovered the silhouette of a body, a human figure, facing up, his stomach inflated and shiny, and his eyes and mouth were open. It appeared to MM that the body had no eyes, and yet he felt it was looking at him, like those ancient sculptures or those church altarpieces that seem to follow one with their gaze, saying: “I know what you’ve done.” The gentle body had the arms and legs extended and seemed to move along with the water saying “come ... jump off now, come into my arms, come!” MM was intrigued and it seemed very ironic to him that a drowned body could float so easily. How useless it was to float when life had left a body! And he remembered the words of the priest in the church last Sunday: “In the beginning God created the heavens and the earth. And the earth was formless and void, and darkness was upon the face of the deep, and the Spirit of God moved upon the face of the waters...” Then he wondered if the body he was watching had anything divine, anything biblical, but then he became frightened of the idea that in the beginning of time, God was dead, resting quietly with arms open and lips parted, with an enticing attitude, yet dead. This made him think that in the beginning of time, when the Spirit of God moved upon the face of the waters, before God even articulated anything, before the first words, he had to drown. So in the beginning there was neither the verb, nor the word, but the act. In the beginning was the action.

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2. Badiou focuses his criticism of Deleuze based on this sentence from *Difference and Repetition*, p.304, cited in Badiou’s, *Deleuze: El Clamor del Ser*, p.11.



Just as MM had foreseen the previous week, they found the body. He knew that because he had caught a glimpse of it while he was diving. The essayist had written it. Every time he dived, in the wonderful release of his thoughts, in that intermediate space, those visions possessed him. There was a wound in time. A small crack in the linear continuity of human events. A connection with the essayist flowed from that wound. Since then, his companions took him seriously, the jokes stopped and an atmosphere of concern reigned. Some were afraid to ask further, fearing that he would reveal some misfortune or give them a kind of prophecy; they treated him with a certain fear.

However, the rumor spread and people kept looking for him when they wanted to know about special events. They regarded him as a sort of medium, as a channel, as an organic interface that had the ability to organize information that others did not see. He was a living contact that offered them a connection to something hidden; He was the messenger, Hermes. Therefore, he angrily defended himself trying to explain that he was not a prophet, but a victim of a bizarre literary connection. Possibly, he was only being used as a metaphor to explain certain concepts. He could not know what had happened to the sheep of Mrs. Romina, or anything about the infidelities of the bar owner, neither where the prodigal son of the Perez family was, nor who was the real father of the daughter of Mr. Ramirez.

He remembered having read something in the first chapter of that book. Humans always want to make sense of everything around them, we seek to organize our environment, understand, master, and sometimes use science and art, we use anything we find available, nature, technology, our own bodies. Where is the sense, what is the sense? He summoned up a story about how people use things to understand their environment, to communicate, the interfaces. And he remembered the story of a magical phone:

My friend Pobers, Professor of parapsychology at the University of Utrecht, was sent on a mission to the West Indies to study the role of telepathy there, often used among common people. When a woman wants to communicate with her husband or son who is away in town, she talks to a tree, and they bring her anything she has asked for. One day Pobers was present at one of those events and he asked the country woman why she addressed a tree. Her reply was surprising and led to solving the whole modern problem of our instincts being atrophied by the machines on which we rely. This, then, was the question: "why do you address a tree?" And this was the answer: "because I am poor. If I were rich I should have a Telephone."<sup>3</sup>

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3. Jean Cocteau in Valadés, *El Libro de la Imaginación*, p.53 or in *The Morning of the Magicians* by Louis Pauwels and Jacques Bergier.

MM was seen as that mysterious tree capable of communicating with people remotely. Thus the days went by. Other events followed after the floating body, some worrisome and others light and almost cheerful, depending on the mood of the writer, like the time when MM found out in a dive that the writer had mentioned that the ugly daughter of a colleague would win the village beauty contest, or that a woman would give birth to twin boys in a taxi, or that some whales would jump near the bay for hours at dusk, or that one morning it would rain fish on the main avenue.

Sometimes MM felt liberated, he thought the link or curse was over, that the writer had been bored, or had simply given up. But the interaction with the writer was like the herpes that had infected the cow owned by his friend Tulio. The virus spread or healed out of logic until they eventually put the cow to sleep. There were days when MM felt like MM, and not like “the fifth”, he felt he could act freely, enjoying free will, “the power of organic life operating in us”.<sup>4</sup>

He finally felt he fully mastered his thoughts and actions. Thus he found that there were days when he had the feeling of being randomly surprised, and that relieved him momentarily and he believed that the writer had abdicated, or even died. And he was glad for a moment, but then another idea puzzled him: what would happen if the writer died? Would he aimlessly wander in the exquisite freedom of uncertainty? Or would he be trapped forever in a tale without conclusion? But just a few days later he discovered the writer had only been paying attention to other issues. Maybe he was sick, in love, or writing another story or simply idle without working. Until one day he had another revelation while he was diving, and that night he told his wife about it:

—He will come —he said— the writer will come this winter, he wants to finish his book and he does not know how to finish it, he will come again to observe the divers, and to see if he can find the inspiration to finish his book.

MM understood that sometimes he was not only manipulated by the essayist, but he also influenced the process of the book in return. This filled him with pride and gave him some confidence. In any event, in any exercise and action, there is either damage or bilateral benefit. Every interaction is reciprocal.

