

Remember you will [not] die:
Mortality versus immortality
in a world of patterns and randomness

by
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Remember you will [not] die

Master of Design, 2015

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Interdisciplinary Master's in Art, Media and Design

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Abstract

This project seeks to explore our perception of death, mortality, mourning processes and death-related rituals within the online world. I specifically look at the Social Network site Facebook as a case study. I argue that new media - such as digital technology like the Internet - is transforming the way we see ourselves and the world, affecting our perception of death and death-related aspects, yet not replacing offline practices. My exploration takes Katherine Hayles' notion of pattern/randomness as the key theoretical axis and lens of my research.

I strengthen my argument by creating a fictional future scenario situated ten years from now in a Western developed cultural context (i.e. Toronto), where trends of online practices are exaggerated. My studio work, in this scenario, are mourning pieces. It takes the form of wearable technology products that convey Facebook data of a deceased user, and are meant to be used by the bereaved. However, I have created these products from a critical design perspective, wherein products work as commentary, provocation to the public and a way to open up discussion on the topic.

This thesis project is interdisciplinary in content and form, looking at and exploring fields such as critical theory, philosophy, social science, critical design, various design practices and advertising.

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Dedication

To my grandma,

For reminding me that memories never die.

Rosa Anaya

1926 - 1990

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Preface

I have always had issues with death. And yes, with mourning as well. I know most people may have asked themselves existential questions at some point in their lives, but I began early on in, and those questions seem to have followed me until now. They became my greatest anxiety, or perhaps I should say my greatest curiosity.

When I was about six years old my grandma died. I did not know what it means to die. I come from a Catholic family, therefore dying (in my parents' words to six-year-old me) meant going to Heaven. Of course, I asked myself, how did she go up there? I was not buying that story. I was not allowed to go to the funeral. I never saw her dead, I never said goodbye, but I had to understand she was gone. It became a long process; and death, an unresolved question and my worst fear. I have tried to convince myself my parents were right; we all go somewhere better when we die, but I actually never could. I know my parents were teaching me what they believe, but I needed more logical answers.

It is not my intention to write a thesis about religion, nor arguments specifically against Catholicism, but I consider it important to explain my undefined spiritual beliefs before continuing. Despite being born and raised in Lima (Peru) wherein Catholic and Christian presences are pretty relevant; despite having attended Catholic school; and despite attending a Catholic university, I have never considered myself too religious. I believe there is something or someone else more powerful than me, a God. I talk to him or her in my head and (ego apart) it is a one-to-one relationship that has worked pretty well so far. However, I have never been able to fully connect myself with almost any Catholic ritual, practice or belief. In terms of death, I have always been immersed in this belief in celestial afterlife, but to me seemed to be a panacea. Really, where do we go when we die? Nobody knows for certain. How are they all sure our souls have eternal life beyond our life on earth? Do we have

souls? I really don't know. Despite what may or may not happen after life, death seems like an actual end, and mourning like losing my breath without dying. How can I deal with an end that I do not even understand? How can I come to understand that I will not see someone ever again? How can I be convinced that what my parents told me 25 years ago is true? I could not then, and I still cannot now. Expressing thoughts such as these out loud in a Catholic setting makes one feel awkward and weird, so I have always kept my spiritual beliefs and (perhaps strange) thoughts about death, to myself somewhere locked in the back of my mind.

Luckily, I did not have to deal with many deaths of close friends or family for a long time after my grandmother's, and skipped almost every funeral I could. It was not until a few years ago that within a short time frame three close relatives died. Whether expected or unexpected, their deaths put me in a position to face my avoidance: thinking about death (theirs, mine, others...) and of course, mourning. I did not skip any of their funerals, I followed all the religious and non-religious traditions my family wanted to participate in. Nothing helped, actually the mourning process got more difficult.

In my attempt to rid myself of any sadness or pain, I said goodbye to them by writing a message on my Facebook wall, even though two of them did not have Facebook accounts. It didn't matter anyway. Curiously, some relatives did the same thing. A few months later, I realized people were still posting on my deceased uncle's Facebook wall. I found it creepy and invasive. I was in the middle of a mourning process and the Facebook posts seemed to be pulling me back into previous stages of mourning, when I was trying to move forward. Later, a friend from university died and people posted goodbye messages on her Facebook wall as well. At first it seemed reasonable, she died young, I thought. Strangely those activities continued week after week, and even for months. As time passed, I became increasingly more fascinated and curious about this sort of phenomena. I started researching

the topic-just informally on Google. I found apps and sites for people's online afterlives, Facebook's memorial page, blogs... I felt I was discovering a whole new field for me, and somehow talking about death (at least this time) did not seem wrong nor scary. However, I did not quite know how to approach the topic properly. I did not want to assume or draw conclusions based on people's behavior on Facebook.

Attempting to expand my practice as a graphic and web designer, I entered into the MDes program with the intention to explore people's online behavior in relation to death. At first, I did not know where I stood on the topic, nor did I have a theoretical framework. I began exploring texts related to death and mourning from critical theory, social science, and new media sources. Although my theoretical research broadened my perspective on the topic, my studio practice remained ingrained with a commercial perspective of design. With my commercial design lens, my instinctive response was to attempt to create a solution to mourning but I realized that the problem is quite complex, and secondly very individual. Eventually, I came upon the field of critical design through publications and works by Anthony Dunne and Fiona Raby, and Julian Bleeker, who utilize design as a critique and a way to open up discussion around consumer technology. Their respective practices helped me see my project needed a similar perspective. I wanted to create a provocation that could open up conversation in regards to death, mortality and the mourning process on current information technologies such as Facebook, and even raise more questions. Critical design became an alternative for me, to discursively explore, and convey my argument in my studio work.

Katherine Hayles' book *How We Became Posthuman* provided me with a new perspective on people's behavior in regards to new information technologies. Her view on the cybernetic posthuman provided me with a critical perspective, letting me see the pros and cons of this new construction of the self. Furthermore, I was struck by her notion of

pattern/randomness, wherein she attributes a cultural and social analysis to a relatively new finding about patterns and randomness in Information theory. Her approaches to posthumanism provided me with the critical lens I needed for my thesis project; therefore, I have decided to utilize Hayles' perspective on posthumanism as the main source of my theoretical framework. Furthermore, within the umbrella of new information technologies, I focus on Social Network sites, in which I specifically analyze Facebook users' behaviors towards death, mortality and mourning processes through Hayles' notion of pattern/randomness, and work with wearable technology pieces through which to discuss the thesis topic. The final design pieces of this project function as a form of commentary on this topic and a provocation to Facebook users, including myself.

PART I

1. Introduction

Exploring topics such as death, mortality and mourning is a complex task. Each definition, construction or attribution is valid, yet not determinant. In this project, I have attempted to bring to the debate different perspectives and positions from disciplines such as philosophy, social sciences, critical theory and theology, in order to work through disciplines such as critical design, speculative design, foresight and innovation, and advertising; for contributing with a new approach to this vast field.

The field of new information technologies (IT) is also broad; however, this project focuses on Social Network sites (SNS), wherein I am giving special attention to Facebook as a case study. Furthermore, I complement the technological side of this research by including wearable technology as part of my studio work, working as hardware for SNS's data to be displayed and conveyed.

The thesis document is organized in two main parts each including a set of sections. Part 1 (sections 1-3) focuses mainly on the theoretical research; while Part 2 (sections 4-8) centers on my own practice and analysis.

The first section includes following subsections: the theoretical framework I have utilized for this project; the objectives I intend to achieve; and the methodology I have applied to this research study. The second section contains the literature review. It is organized in two main subsections: the first subsection provides context and background in terms of the posthuman and the notion of pattern/randomness. It includes a brief introduction to the posthuman, followed by different approaches to define the posthuman; which serve not only to see the big picture of this field, but also to explain why Hayles' perspective on the posthuman is a good fit for my project. The second subsection of the

literature review refers to the key categories I came across throughout my research. In the first category of the second subsection, called Death and mortality, I seek to differentiate and define both terms, by bringing to the discussion different approaches, specifically confronting an existentialist Heideggerian perspective with beliefs in spiritual and technological transcendence. In this section I also introduce a reinterpretation of death through Social Network Sites supported by but also confronted with Hayles' ideas. The second category of the literature review, Notions of immortality, includes types of immortality constructed in history along with personal viewpoints based on formal sources of the immortality of data and the immortality of data in Social Network sites. The third category provides different perspectives on Technomysticism, a term I have adopted from Erik Davis' book *Techgnosis*. Finally, the fourth category refers to practices and manifestations towards death: places, rituals and objects in relation to death. The third subsection provides a brief definition of wearable technology, why I chose it as a medium for my project and how my practice in this field begins.

The second part begins with section four, called Facebook analysis, wherein I analyse Facebook through Hayles' notion of patterns and randomness, in regards to users' behavior towards death, mortality and mourning. Section five is an explanation of my early studio work, along with references from artists and designers as sources of inspiration and reflection, and a workshop I attended during this masters program. Here I call early work to all the studio work that does not belong to the collection *Remember you will [not] die*, but has been part of the design-art process. The sixth section focuses on the Speculative Design Foresight methodology, in which I have adopted and combined foresight and innovation methods and techniques, in order to create a future fictional scenario where my final collection is situated. The seventh section provides a critical explanation of each design piece included in the final collection along with the fictional launch of the design pieces (the

final exhibition). And finally, the eighth section provides the future directions I could follow after this project, and the discussion and conclusion of this thesis project.

1.1. Research Questions

- How are the concepts of death and mortality perceived when new information technologies open up the possibility of the immortality of data?
- How and why are new information technologies such as Social Media changing the way(s) we mourn?
- How can death in Social Media be read through Katherine Hayles' notion of pattern and randomness?

1.2. Theoretical Framework

The theoretical framework of this project is based on Katherine Hayles' perspective on the cybernetic posthuman explored in the second chapter of her book *How We Became Posthuman*, titled *Virtual Bodies and Flickering Signifiers*. I place her notion of pattern/randomness at the basis of the theoretical discussion of this thesis project. I have considered Hayles' perspective on posthumanism as the axis of this project because it provides a critical view the posthuman and seeks primarily to open up discussion on it, rather than taking a positive or negative position against the relationship between information technologies and human beings.

Hayles' view of the posthuman¹ takes to an understanding of the individual as a set of informational patterns; an individual who sees him/herself, life, and the world it lives in

¹ For a more detailed explanation of Hayles' concept of posthuman please see *The Posthuman* in the Literature review, section Context and background.

through patterns and randomness; a qualitative yet cultural perspective she attributes to the latest definition of information in Information theory. I question then, if the construction of the self has changed as well as its perception of life, how does the cybernetic posthuman perceive death, mortality and mourning? To begin to understand this question and its implications, I am analyzing Facebook as a case study through Hayles' notion of pattern/randomness.

1.3. Methodology

In this project, I have worked through the combination of a set of methods as guidelines for my studio practice, along with constant review of theoretical sources, and artists and designers' references. I have organized the set of methods into categories according to their specific purposes:

- **Design methods:**

This project is constructed through the lens of critical design; which aims to present questions instead of focusing on solving a problem. In this sense, critical design seeks to open up discussion, propose a commentary or even create a provocation through design; often in relation to consumer culture. Therefore critical design is usually situated between art and design. Congruently I have adopted interdisciplinary methods of practice-led research in both fields: art and design. I have worked through my own studio practice not only by designing and making my own pieces but also by reflecting on theoretical sources and on other artists' and designers' works. This method has led me to combine my own intuition with rational thinking (Sullivan, 65), what I consider a mix of creativity, spontaneity, and reflection. The purpose of using this method is to open up the possibility of unexpected

outcomes and reflections. Though this is a design project, the design work seeks to bring up discussion, to test hypotheses on people's behavior and to interrogate ideas.

- **Speculative Design Foresight:**

I have adopted foresight and innovation techniques to create a fictional scenario three years from now, where the final design pieces would exist. This combination of methods was utilized specifically for the development of the final pieces of this thesis project, working in tandem with the design and user experience methods. The techniques I have included are environmental scanning, and scenario planning and development. The two techniques are complementary and subsequent: First, environmental scanning or scanning refers to the observing, examining and describing the context in which the actor is involved (Georghiou, Harper, Keenan, Miles and Popper, 59). Since this project uses Facebook as a case study, the actor in focus is the Facebook user. In this sense, this technique allows me to determine trends, drivers and signals in relation to the Social Media and Internet usage. Second, scenario planning and development is based on creating plausible futures about a specific issue or context (in this case Facebook users in terms of death, mortality and mourning). I utilize the trends, drivers, and signals determined in the previous method in order to determine two key uncertainties that when crossed create four plausible scenarios. Due the timeframe of this project, I focus on developing specifically one of the four scenarios.

- **User experience methods:**

Though the final pieces are my own commentary, response and provocation towards the project's focus, I decided to present them as consumer products in order to reinforce my argument. Therefore, I have applied user experience methods to have a better understanding

about the relationship between the devices and death. The methods include prototyping, user testing and user interviews.

2. Literature review

2.1. Content and background

This section provides an introduction to the concept of posthuman, different approaches and perceptions of the posthuman and an overview of the characteristics of Hayles' notion of pattern/randomness.