—He will come again to see me dive, he will come up with some ideas to finish his book and then I shall be released. —He predicted.

The wife said — Now that you know, We must look for him immediately, we have to find him! Maybe he wants to do us a favor, write something that gives you an edge before the end of his book. Do you think you would recognize him after four years?

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4. Badiou, *Op.cit.*, p.25.

But then his wife had a bad feeling: We must find and stop him as soon as possible! Any writer who does not know how to finish their work ends up killing the protagonist! Maybe he is thinking about your death, he must be stopped! Does he know that you have a daughter and a wife? He may not even be aware of this bizarre literary relationship, you have to find him and ask him, warn him!

The Gonzalez brothers visited him the following day to ask him if he could do them a favor in their next performance, if on his next revelation he could see where their grandfather had hidden the money from an inheritance before dying and he tried to convince him by promising him part of that money. The brothers then thought that perhaps it had been a bad idea to trust this secret to MM because he could use his gift to find the money and keep it for himself. The brothers thought about making him tell the truth. But then they believed that it was actually the writer who influenced the diver. And when they realized the writer would come again, they decided to look for him and kidnap him. Thus, it was not only the Gonzalez brothers who began to search for more information about the mysterious writer. The arrival of the writer became a badly-kept secret. People began to speculate about when he would arrive, some religious women saw him as a prophet, others as a swindler who had to be punished, and others as a sign of the end of the world, and different theories about his physical features were circulating: corpulent, short, foreign, normal, they even said that he would stand out because he was very tall or because he had a third eye in the palm of his hand, or because he had the properties of a chameleon and could merge with, and get lost in its surroundings. It was said that in the morning he had one look and, in the evening a different one.

By December, a foreign crowd had arrived in the town. Festivals were held in the harbor with boats filled with offerings and flowers, street musicians, several bands playing different styles of music, accordions, drums, whistles, guiros, trumpets, playing all together until it was an unrecognizable melody, it turned into a mere bustle of instruments and car horns, whistles and barking dogs that stopped the traffic. The children were not at school and they danced in the streets to the rhythm of drums. And amid all the chaotic din the villagers were looking for the writer.

MM was concerned and he told his wife how to recognize the writer among all the tourists who would come to the bay that winter:

Not only will he take notes in a little book, but he will also try to film the show with a camera — said MM — he will say that he will use those images for an art exhibition on the other side of the world. He will also request permission from the authorities to film at sea level, as he is interested in the horizon, in the moment of contact. What will unmask him is that he will try to dive after it because he wants to be the subject of his own research. It's funny — he said — he will ask for permission to jump off the cliffs and he will say that it is for the sake of “artistic research”.

MM and his wife remained silent for a moment, and then they laughed hugging each other, it was probably the nerves. “Artistic research” they laughed out aloud, — what’s that? — “Artistic research”.

The last week of 2012 there was a big crowd at the shows of the divers on the famous bay of the Pacific. The chaos of people harassing the tourists was uncontrollable and continued to increase, even the police knew about this curious phenomenon and tried to impose order, but there were also corrupt policemen who allowed people to get away with things that were forbidden. People sold food, cheap toys, badly-made crafts, and Chinese copies of all manner of useless products on the street. All the streets leading up to the show were blocked, it was such a hot day that one could feel it even in the shade, there were slight winds with odors of sweat, hormones, sex, sweet, sour and spicy food, hot protein, fish and fried corn; the smell of sea-salt and the salt of bodies in movement attracting and repelling each other, exchanging salts. The environment crystallized. The humidity dripped through the walls. In one street a woman had to give birth in a taxi stuck in traffic: red-headed twins to the astonishment of the mulatto father! In one corner a woman saw a man passing by and stared at him —it’s him! —She cried— the seer! —And she told her son. Her son also shouted. People turned back to see the tourist, the confused man looked around, other people saw him and approached fast, the man did not understand and began to run. In a different corner, some people had found another man who had a camera, and another crowd began to follow him, the tourist was starting to panic, so he fled terrified, throwing his camera away! The show was about to begin, people jostled against one another. The authorities were thinking of canceling the show that day, two divers were afraid and did not want to participate in the show. Several tourists were mistaken for the writer, persecuted, insulted, threatened, momentarily kidnapped and even seduced!

The show begins; the divers climb the reef in front of a crowd, crazy with excitement, who were influenced by the heat of the day and the loud noises. MM’s wife attempts to reach and speak with the organizers, with the authorities, she asks them if there has been a tourist asking if he could film at sea-level and even if he could try to jump. A policeman replied that there had been several incidents, some drunks had even tried to climb the reef, it’s crazy, he said! She hurried out to look for the writer among the crowd. The first diver jumps, the people cheer, then the second one dives amid the nearly obscene noise of the screams.

The impact that the bodies made that day provoked a huge echo, the echo of bodies passing through dimensions, an endless hollow echo. The sound expanded in concentric circles through water, wind, time. Like the sound of an iceberg cracking. The bodies jump into the sea, it is now the turn of the fifth, the woman desperately searches for the writer, and when she does not see him, yells at her husband through her tears— don’t jump! MM, please do not jump...!

The sun sets on the horizon crossing the line between the sky and the sea, watching the people on the bay as the great eye of a whale oblivious to the human misery and glory. An indifferent eye. The day ends but the odors remain as mist and the sound of the divers persists and water rings expand altering the geological layers. In Gothenburg, Sweden the temperature is minus 6 degrees and the dawn approaches, people are preparing to go to work despite the snow, the news of the day is that there has been a train wreck, and a foreign woman has been killed, it is not known whether it was made by right-wing extremists or as an honor killing.