- **Introduction to the posthuman**

The cybernetic posthuman,² accordingly to Katherine Hayles, has its foundations around 1940, when scholars and researchers began to wonder if the human mind could be transferred to a machine. Norbert Wiener,³ for instance, expressed that it was theoretically possible to transport a human being through a telegraph (Hayles, 1); and Alan Turing devised the first electronic computer when willing to prove if a machine could exceed the human mind (Gleick, 208). Around that time, Wiener, along with a group of researchers began to establish the discipline of cybernetics. As the science that studies the control systems, communication and comparisons between artificial and biological systems (O'Mahony, 11), “[it] is based on the theory that intelligent living beings adapt to their environments and accomplish objectives primarily by reacting to feedback from their surroundings” (Kurzweil, 301). Cybernetics explores, for instance, how human beings and computers would interact at the same level within the same context and rules.

² The cybernetic posthuman refers to the perception of the self as information. I explain its meaning in detail from Hayles' view in the next category (*the posthuman*) of this chapter

³ The father of cybernetics years later.

In 1950, Turing developed a test called the Turing test, wherein individuals were challenged to determine if they were talking with a computer or another human being. The test works as follows:

A human 'judge' interviews the (computer) system, and one or more human 'foils' over terminal lines (by typing messages). Both the computer and the human foil(s) try to convince the human judge of their humanness. If the human judge is unable to distinguish the computer from the human foil(s), then the computer is considered to have demonstrated human-level intelligence. (Kurzweil, 313)

So far computers have the capacity to embody some aspects of human intelligence such as the capacity for memory writing and the ability to determine some medical conditions (Kurzweil, 3), yet electronic computers have not achieved more subtle tasks humans can, like summarizing a movie (Kurzweil, 2). The importance of the Turing test, however, does not rely on computers achieving human subtleties nor on discovering who is on the other side (whether a human or a machine), but how technology is mediating the production of identity, which is no longer separated from the individual. The question of who can think and what can think becomes the same for the machine as for the human being.

When the test puts you into a cybernetic circuit that splices your will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces. As you gaze at the flickering signifiers scrolling down the computer screens, no matter what identifications you assign to the embodied entities that you cannot see, you have already become posthuman. (Hayles, xiv)

Hayles' notion of flickering signifiers is a reformulation of Jacques Lacan's notion of floating signifiers in regards to the elements of the sign. Lacan reformulated Ferdinand Saussure's work on the sign, when the latter suggests that the elements making up the sign (a signifier and a signified) are interdependent. Instead, Lacan states that the signifier produces the signified, being the first (signifier) prior to the latter (signified). Lacan also argues that there is no unique signifier per signified, instead there are floating signifiers, signifiers without any referent. Furthermore, for Lacan, language is not a code, but as Hayles states, for electronic

computers' language is a code (30). Lacan's thoughts, of course, were never formulated under any electronic media but rather print-based, which is explained in the following example:

Typewriter keys are directly proportionate to the script they produce. One keystroke yields one letter, and striking the key harder produces a darker letter. The system lends itself to a signification model that links signifier to signified in direct correspondence, for there is a one-to-one relation between the key and the letter it produces. (Hayles, 26)

Hayles' flickering signifier, instead, is flickering because it is under constant transformation between the person and the computer. What one types on the computer, it is read by the computer as binary code; and inversely, what the computer conveys as code, we read it as images representing text. Therefore, a signifier could be a signified in itself at a different stage (Hayles, 31). How does this relate to the posthuman? Signification is how one reads the world, and therefore how the self is perceived. If nowadays one is constantly interacting with computers and therefore reading the world through flickering signifiers; what happened to the self after the electronic computer? Or, to be more precise, who (or what) has the self become? The posthuman, Hayles would state.

- **The posthuman**

At a café a block from my home, almost everyone is on a computer or smartphone as they drink their coffee. These people are not my friends, yet somehow I miss their presence
Sherry Turkle, *Alone Together* (2012)

The posthuman is not a new biological organism, but rather a new cultural construction of the self that emerges as a consequence of the interaction between human beings and new information technologies, especially since the invention of the electronic computer. It is often said, however, that technological advancements might develop new

⁴ Here, Hayles refers to "word processing"

⁵ Throughout this research project references towards individuals, subjects, self construction and so on, refers to the construction of the self within western cultures.

⁶ The origin of the posthuman may alter from one author to another. For this project, I apply Hayles' view.

living species in the future, such as hybrid human-machines or intelligent machines surpassing even human subtleties. Debates surrounding the intimate yet intricate relationship between humans and new information technologies; their social, psychological and political implications; and speculations about the future of technological advancements leads us to question what is it to be a human in these times.

Inquiries in regards to the posthuman, especially what is to be posthuman, have been at debate across disciplines in the last six decades; the discourse became more intense in the 90's when Donna Haraway published her book *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991). Haraway does not include the term posthuman but establishes the discourse through the notion of the cyborg. She argues that the cyborg, a half machine half organism creature, has broken three key boundaries that used to define human: the boundary between human and animal; the boundary between animal-human and machines; and the boundary between physical and non-physical (Haraway, 151-153). Haraway's notion of the cyborg changed the discourse from a negative perspective of the technological future to a positive one, wherein intelligent machines and new technologies could benefit humanity. This construction of a hybrid subject not completely biological yet not a complete machine (later termed posthuman) emphasized the idea that the human being had lost its centric position unlike in liberal times (Pepperell in Gane, 432), wherein the individual's importance relied on freedom of the self based on one's self-consciousness, agency and mind.⁷

Scholars, scientists, and researchers, among others, have taken different perspectives and positions towards the posthuman.⁸ Scientists such as Ray Kurzweil and Hans Moravec, for instance, take a more radical yet enthusiastic perspective of

⁷ More details on the liberal human found on page 21, second paragraph.

⁸ Therefore the term *posthuman* and its origins might vary from one author to another.

posthumanism that supports and pursues the convergence of humans and machines (Gane, 433), also known as transhumanism⁹ (Onishi, 103), which some might say it is contradictory and opposite to most definitions of posthuman. One implication of Kurzweil and Moravec's treatment of posthumanism is that the individual as a biological organism will eventually become something else. Others like Francis Fukuyama have a more conservative and perhaps negative view of posthumanism. Fukuyama, for instance, sees the posthuman as a denaturalized version of the human through technological advancements. Some of his arguments against the posthuman, rely on his concerns about the future of liberal democracy in the United States, especially in terms of biotechnologies. He argues that human beings are special because they have a human nature, and his or her political rights are structured under this premise (Fukuyama, qtd. in Gane 433).

Other experts, however, focus on alternative perspectives. Roberto Pepperell, for instance, states that the concept of posthuman is not about the technological progress but a condition of uncertainty, a new cultural form that opens up the possibility of new forms and species not specific to human nature (Pepperell, qtd. in Gane 432). Hayles follows a similar position, in which she focuses on the importance of the construction of new subjectivities rather than on the non-biological components (4). Hayles' notion of posthuman is an individual who understands itself as a conglomerate of informational patterns, and perceives its body as a prosthesis rather than a human condition. A self that is post because it has no origin due to the constant construction and reconstruction of its parts, and therefore constantly emerging and re-emerging. A construction of the self that consequently has marked the end of the liberal human. A transformation that has its pros and cons, that Hayles sees as an opportunity to open up debate (Gane, 433).

⁹ Transhumanism as defined by Nick Bostrom (director of the Future of Humanity Institute at the James Martin Twenty-first Century School of the University of Oxford) is "the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities" (Bostrom in Onishi, 104)

The posthuman in Hayles' view is not opposite to the liberal human, they are just different constructions of the self. The essence of the liberal human relies on its freedom from the will of others; an individual with self-consciousness and agency. Its mind is its axis and priority. The posthuman, however, is not post because it is unfree, but because there is no agency; the posthuman is a collection of heterogeneous components, and the human being is not longer at the centre of the universe as it was for the liberal human (Hayles, 3-4). Nonetheless, the posthuman and the human agree on one aspect: both do not prioritize the body, however their perceptions of the body are different. On the one hand, for the human the body is a possession, it is not a body but has one. For the posthuman on the other hand, the body is an instantiation of information, a medium that could be replaceable and alterable, an embodiment rather than a body.

According to Hayles, this disembodiment has drastic consequences. Perhaps the main consequence is that the individual no longer sees the world through the notions of absence and presence, but rather through patterns and randomness.¹⁰ The notion of pattern/randomness is a cultural view Hayles attributes to reformulations in Information theory.

Information theory was initially developed by Claude Shannon around 1948. He was an electrical engineer, mathematician and specialist in cryptography during World War II, wherein cryptographers had to decipher messages in the form of codes through telegraphs. Shannon stated that a way to measure information was through its uncertainty: the more choices there are in information, the more uncertainty there is (Gleick, 228).¹¹ Shannon then

¹⁰ Throughout this document I call it Hayles' notion of pattern/randomness or notion of pattern/randomness.

¹¹ Shannon then developed a logarithm to determine that uncertainty, wherein the information's unexpectedness is counted by bits (the short term of binary digits), referring to the one option between two choices (Gleick, 228)

developed an algorithm to measure information quantitatively, titled Information theory. In this theory, Shannon determined that information is a pattern, not a presence. The absence of a pattern, consequently, is non-information (randomness) or what electrical engineers call noise. However, later developments of the theory demonstrated that information could be both pattern and randomness, making them not opposite but complementary (Hayles, 25). For Hayles, this reformulation not only affected the quantification of information, but the construction of the self as well, and therefore the lens through which to see the world. Hayles argues that since the individual is understood as information, and information is understood as pattern and randomness, it is through this condition the subject sees the world and lives in it. The subject no longer perceives the world through the presence and absence of materiality, but rather through the pattern and randomness of immateriality. An example of this observation could be how we communicate nowadays. Sherry Turkle, in her book *Alone Together*, narrates that in the mid-1990's a group of young researchers at the MIT Media Lab called themselves the cyborgs because they carried and wore electronic devices in their clothes all day that allowed them to be fully connected all the time. For most people, this idea of permanent online connectivity seemed genuinely positive; technology was allowing them to enhance their experience of life. However, as Turkle argues, in this condition of connectivity people are physically present but their minds are wandering somewhere else (151-152). Terrifying as it may sound, this is our present reality. Despite new technological advancements are allowing people to communicate with almost anyone around the world, it is concerning when the opposite occurs; technology paradoxically takes away from communication and social interaction in-person, when people are lost in the depths of their phones. In addition to this, Turkle argues:

To those who have lost their sense of physical connection, connectivity suggests that you make your own page, your own place. When you are there, you are by definition where you belong, among officially friended friends. To those who feel they have no time, connectivity, like robotics, tempts by proposing substitutions through which you can have companionship with convenience [...] On the Net you can always find someone. (157)

In making this comment, Turkle urges us to see that connectivity resembles a sensation of company, of being connected to the entire world, of never being alone. However, this consequently develops a disconnection to the real world. It is not unreasonable to think, then, that isolation is becoming a condition of a world of patterns and randomness (at least when our physical bodies keep simulating a notion of presence/absence).

Turkle brings to the table an important technological development that has been reinforcing the notion of pattern/randomness in the past twenty years: the Internet. Aside from e-mailing, the Internet initially worked as one-way communication, wherein web content was produced but the web owner/editor and cyber-users were only spectators. However at the beginning of the 21st century, when the Web 2.0 appeared, the Internet became more interactive, in which web content was also produced by users. For instance, users could comment on blog posts, upload images to sites and many sites even relied on users' interaction. The web 2.0 created the notion of cyberspace, an ubiquitous, immaterial and endless non-space where one can be connected with almost anyone around the world, save and access to almost any kind of information through digital files, and even have multiple online identities. Cyberspace then, highlights the posthuman construction and a view of the world and life as patterns and randomness succeeding our physical boundaries. Social Network sites such as Facebook and MySpace, for instance, reinforce the idea of having a digital life, which does not replace nor differs from our real-life, but instead it is one altogether.

If presence is not a requirement, is the human body necessary? Of course, for a posthuman, it is not. It is just a medium that could be adapted to the needs of the self. The notion of cyborg, for instance, emphasizes this idea. A cyborg, if briefly defined, is a half-human/half-machine individual. The term itself arose when traveling to space required people to wear special clothing and equipment to adapt to new environments. The name came from

the words cybernetic and organism, emphasizing both its artificial and biological parts. In this sense, the notion of cyborg is usually thought of as an enhanced version of the biological human being. In her book *Cyborg: the man-machine*, Marie O'Mahony states that the cyborg's ability is to enhance the human limitations by technological advancements such as mechanical, electronic and chemical components incorporated in the body (11). From O'Mahony's statement I gather that her treatment of cyborg is the tangible character of the posthuman construction. Instead, from Haraway's description of the cyborg—a ubiquitous and invisible individual (153), it could be understood that she is mainly referring to the construction of the self as posthuman (as given by Hayles). For others like Evgeny Morozov, the notion of cyborg refers to any individual who depends on any form of technology. Although the latter could be considered an adaptation of the term for more general purposes, the cybernetic aspect of the word cyborg refers to new technologies, as in O'Mahony's view. Continuing then with O'Mahony's perspective, the cyborg is the human's attempt at immortality or at least at a longer and "better" life. For Hayles this is preoccupying. Human beings still have a body, made out of flesh. The question is how does the posthuman deal with immortal patterns/randomness in a world of mortal presence/absence?