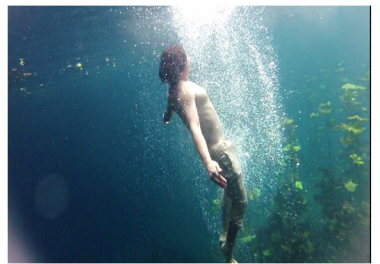
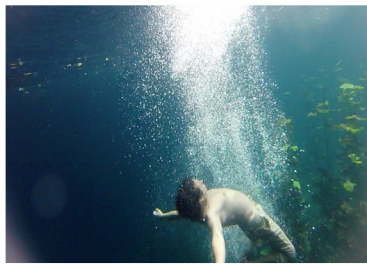
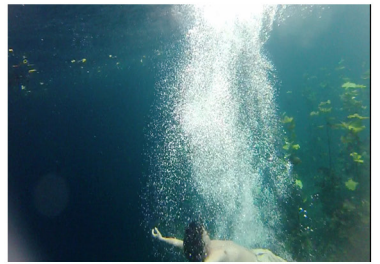
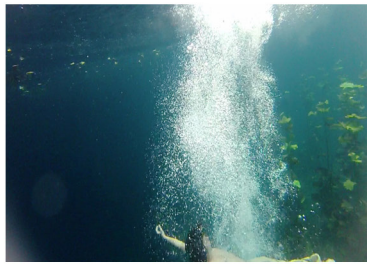
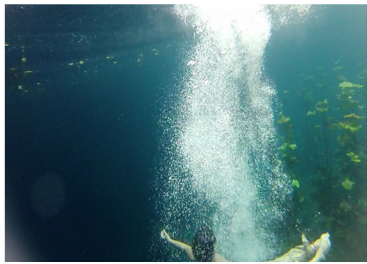
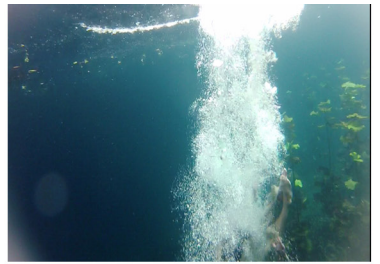
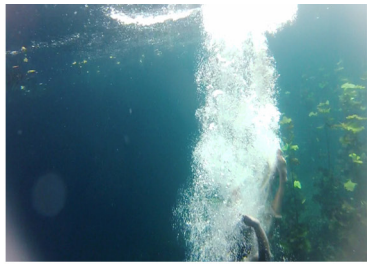
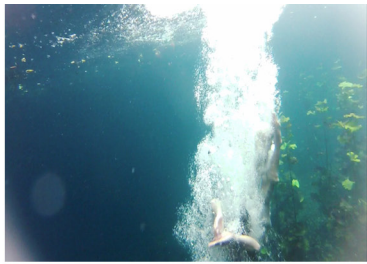
On the morning of January 12<sup>th</sup>, 2013 MM gets up and prepares to give his usual show in a bay of the Pacific. On getting up he feels lighter – not his body, but his soul. The sun is shining and sneaks through a crack in the window, the cock crows and his daughter is playing in bed. His wife is still sleeping peacefully by his side.

—It's over, he says to his wife, now I think he has finished his book. He did not kill me. I'm alive, I'm free. MM has a feeling that a great romance had ended, an immense lost love, he feels melancholic but pleased.

They never knew whether the writer (artist, crazy, researcher) really attended the show that day or not. If he tried to dive or if he filmed the show and made his exhibition.

MM eats lunch, hugs his wife and daughter, and leaves home singing. Arriving at the reef he feels a great relief and a great joy. MM remembers Cocteau's story about the magical tree used as a telephone, he thinks about interconnections and the risk or advantages of getting stuck in an interaction, he meditates about the interfaces and in the momentary pleasure of getting lost in endless repetitions, and the word *infracapes* comes to his mind. He climbs the cliff. He stands on the edge, lifts the arms, breathes deeply and dives into the emptiness, he is no longer afraid, he does not imagine another MM jumping, it is only him alone in the air, crossing the scar of time. MM alias the fifth is now free, completely free.

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**Title**  
*Infracases*

**Year**  
2013

**Place**  
Gallery Rotor<sup>1</sup>, Valand, Academy of Arts, Gothenburg

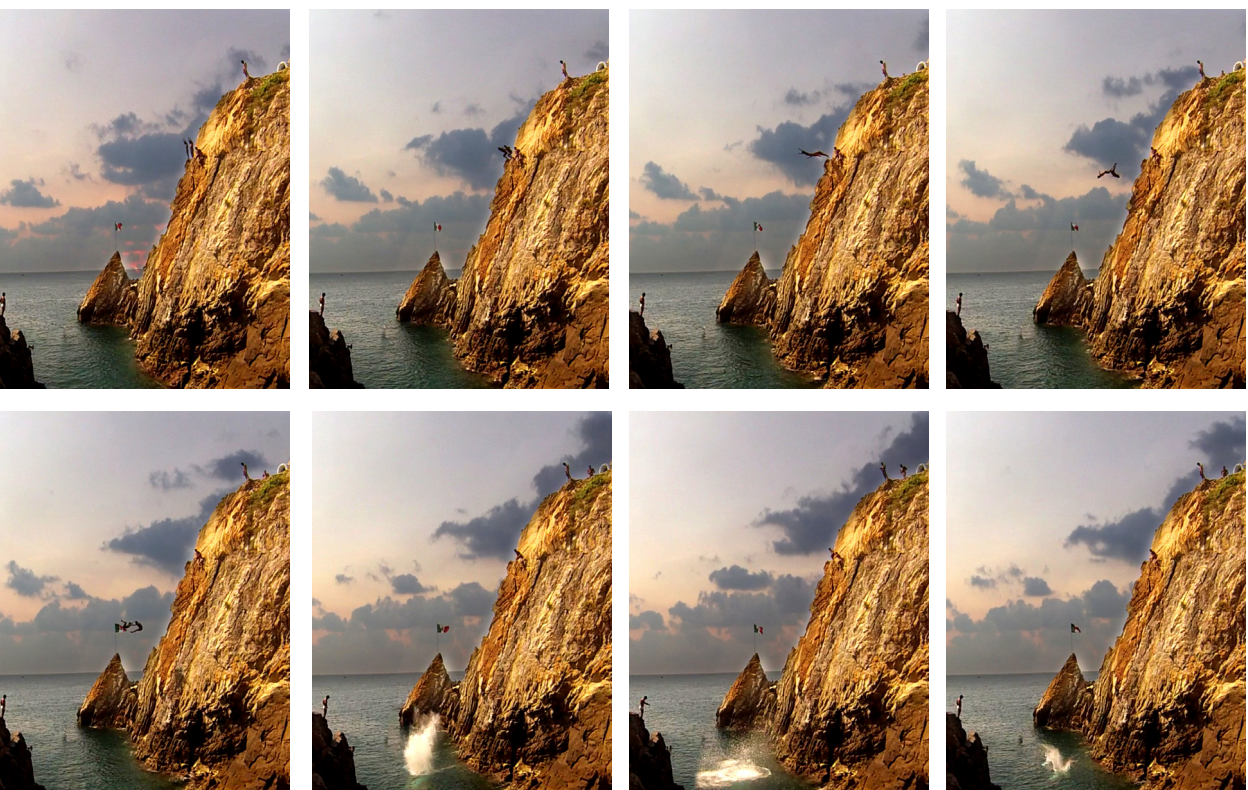
**Technique**  
Mix media, High definition video projection, Video monitors. Sound Surround 5.1

# *Infracapes*

Video installations



This fifth and final story ends with the beginning: a set of representations based on abiogenesis, a theory of water as the origin of life. I addressed this with a series of images of bodies passing through different mediums. Again, I stop and focus on the borders, horizons and on the surfaces. Though I focus on the border between water and air, it could be any boundary: the human and the technological, sense and nonsense. I am interested in the relation between elements and in the behavior of particles as they make contact with other elements, how bodies change both themselves and their environment as they cross these limits.



Action is an essential part of my artistic research, and so the last chapter was intertwined with this artistic act. I completed this project with video images filmed in the southeast of Mexico and they are part of the exhibition accompanying the thesis defence.



*Infrufaces* was completed by December 2012 and was presented in Sweden in August 2013 as a multi-channel video installation.



## Summary

Paradoxes appear in any act. These riddles are part of every practice, and arise in all areas of knowledge. In epistemology: the more we know the less we understand. They appear in logic, obviously in mathematics, in physics, or even in art, Picasso's phrase seems very relevant: "The art itself is a lie that brings us closer to the truth."<sup>1</sup> This dissertation project has been inspired by several of these paradoxes, such as the paradox of technology, and the paradox of infinite space. Thus, during this research I encounter some of those contradictions and this shapes what was to become one of the main arguments of this thesis.

I went from the design of interfaces to something beyond its rational functions. At first I focused on the developing of models of interpretation, the design of interfaces in the artistic context. But gradually, and for several reasons, this project changed: for example, the understanding that an interface could be almost everything, including our bodies, and discovering that our senses are also a technique; and of course the insight that paradoxes involve a creative potential and another form of understanding.

Everything that can help us exchange information, to control or at least understand our environment, different tools, for example, everything that we use as an interpretation system or that helps us to connect elements acts as an interface. An interface is not restricted by the design of devices in order to manage information within, or by using, technology; rather an interface exists in all cultural activity, even in the language itself.

However, in turn, an interface can contain different interfaces. At the moment of contact between two or more elements, an area of transformation is created, a line, a border, a changing space, an intermediate space; it is this space that interests me because it can be extended to include other spaces. Any physical and temporal space can be divided, extended, paused, stretched, etc. These connections form endless chains of moving definitions, and although this may lead to a paradox, this does not need to be negative. It

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1. If we say this in an ironic way we could say that the only truth in this book is that everything that is written here is false

can open up a creative possibility; this space can be exploited as something effective. The possibility of playing with the connections between these elements, rather than rejecting them because of their paradoxical changing nature, is one of the foundations of the concept I refer to as an *infraface*.

An interface can paradoxically both unite and separate us from our surroundings. This paradox can still be used helpfully in art or literature, which is something Deleuze and Borges point out in the work of Lewis Carroll. In the same manner repetitions *ad infinitum* endlessly create labyrinths that invite us to explore them again and again. These infinite spaces, as we have seen in this book, are not only created in the physical phenomena, but also in every interaction.