- **Characteristics of patterns/randomness**

The notion of pattern/randomness, when it is understood as the individual's condition, could acquire similar and different features than in the quantification of information (as in Information theory). The mathematical Information theory, for instance, does not give importance to the meaning of the message but rather how it is transmitted and how many messages a specific source can produce. However, in light of posthumanism,¹² the meaning of information is highly important. In Hayles' view, "For an individual message, the information increases as the probability that the event will occur diminishes; the more unlikely

¹² Here I refer as for purposes for individuals within a social or cultural context.

the event, the more information it conveys” (32). The individuals, then, usually focus on the qualification of information; while the mathematical Information theory, focuses on its quantification.

Another feature of pattern/randomness is the possibility of creating a mutation. Mutation, in Hayles words, “normally occurs when some random event (for example, a burst of radiation or coding error) disrupts an existing pattern and something else is put in its place [...] Mutation is crucial because it names the bifurcation point at which the interplay between pattern and randomness causes the system to evolve in a new direction. It reveals the productive potential of randomness” (33). In this sense, mutation is not only an evidence of the interaction between pattern and randomness, but also a demonstration of how a random act can change the path.

The notion of pattern/randomness also reinforces the symbiosis between the human organism and the machine. Hayles argues, “the posthuman implies not only coupling with intelligent machines but a coupling so intense and multifaceted that it is no longer possible to distinguish meaningfully between the biological organism and the informational circuits in which the organism is enmeshed” (35). Social Network sites and instant messages, for instance, reinforce this idea of symbiosis. Hayles’ point, hence, does not specifically nor uniquely refer to a physical symbiosis but to the fuzziness of boundaries between the subject and the machine as part of the construction of subjects. Consequently, the notion of pattern/randomness then, alters the notion of presence/absence (especially when one refers to cyberspace), challenging time and space. In this sense, Hayles states in terms of cyberspace: “existing in the nonmaterial simulation, cyberspace defines a regime of representation within which pattern is the essential reality, presence an optical illusion [...] the contrast between the body’s limitations and cyberspace’s power highlights the advantages

of pattern over presence” (36). Presence/absence then, does not disappear but it gets diminished in comparison to pattern/randomness especially in the cyberspace.

This shift from presence/absence to pattern/randomness also transforms ownership into access. Hayles explains, “With information, the constraining factor separating the haves from the have-nots is not so much possession as access. Presence precedes and makes possible the idea of possession, for one can possess something only if it already exists. By contrast, access implies pattern recognition” (39). In other words, due to the immateriality of information, one can have access without having ownership. A reason why this happens is because immaterial pattern/randomness have the capacity to be replicable. “A significant difference between information and durable goods is replicability. Information is not a conserved quantity. If I give you information, you have it and I do too” (Hayles, 39). Hence, information can be replicated as many times as desired.

Consequently, the concept of pattern/randomness, reformulates the notion of public/private. “Whereas possession implies the existence of private life based on physical exclusion or inclusion, access implies the existence of credentialing practices that use patterns rather than presences to distinguish between those who do and those who do not have the right to enter. Moreover, entering is itself constituted as access to data rather than as a change in physical location” (Hayles, 40). Private and public in this sense depends on the accessibility of patterns, yet not on the possession of presences.

Finally, Hayles states that the notion of pattern/randomness converts the subject and all information into mediated yet not original constructions. By using the differences between a print-based text and a digital text, she argues,

In contrast to the fixity of print, decoding implies that there is no original text—no first editions, no fair copies, no holographic manuscripts. There are only flickering signifiers, whose transient patterns evoke and embody [...] the context of no context,

the suspicion that all contexts, like all texts, are electronically mediated constructions. What binds the decoder to the system is not the stability of being a member of an interpretative community or the intense pleasure of physically possessing the book [...] Rather, it is the decoder's construction as a cyborg, the impression that his or her physicality is also data made flesh, another flickering signifier in a chain of signification that extends through many levels, from the DNA that in-formats the decoder's body to the binary code that is the computer's first language. (47)

In making this comment then, Hayles urges us to clarify the limitless fluidity of the self as information, its immateriality and its essence under constant reconstruction.

2.2. Mortality versus immortality

This section provides different approaches and explanations of the key categories of this research, such as death and mortality; notions of immortality; the notion of technomysticism; bereavement, grief and mourning; and memory practices like ritualization, spaces and objects.

- **Death and mortality**

Definitions and perceptions of death are often contradictory: Death is chaos. Death is peace. Death is transcendence. Death is immanence. Death is an end. Death is a beginning. Death is a black hole. Death is a white Heaven. What is a fact is that death is one of those floating (perhaps now flickering) signifiers human beings have tried to define without actually knowing what it is to die.

What makes us die? Technically, our mortality relies on our bodies. It is a biological condition for all living beings. However, only human beings acknowledge this condition, and create meanings around it. Death, hence, does not only refer to the event of dying, but also to the articulations human beings attribute to this human condition. Death then can be

perceived from two perspectives: On the one hand, death is human beings' worst fear. It recalls the unknown of what happens when one dies, when the event of dying arrives. This sense of death works in the future of the individual. On the other hand, death is an energy for constant becoming, an end pushing one forward. It is the construction of meanings one attributes to death, which consequently works behind; structuring how one perceives life (Braidotti, 131-132).

Pursuing meaning is one of the fundamental characteristics of humanity. Meanings are inventions individuals create to understand and organize the lifeworld, which at the same time contains significations other individuals made in the past (Fairfield, 1). Significations are not only personal but also social and even institutional, sometimes achieving the role of rules or standards within a community. Religions, for instance, can work as preconceived constructions to help people cope with death, and also provide guidelines for their followers to structure their own lifeworld. However, religions often present death as transcendence: as a door for an afterlife, as a transformation into a new form of life, or even as a reinvention of the self. Catholicism, for instance, states that when a person dies, his or her soul is judged; the virtuous reunite with God, the wicked go to hell, and the rest goes to purgatory, a temporary stage wherein the soul gets cleaned from sins until is admitted in Heaven (Manning, 82). Under different parameters, Hinduism establishes that the individual is reincarnated life after life, and his or her fate is determined by karma (32). Furthermore, religions also work as a source of comfort in the event of others' deaths, helping followers cope with loss and adjustment.

Existentialists criticize religions. They suggest that we take death as it is presented to us; the end of what we know—life, without constructions around it such as beliefs in any kind of immortality. Martin Heidegger, a renowned existentialist philosopher, defines death as a phenomenon of life, in which our being is already its end. By this, Heidegger means that

the Dasein (the acting and living human being) is always the possibility (a mortal being who can die) of the impossibility (death as a certainty): a being-towards-death (Fairfield, 77). Furthermore, Heidegger differentiates mortality from death: mortality refers to the possibility of being Dasein—the mortal condition. And death refers to the possibility of the absolute impossibility of Dasein—the insuperability of reaching the end. This is how the thought of dying works as an anticipation in life, beyond the event of dying itself (Fairfield, 78).

Heidegger also establishes four fundamental conditions of the Dasein as a being-towards-death: First, death is certainty, in the sense that it is going to happen anyway and we all are destined to die. Second, death is indeterminate. Its event is definite, however when and how is undetermined. Third, it is insuperable, since it is an experience that cannot be dismissed. And fourth, it is non-relational, in the sense that death is individual and unique to each person. Heidegger suggests that death should not be denied, instead one should pursue authenticity. By being authentic, Heidegger refers to listening to oneself and being powerless, silent and receptive to the inevitability of one's mortal condition; and therefore accept death as it presents itself to us: an end. Furthermore, Heidegger states that this realization does not cause fear but anxiety, because in a state of authenticity one is open to the unknown and the unknowable (Fairfield, 112). Inauthenticity, instead, refers to the everyday state of being, wherein one is subjected to norms and standards of the public realm— which Heidegger names the-they. In the voice of the-they, Heidegger states that one should seek freedom within the community (Fairfield, 81-91). Authenticity, however, is not a permanent state, but one that should be pursued constantly. Congruently with other existentialists, Heidegger suggests to avoid falling into false consolations of the mortal human existence (Fairfield, 2). In the sense that one should try not to get lost in one's attempt to find meaning for the human existence, and therefore believing in constructions such as the transcendence of the self (constructions that many religions tend to provide).

This existentialist perspective of death is not only against religious transcendence, but any construction of life as eternity. For instance, it is often said that the hope of immortality relies on new technologies nowadays. Transhumanist enthusiasts, such as Ray Kurzweil, foresee, celebrate and pursue the possibility of immortality, such as Kurzweil's idea of transferring the human mind to a different yet long lasting hardware other than the human body. Kurzweil states that by the end of the twenty-first century we will be software, not hardware (129)—or in Hayles' words, informational patterns; however, Kurzweil does not deny mortality. Instead, he argues that mortality would become a choice rather than a human condition; and immortality, a real possibility rather than just a dream.

Transhumanists visions as such are a big concern for Hayles, who fears the future of the posthuman. In the sense that the very essence of the posthuman is based on informational patterns. Hence a self, immaterial and disembodied, opening up possibilities of immortality in the posthuman imaginary. This, Hayles insists, could bring terrible consequences in individual's comportment:

If my nightmare is a culture inhabited by posthumans who regard their bodies as fashion accessories rather than the ground of being, my dream is a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life is embedded in a material world of great complexity, one on which we depend for our continued survival (5)

In making this comment, Hayles urges us to see her concern about the way the individual could eventually see itself and the world it lives in, if the idea of immateriality follows an extreme path. She worries then, of a posthuman dismissing the fact that it is an embodied subject—therefore a mortal being, surrounded by a material world full of complexities; and that it is a being that eventually will attain an end: death. In this sense, one could gather that Hayles' perspective resembles some of Heidegger's ideas; considering the fact that Hayles

not only encourages the individual to accept its finitude, but also to avoid external constructions to its own condition (what Heidegger would refer as the-they).

However, the posthuman perception of death and mortality seem to be taking an alternative perspective nowadays, at least within cyberspace. In addition to the Internet as space for the immortality of data and its ubiquity as a visual yet intangible environment; studies in Social Network Sites (SNS) such as Facebook and MySpace show that users' treatment of death does not deny nor reject such event.¹³ Instead, these platforms have become spaces for reinforcing yet reinterpreting spiritual beliefs in an afterlife. Would it be unreasonable to think that the posthuman (at least within SNS) is reacting to the absence death implicates, and re interpreting this with patterns and randomness? My hypothesis so far is that the posthuman individual is possibly seeing the event of death as presence/absence in the material world, but as pattern/randomness in cyberspace. Is cyberspace, specifically SNS, then becoming a space to reinterpret spiritual belief, especially in regards to death?

- **Notions of immortality**

Our immortality will be a matter of being sufficiently careful to make frequent backups. If we're careless about this, we'll have to load an old backup copy and be doomed to repeat our recent past.
Ray Kurzweil, *The Age of Spiritual Machines* (1999)

The dream of becoming immortal seems to have been in humans' imagination forever. Either through spiritual beliefs, cultural practices or technological advancements, humanity has always tended to attempt to live longer, if not forever. O'Mahony states that immortality has been pursued through different specific manners: through the immortality of the body– as it has been seen in ancient cultures such as the Egyptian mummifications; through notions of reincarnation– as the rebirth in a different body like beliefs in Hinduism

¹³ Find more information about these manifestations in the section *Facebook analysis*.

and Buddhism; through notions of reanimation– as the scientific hope in cryogenics;¹⁴ through the idea of uploading the mind to a more durable platform– as Moravec’s and Kurzweil’s proposals; and even through using brain-controlled machines– as experiments where robots are controlled through a person’s mind linked to a machine (18-31). Despite these attempts, a number of authors argue that usually people do not know what is actually to be immortal.

The term immortality, in its brief sense, is usually defined as either living forever or being remembered forever. My inquiry for now refers to the first definition: living forever. What is it to actually live forever? Iain Thomson and James Bodington contribute with an interesting observation in relation to this:

Eternity is not a long time, any more than infinity is a large number. Just as infinity is larger than any number, so eternity is longer than any span of time. Eternity cannot end, not because it is outside time but because it is a name for the endlessness of time, just as infinity is to become endless; similarly, we mortal beings, once we meet our mortality, seem to remain dead for all eternity (250)

The essence of Thomson and Bodington’s argument is that immortality as a synonym to eternity means that under any given situation death would be not an option. If that is the case, Bernard Williams argues that living forever would drive people’s lives into boredom. It could be understood that his argument relies on the idea that in case of immortality one would remain the same person forever (Thomson and Bodington, 254), which is far from being possible since we all change in time. John Fisher, however, has a more positive view of immortality. He states that either a long life or an immortal one would be desirable because of the repeatable pleasures one could experience (Thomson and Bodington, 256). Considering the fact that one would get tired of those pleasures, Fisher states that one could always find a new pleasure. Thomson and Bodington then argue that Fisher’s point of view is weak, but that his perspective opens up an opposite direction to Williams’: immortality would

¹⁴ Cryogenics is the technology of freezing a body after clinical death. It is made with the intention of reanimation in the future (O’Mahony, 26).

make one change over time. However, Thomson and Bodington argue that this transformation of the self would bring a dilemma: On the one hand, if one becomes a constantly changing self as, for instance, data (which reflects Hayles' view of the immaterial posthuman), one would eventually suffer a dispersion and consequently disappearance in the cyberspace. On the other hand, if one recreates oneself through different defining life-projects (which resembles an embodied life) it could lead to exhausting all the possible selves one could become in an eternal life. Furthermore, one could become someone that a previous version of the self does not approve of or even someone morally despicable within society (257-258). Although I consider this dilemma is just conveying a few options of a long list of possibilities, I agree that reinventing oneself endlessly would not be a positive solution for humanity. From Williams' or Fisher's perspectives of immortality, it is logical to arrive at the conclusion that it is preferable to choose death over eternity.