While an interface is aimed at a usable predictable connection, an *infraface*, on the other hand, focuses on that moment and enlarges or delays it to open up a new space. The idea of expanding a room or a moment in time to insert new narratives or actions, the thought that one space can be divided and embrace another space, a story within a story, or a time in another time, and so on *ad infinitum* is the basis of the neologism *infrafaces*, which is presented here.

*Infraface* is an artistic interpretation of the process of interactivity. It is what occurs beyond interfacing. It is the possibility to play with interconnections. *Infraface* is the opportunity to extend or delay a physical area or space in time so as to embed new stories. *Infrafacings* is a different way to develop interfaces in order to size up the inbetween spaces in an interaction to perform art. In this way art, and especially interactive art, can transform the area of contact – the interface – into a new active zone, into a zone that is alive, into an *infraface*. Thus the *infraface* creates a new intermediate space between art and the spectator, and it activates this area according to the artist's intentions.<sup>2</sup>

The five essays presented here address the issue of the interaction and play with the idea of crossing border lines towards an understanding, but sometimes stopping endlessly in the process, in these new in between spaces, even if this might be paradoxical.

The first essay is important because it demonstrates how, historically, the line between science and art is constantly changing, as is the sense. At the same time, by reaffirming that those technologies have another paradox, we develop a sense at the expense of others. Thus, our story – as we can see in the chapter *extispicia*, is a story of the technology of the interfaces,<sup>3</sup> the desire to dominate or control the outside, without realizing that in fact our history is the history of the adaptation of our perceptions to interfaces or machines.

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2. "Art, then, has a reflective virtual power; it does not only emerge from tendencies towards self-maintenance but can also takes those tendencies as its object, working to destroy the images of harmony, homeostasis and equilibrium." Colebrook, Op. cit., p.156.

3. "Recognizing that our history is itself technological", Colebrook, Op.cit., p.10.

The second story explains what *infrafaces* are, and how they are nurtured by paradoxes, and emphasizes the differences between an interface and *infrafaces*. Aristotle was probably the first to propose that space and time could be divided *ad infinitum*; and *infrafaces* take advantage of these subdivisions in order to insert new stories.

The third chapter is based on a famous chess game between a man and a computer, its intention is to open a discussion on our relation with technology. Not only do we create devices to assimilate the environment, but the environment is also expressed through us. In this way I challenged an old division between *physis* and *tekne*.

While the fourth essay is a variation of the artistic possibilities that could provide the *infrafaces*, and takes as its starting point the life of Burroughs to explain the possibilities of non-sense and how it works as a possibility of any sense. The important thing is the idea of exposing the fallacious labyrinths of reasoning.

Finally, the last chapter is an example of how I apply my concept in practice, and by using myself as a creative subject I intertwined theory with practice, and the text with the work. That is why using my creations as a self-reflecting subject gives me the opportunity to reflect upon my own practice.

As the reader will have noticed, this dissertation is not intended to propose an ontological definition of reality, nor to ignore the different solutions to paradoxes that several authors have already proposed. Paradoxes are not only evident within the technique, but also in all cultural processes that need an interface and they can help us to obtain a diverse approach of understanding.

By playing with these interconnections I discovered a new area beyond interfacing that I called *infrafaces*. *Infrafaces* suggests a new place for artistic production – an art form that diverts from functional processes and challenge our common beliefs and that has to find its own methods. In this way, this project proposes new forms of connectivity to create a different understanding of our relation to the world.

## Sumario

*Infrafaces*: Ensayos sobre la interacción artística.

Las paradojas aparecen en todo acto. Son parte de todo ejercicio e interacción, surgen en todas las áreas del conocimiento: en la epistemología (cuanto más sabemos, menos entendemos). Obviamente, también en las matemáticas, en la física, en la lógica, o incluso en el arte, la frase de Picasso nos parece muy relevante: “El arte en sí es una mentira que nos acerca a la verdad.” Este trabajo se nutre de varias de estas paradojas, como la de la tecnología o la del espacio infinito. Algunas de estas contradicciones fueron formando lo que sería el argumento de la presente tesis.

En un principio se enfocó en el diseño de interfaces, en el desarrollo de modelos de interacción en el contexto artístico, pero se pasó del diseño de las interfaces a algo más allá de sus funciones racionales y predecibles. Este proyecto fue cambiando paulatinamente por varias razones: el entendimiento de que casi todo puede funcionar o ser una interfaz (incluso nuestros organismos), reconocer que nuestros sentidos también son una técnica y, por supuesto, la reflexión de que las paradojas conllevan un potencial creativo y otra forma de entendimiento.

Todo lo que ayude a intercambiar información, a controlar o, por lo menos, a entender el entorno, o todo aquello que se use como sistemas de interpretación y que facilite la conexión entre elementos, actúa como una interfaz. Por lo tanto, una interfaz no está limitada al diseño de herramientas para manejar información con o por medio de la tecnología, sino que existe en todos los fenómenos culturales, incluso en el lenguaje. Sin embargo, una interfaz puede contener otras interfaces y estas, a su vez, incluir aún más. Esta paradójica repetición *ad infinitum* puede crear interminables laberintos que nos invitan a explorarlos una y otra vez. Los espacios intermedios e infinitos, como hemos visto, no solo son creados en el mundo físico, sino que ocurren en toda interacción. En el contacto entre dos o más elementos se crea un área de transformación, una línea, una frontera, un espacio cambiante y de intercambio. Es precisamente este espacio el que nos interesa, porque puede ser extendido e incluir nuevos espacios. Todo espacio físico o temporal puede ser manipulado, dividido, extendido, alargado, etc. Estos lugares interconectados entre los elementos forman a su vez, al ser

transformados, interminables cadenas de definiciones cambiantes, y aunque ello pueda llevarnos a otra paradoja, no tiene que ser necesariamente negativo. Este espacio puede ser expropiado por el arte y abrir una oportunidad creativa. La posibilidad de jugar con las conexiones entre estos elementos – en lugar de rechazarlos por su naturaleza cambiante y paradójica – es uno de los fundamentos principales del concepto al que se denominó *infrafaz*.

La *infrafaz* es una interpretación artística de los procesos de interactividad. Es lo que ocurre más allá de la creación de las interfaces. Las *infrafaces* tienen la habilidad de extender o retrasar un área física o temporal para incluir nuevas historias. Crear *infrafaces* es una manera diferente de crear interfaces para apoderarnos de los espacios intermedios en una interacción. De esta manera, y especialmente en el arte interactivo, se puede transformar una zona de contacto – una interfaz – en una nueva zona activa, en una zona viva, en definitiva, en una *infrafaz*. Las *infrafaces* crean nuevos espacios intermedios entre el espectador y el arte, y vinculan esta zona de acuerdo a las intenciones del artista. La idea de expandir el tiempo o el espacio para insertar nuevas narrativas es la base del neologismo aquí presentado: *la infrafaz*.

Mientras que una interfaz se preocupa por establecer una conexión funcional y previsible, una *infrafaz*, por el contrario, se concentra en el momento de interacción para extenderlo o retrasarlo. Asimismo, paradójicamente, una interfaz puede tanto unirnos como separarnos de nuestro entorno, lo que permite a su vez utilizar provechosamente dicha relación en los campos artísticos.<sup>1</sup> Tal como señalan Deleuze o Borges acerca del trabajo de Lewis Carroll.

Los cinco ensayos presentados en la tesis se desarrollan en estos nuevos espacios intermedios, abordan el tema de la interacción y juegan con la idea de atravesar líneas hacia un entendimiento, aunque a veces se detengan infinitamente en el proceso:

El primer capítulo es importante porque demuestra cómo la línea entre la ciencia y el arte, en el devenir de la historia, cambia constantemente, se desliza, al igual que hace el sentido. De la misma manera se reafirma que las tecnologías conllevan una paradoja: desarrollamos un sentido a costa de otros. Así, nuestra historia es la historia de la tecnología y de las interfaces, el deseo de entender y dominar nuestro entorno, sin darnos cuenta de que en realidad, dicha historia es la de la adaptación de nuestros sentidos a las máquinas e interfaces.

El segundo ensayo explica qué son las *infrafaces* y cómo estas se nutren de las paradojas, resaltando la diferencia entre una *infrafaz* y una interfaz. Aristóteles fue probablemente el primero que propuso que el espacio y el tiempo podían ser divididos *ad infinitum*, y las *infrafaces* se aprovechan de los referidos espacios intermedios para insertar nuevas historias.

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1. “El arte tiene un poder virtual de reflexión; no solo emerge de tendencias hacia el automantenimiento, sino que también puede tomar estas tendencias como sus objetos, trabajando por destruir las imágenes de armonía, homeostasis y equilibrio”. Colebrook, op. cit., p. 156.

El tercer capítulo está basado en una famosa partida de ajedrez disputada en 1997 entre un hombre y una computadora. Su intención es la de abrir una discusión sobre nuestra relación con la tecnología. No solo creamos cosas para asimilar el entorno; también el entorno se expresa a través de nosotros. De este modo se cuestiona la antigua división entre la *physis* y el *tekné*.

El cuarto ensayo es una variación de las posibilidades artísticas de las *infrafaces* y toma como punto de partida un suceso en la vida del escritor William Burroughs para explicar las potencialidades del sinsentido y cómo este sirve de posibilidad de todo sentido. Lo importante es la idea de exponer y jugar con los falsos laberintos de la razón.

El último capítulo es un buen ejemplo del modo de aplicar el mencionado concepto en la práctica, y de cómo al ponernos a nosotros mismos como sujeto creativo se entrelaza la práctica con la teoría, el texto con la obra de arte.

Como el lector ya habrá notado, esta tesis no pretende proponer una definición ontológica de la realidad, ni tampoco ignorar las diferentes soluciones que varios autores han propuesto para resolver las paradojas.

Estas últimas no solo son evidentes en la tecnología, sino en todo proceso cultural que requiere una interfaz, y pueden ayudarnos a obtener un acercamiento distinto al conocimiento.

Al jugar con las conexiones en los sistemas interactivos se descubrió un área más allá de la creación de las interfaces, a la que se denominó *infrafaces*, las cuales proponen un espacio nuevo para la realización del arte. Un arte que se resiste a ser explicado utilizando procesos funcionales y cuestiona nuestros sentidos y conocimientos habituales, por lo que tiene que encontrar sus propios métodos. De esta manera el presente proyecto propone nuevas formas de vincularnos para crear un entendimiento distinto sobre la manera en que nos relacionamos unos con otros y con el mundo.