From all these contributions, one can gather that, despite the physical form oneself might take in these scenarios, the authors are referring to immortality as continuities of this life in this physical world (the earthly life we all know). However, Carol Zaleski in her Ingersoll lecture titled *In Defense of Immortality*,¹⁵ states that there are different types of immortality as cultural constructions people have created throughout history, namely, notions of immortality. In the following paragraphs I will explain Zaleski's notions of immortality and how some of are reformulated in the posthuman.

The first kind of immortality, which she names Alpha immortality,¹⁶ refers to the physical immortality. This construction refers mostly to two different kinds of individuals. One refers to an inhuman creature, individuals that are not common human beings but neither Gods, instead, someone in-between, namely, god-like subjects. The notion of cyborg as a

¹⁵ Her lecture was part of the Ingersoll lectures on immortality at the Harvard Divinity School in 2002

¹⁶ The names Zaleski provides to the types of immortality are referential. For clarity purposes I have decided to keep the same names.

physical entity, for instance, resembles this kind of individual. Although a cyborg is not necessarily immortal, developments in cyborg-technologies pursue this kind of immortality. The other kind of individual, instead, refers to the ordinary human being (in which case Zaleski considers it would be catastrophic for humanity). In this sense, one could envision a human being reaching immortality either by having a new physical yet more durable embodiment than his/her biological body (such as robots carrying human minds); or by transforming the biological body into an immortal body (biomedical advancements in anti-aging treatments, for instance, would be seeking this path). From this kind of immortality, the work of Fiona Carswell in her collection titled *Contemporary Memento Mori*¹⁷ challenges the fragility and mortality of the body, by creating two wearable products that reveal situations when the human body is under risk, such as smoking or sun-tanning.

The second kind of immortality is named Beta immortality and it is the immortality of the soul– understanding the soul as the intrinsic invulnerability to death, as self-sufficient, as the true self, as perfection, as immortal (Zaleski, 11-12). In this sense, one can gather that the physical body has a secondary role. This notion of immortality resembles Hayles' argument on how the hierarchy between information and materiality is constructed in the posthuman. Hayles states that it occurs mainly through two Platonic moves: the Platonic backhand and the Platonic forehand. The first refers to reducing multiplicity of examples to simplicity (abstraction)– this is how theories are created. The other move (the Platonic forehand) does the opposite, it goes from simplicity to multiplicity. In both moves abstraction is taken as the real (as the original form), which becomes problematic in the second move. Information theory, for instance, is an abstraction of infinite examples in regards to information quantification, in which information plays, of course, the primary role, and any materiality is seen just as an instantiation. In short, a Platonic backhand move. However, the posthuman construction is a cultural reading of the Information theory; therefore, the qualification of

¹⁷ Images of Carswell's work can be seen on: <http://fionacarswell.com>

information (cultural construction) is read as in the quantification of information (Information theory), namely, a Platonic forehand move. This mistakenly leads the posthuman to the conclusion that information is essential yet the body is not.

The third, fourth and fifth notions of immortality derive from Beta immortality, and Zaleski named them as Gamma, Delta and Epsilon immortality, respectively. Gamma immortality refers to the immortality achieved by surpassing cosmic powers; as in mystical stories when an individual achieves a feat, and is granted with immortality. Delta immortality is dualistic, yet anti-esoteric. Zaleski states that this is the immortality of the Enlightenment, on the grounds that considers eternal the human capacity of moral reasoning (12-13). Epsilon immortality, however, is monistic. The person heads to eternity as an emanated subtle body carrying all his or her belongings and personal features. It resembles a paranormal experience (14-15).

Lastly, Zaleski introduces Omega immortality, which is the foundation of Jewish and Christian eschatologies.¹⁸ It starts from the premises that human beings are made out of dust and God's animating breath; and are created as image and likeness of God (15). The individual's soul is realized in society, and its immortality is a gift of God. Immortality is life in an eternal world; and the construction of Heaven, for instance, is a way to make this eternal world graspable for the followers.

Constructions in relation to Heaven are also reinterpreted in the posthuman imaginary. Studies of Christian Facebook users,¹⁹ for instance, show that there is a high treatment of the Social Network site as if deceased users could read online communication; yet, there is no expectation of receiving communication from the deceased. One could

¹⁸ Eschatology is the study of the ends of time of humanity from a theological perspective.

¹⁹ The information was obtained from Christopher M. Moreman and A. David Lewis' book *Digital Death: Mortality and Beyond in the Online Age* (2014), yet more specifications about the studies are not shown.

understand, then, that the posthuman does not dismiss spiritual beliefs prior to its emergence; alternatively, it adapts them as patterns and randomness.²⁰ Furthermore, one could perceive an alternative notion of immortality that does not reject the other kinds mentioned above: immortality of data.

Immortality of data is not something new; however, before the appearance of the Internet, it was a privilege for the famous such as writers and artists, who could remain immortal through their works. In this sense, a person was remembered through the archivization of his or her memories (something that is now possible to anyone who has access to the Internet). Jacques Derrida in his book *Archive Fever* examines the notion of archive, using Freud as the main source of his analysis. Derrida begins by explaining the term archive, which comes from the Greek term *arkhe*. This term implies two principles: commencement and commandment. The first refers to its commence— its physical, historical and ontological principle (1). The second refers to an even earlier stage, to its nomological principle, to the law and power of consignation an archive implies. Freud stated that an archive, however, carries in itself a death drive: a desire for destruction and annihilation of the archive itself, which works prior to the archive itself. This death drive destroys the archive but lives in it; what remains, then, is an impression or representation of the archive. An archive is not only an external memory but a representation of that memory. Freud focused on analysing the impression of memory in the human mind (the psychic archive), in which he stated that it carries the death drive as well. To explore the psychic archive, Freud idealized an imaginative machine, the Mystic Pad, an external machine representing the internal archivization of memories—by that time, Freud did not have the resources to build or to know of such a machine. Derrida states, however, that Freud's notion of archive would be different if he would have known of new media such as the E-mail, because the structure of the archive also determines the structure of the content (17). For Freud and his collaborators, the

²⁰ For more information about spiritualism and technology, see category *Technomysticism*

inscription of archives was of two kinds (relying basically on physical substrate): printing (i.e. through paper and ink) and circumcision (a mark on the body, which is external but internal). Digital archives work under different parameters. Derrida argues that the main one is that they reconfigure the notion of private and public—an idea that Hayles considers to be a feature of the notion of patterns/randomness, wherein access replaces the notion of private/public. Though Derrida does not explore in depth the impression of memories through digital archives, one could gather from Hayles' ideas that the posthuman is in itself a reinterpretation and representation of its own memories. It could be understood as sets of information flowing through different instantiations, the posthuman is a compilation of archives constantly being reinterpreted and represented. The posthuman then, is empirically immortal, but its condition implies the destruction of its essence, it carries in itself the death drive.