## Sammanfattning

Paradoxer förekommer i varje handling. De är en del av varje praktik och uppstår i alla kunskapsområden. Så även i kunskapsteorin – ju mer vi vet desto mindre förstår vi. De förekommer i logik, matematik, fysik och till och med inom konst. Picassos ord verkar mycket relevanta: “Konst är en lögn som får oss att inse sanningen”. Detta avhandlingsprojekt har inspirerats av sådana paradoxer som teknikens paradox och paradoxen om den oändliga rymden. Under min forskning har jag mött några av dessa motsägelser och de har starkt påverkat den centrala argumentationen i denna avhandling.

Jag gick från designen av gränssnitt till något som låg bortom den vanliga koncentrationen på snittets logiska funktioner. Till en början fokuserade jag på utformningen av gränssnitt och utvecklingen av modeller för tolkning i ett konstnärligt sammanhang. Men så småningom ändrades detta projekt. Det fanns flera skäl. Vid närmare betraktelse kan, till exempel, ett gränssnitt vara nästan vad som helst –inklusive våra kroppar. Våra sinnen kan ses som en form av teknik. Gradvis växte också övertygelsen fram att paradoxer bär på en kreativ potential och kan aktualisera andra former av förståelse än den funktionella.

Allt som kan hjälpa oss att utbyta information, kontrollera eller förstå vår omgivning, liksom allt vi använder som en tolkningsram och för att kommunicera, kan fungera som ett gränssnitt. ”Gränssnitt” handlar inte bara om utformning av specifik teknisk apparatur. Det finns gränssnitt i alla kulturella fenomen, även i själva språket.

Men ett gränssnitt kan, i sin tur, innehålla ytterligare gränssnitt. När det uppstår kontakt mellan två eller flera element skapas ett omvandlingsområde – en linje, en gräns, ett mellanliggande och föränderligt utrymme. Det är detta utrymme som intresserar mig eftersom det kan visas omfatta dolda utrymmen. Varje fysisk och tidsmässig rymd kan delas upp, utvidgas, pausas, sträckas ut. Dessa nya utrymmen bildar oändliga öppningar för att introducera rörlighet i våra definitioner. Även om detta kan leda till en paradox, behöver det inte vara negativt. Det kan öppna en kreativ möjlighet, ett utrymme som kan utnyttjas praktiskt och konstnärligt. Möjligheten att leka med förbindelserna mellan dessa nya element och utrymmen – i stället för att avvisa dem på grund av deras paradoxala natur – är en av grunderna till begreppet *Infraface*.

Ett gränssnitt kan, paradoxalt nog, både förena och skilja oss från vår omgivning. Men denna paradox kan ändå ha en viktig funktion i konst eller litteratur. Både Deleuze eller Borges har pekat på detta inslag i Lewis Carrolls arbete. På samma sätt skapar upprepningar *ad infinitum* oändliga labyrinter som inbjuder oss att utforska dem om och om igen. Dessa oändliga utrymmen skapas inte bara i de fysikaliska fenomenen utan även i varje interaktion.

Medan ett gränssnitt eller interface syftar till en funktionell logisk förbindelse, fokuserar ett *infracface* på kontaktögonblicket och förstorar eller fördröjer denna så att en ny plats kan framträda. Idén att expandera ett rum eller ett ögonblick i tiden för att infoga nya berättelser; idén att en plats kan delas upp och omfatta ett annat utrymme, en berättelse i en berättelse, en tid i en annan tid; idén att en sådan delbarhet är essentiellt oändlig – dessa idéer utgör grunden för den neologism ”*Infracface*” som här presenteras.

Infracface är en konstnärlig tolkning av den interaktiva processen. Det är vad som möjliggörs inom ett gränssnitts oändliga delbarhet. Det är möjligheten att leka med nya sammankopplingar, liksom möjligheten att förlänga ett fysiskt område eller fördröja ett utrymme i tid så att nya berättelser får utrymme. Infracfacing är ett annorlunda sätt att utveckla gränssnitt och syftar till annektera ännu obrukade utrymmen inom en kontaktyta. På detta sätt kan konst, och i synnerhet interaktiv konst, förvandla ett kontaktområde – gränssnittet – till en ny aktiv zon, en levande zon, inom ramen för ett infracface. Således skapar infracface också ett nytt mellanrum mellan konst och åskådaren och aktiverar detta område enligt konstnärens intentioner.

Avhandlingens fem essäer ger fem olika infallsvinklar på fenomenet *infracface*. Essäernas innehåll är som följer

Den första essän visar hur gränsen mellan vetenskap och konst ständigt förändras genom historien. Samtidigt bekräftas att teknisk utveckling är paradoxal – vi utvecklar ett sinnesintryck på bekostnad av andra. Essän är en historisk berättelse om teknikens gränssnitt, om hur teknik uttrycker en önskan att kontrollera omgivningen. Den handlar också om hur svårt det kan vara att inifrån processen inse hur våra perceptioner själva gradvis anpassas till våra gränssnitt under loppet av historien.

Den andra essän förklarar vad *Infracfaces* är och hur de får näring av paradoxer. Den betonar skillnaderna mellan ett interface och ett *infracface*. Xenons paradoxer bygger på föreställningen att tid och rum kan delas *ad infinitum* och *infracfaces* dra nytta av dessa uppdelningar för att infoga nya berättelser. Det viktigaste här är idén att paradoxer kan ses som kreativa utrymmen och inte bara oönskade och vilseledande labyrinter.

Den tredje essän visar en variant av de konstnärliga möjligheter som *infracfaces* erbjuder och tar sin utgångspunkt i en händelse i Burroughs liv. Syftet är att förklara möjligheten för nonsens att ha mening. Meningslöshet ingår bland premisserna i skapandet av mening.



Den fjärde essän är baserad på ett känt schackspel mellan en man och en dator och dess avsikt är att öppna en diskussion om vår relation till teknik. Vi kan inte skapa anordningar för att införliva naturen utan att samtidigt uppmärksamma hur naturen uttrycks genom oss. På det sättet utmanade jag en gammal uppdelning mellan *physis* och *tekné*.

Slutligen är den sista essän ett exempel på hur jag tillämpar mitt koncept i praktiken och genom att använda mig själv som ett kreativt subjekt sammanflätade jag teori med praktik, texten med det konstnärliga arbetet. Tanken att våra skapelser är reflekterande föremål ger mig möjligheten att reflektera över min egen praxis.

Läsaren kommer att inse att denna avhandling inte är avsedd att föreslå en ontologisk definition av verkligheten och den vill heller inte förneka de lösningar för olika paradoxer som flera författare redan har föreslagit. Men den vill framhäva att paradoxer faktiskt existerar såväl inom tekniken som inom alla kulturella processer som behöver ett gränssnitt. Genom att leka med sammankopplingar i interaktiva system upptäckte jag hur det finns ett oändligt utrymme för *infracface* inom varje gränssnitt. *Infracfaces* föreslår en ny plats för konstnärlig produktion – en konstform som utmanar den funktionella förståelse som gränssnitt brukar behandlas med. Detta är en konst som måste hitta sina egna metoder, en konst som inte låter sig förstås av ett förnuft som fruktar det paradoxala.

2007  
October



Gallery 300m3.  
Gothenburg, Sweden  
Three art works.  
Installation, video, mix media.

2010  
October



Gallery Konstepidemin.  
Gothenburg, Sweden  
Interactive video installation.

2013  
August



Gallery Rotor 1.  
Gothenburg, Sweden  
Video installations.





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EXHIBITIONS



These exhibitions were presented in Sweden as a part of this research project.

An online documentation of these works can be seen at:

<http://vimeo.com/tepez>

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- 2010 Apple releases iPhone 4 p.21
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2060

2013

1997

1920

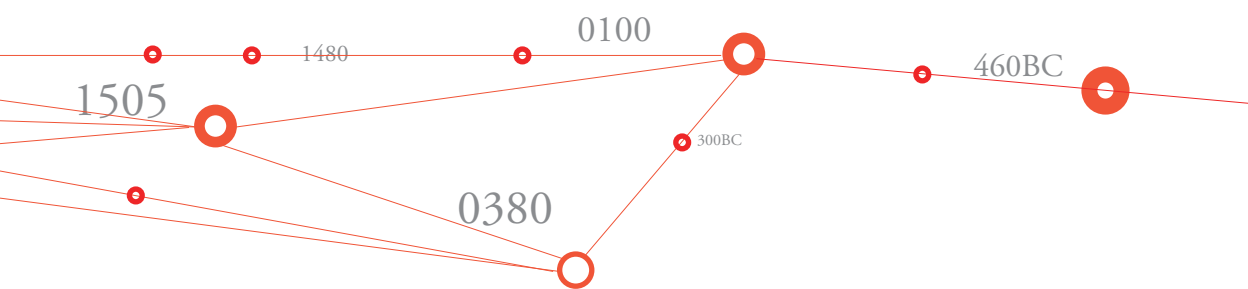
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3,9 billion years

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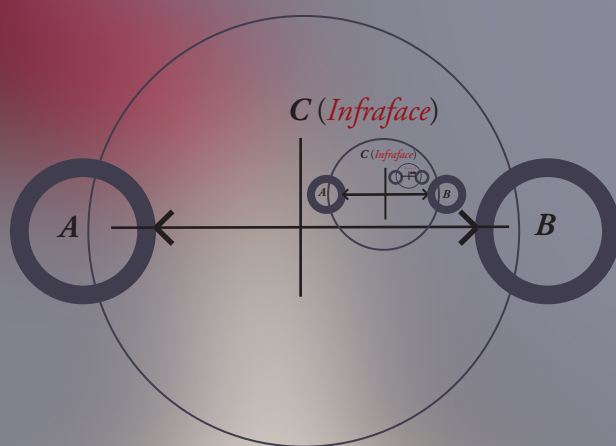
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This thesis, *Infrafaces*, is about interactivity and analyzes what is happening at the exact moment of contact and information exchange when two or more elements connect. The thesis consists of five essays intertwined with interactive works of art where the author was the subject of his own artistic research. It states that in any interaction a new place arises, but this place is paradoxical in the sense that it both separates and unifies and it can be extended *ad finitum*. This artistic interpretation of the process of interactivity is what is called the *infrafaces*. *Infraface* is an artistic interpretation of the process of interactivity. It is what occurs beyond interfacing. In this manner this essay seeks to encourage a different understanding of our environment by means of interaction.

Marco Muñoz, also known as Tepez, was born in Mexico City where he completed his education in Visual Communication at the National Academy of Arts. Presently, M M T lives and work as an artist in Gothenburg and Mexico City. Tepez works and experiments mainly with interactive installations and video projections.

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