If one is to determine how a notion of immortality of data would have appeared in the 21st century, it would be because of constructions surrounding the Internet. Either as Cloud or Cyberspace, both terms refer to the metaphor of how users perceive and use the Internet; in the sense that it is the place where one is online, and also where all the online data is stored. Technically, when an individual is connected to the Internet, one's computer becomes an extension of a vast amount of servers around the world, having access to all kinds of information our electronic devices would not be able to store. Poetically, it is where our minds get augmented with different sources of information (Hammersley, 17-18). However, cyberspace allows Internet-users not only to find or download information, but also to store it and create it. This space is ubiquitous and resembles infinite capacity, as if the information will be there forever. And for millions of people, creating, storing, sharing and interacting with data have become activities of everyday life.

The term data, in short, refers to quantitative or qualitative values as pieces of information. They could be symbols or signals as an input for computers to be read, or as an output as information ready for use. In this project, however, I refer to any kind of digital information a user could create (like digital files, transactions one does with a credit card, or even the recordings of physical activities such as kilometers ran), and therefore becoming part of their digital presence. Ben Hammersley, in his book *Approaching The Future* (2012), states that nowadays a person can produce in one afternoon the amount of data a person hundred years ago would during his or her whole lifetime (167). Considering the fact that an individual today can produce data without even being completely aware of it (such as bank transactions, activities online, or public camera recordings), the accumulation of one's data could almost reach infinity. Sites like Facebook or Amazon, for instance, create recommendations for their users based on the user's search histories (which a lot of people have criticized as surveillance). Unlike this data, there is data one can create on purpose, and even share it publicly, such as messages on Social Media Networks, posts on blogs, etc. All data a person produces (whether aware of it or not) is considered one's Data Shadow—what I call our immortality as data, as the data that represents an individual digitally. In this sense, the immortality of the posthuman as informational pattern is empirically possible.

My initial response to the idea of immortality of data, was to create a prototype of a website, that I called Soul 72. It was meant to be a space for people to either commemorate a deceased online or preserve the self in the form of data (See fig. 1, 2, 3, 4; p. 66-67). However, the site ended up being a set of forms rather than a space for commemoration or afterlife. Though I was approaching the topic inappropriately, it led me to an understanding that the immortality of data and any construction of the online afterlife, is more than just data uploaded to the Cloud.

In this sense, Social Network sites (SNS) such as Facebook and MySpace have developed a more specific kind of immortality that goes beyond the data itself. First of all, these spaces do not show all data from the Data Shadow, instead they (SNS) could be part of it (Data Shadow). However, the notion of the immortality of data is clearer on SNS, especially because all of a user's data is comprised in one account, and this account is one specific identity, of a variety of identities a person could have online. The nature of Identity is collaborative, in the sense that it appears in relation to others; hence, it is constructed and granted socially (Brubaker and Vertesi, 2). In SNS, identities work similarly, yet as informational patterns. In the sense that, temporality and physical presence actually does not matter: social interaction on SNS does not require all users to be connected at the same time, and users can be located in different parts of the world. When a person dies, the user has the potentiality to remain "alive" through its friends' interactions with the account. This collaborative construction of identity is what Jed R. Brubaker and Janet Vertesi in their article *Death and the Social Network* refer to as intersubjectivity. In this sense, Christopher M. Moreman & A. Davis Lewis in their book *Digital Death*, state that in situations as such, living users initially tend to write posts for the deceased as farewell messages. However, after a while the interaction shifts as if the deceased would be somehow present (usually above or in Heaven watching what happens in the earthly world), demonstrating how this intersubjectivity works in this kind of context. Consequently, one could gather that the idea of intersubjectivity in relation to death and immortality remarks two features of the posthuman. First, that within the cyberspace presence and absence does not matter, not even if the person has died! And second, that it shows the individual as a set of components without boundaries (Hayles, 3), allowing the dead user to remain alive through others.

Brubaker and Vertesi also state that SNS have the characteristic of being an "invisible media", which has led people to attribute paranormal features (3). They refer to this

practice as Techno-spiritualism. Erik Davis²¹ in his book *Techgnosis* explains that this happens because information technologies surpasses its status as a tangible thing, therefore individuals attribute meanings beyond its functionality and physicality. It is not surprising, then, that spiritual beliefs (like in this context the existence of an afterlife) become adapted to platforms such as SNS, which not only have the features of being invisible and surpass their tangibility, but also of being the best reinterpretations and representations of the individual within the cyberspace.

- **Technomysticism**

It is often said that human beings have tried to understand the world through two opposite lenses: science and myth. While the latter tries to enchant the world, the other disenchant it. However, the interconnection between these two strands is more entwined than one would imagine. This myth-science relationship has been specifically explained by Erik Davis in his book *Techgnosis*, in which he refers to it as technomysticism—a term that I am adopting for this section. Consequently, I am using his ideas as the main source for this section.

Davis states that since the arrival of new information technologies, humanity has gotten involved with objects that transcend themselves: On the one hand, information and communication technologies are tools: software and hardware with functionalities, tangible and intangible. But on the other hand, they "transcend" and surpass their qualification as tools, by encoding mind and meaning. In this sense, when one communicates with someone else or gets information about the world through these technologies, the technologies become part of the self, the other and the world; creating what is called the social construction of social reality. However, most times the religious imagination was in charge of

²¹ Erik Davis use the term *Technomysticism* instead of *Technospiritualism*.

this task, building up the web of meanings in human life. Religious imagination thus always found its way of spreading among people, reaching all media in its path, such as hieroglyphs, books, radio, and now computer networks (7). Davis also explains that technomysticism could be understood as yin and yang, which he names soul and spirit. In this sense, soul refers to the creative imagination, the animated significance human beings attribute to the world through powers and images. Spirit, on the other hand, pursues absoluteness, clarity and essence (9). Technomysticism then, is not only the animist mysticism attributed to technologies through religious imagination, but also technologies opening up possibilities for those myths to be real.

My initial response to the animism one can attribute to technology was the video *My printer makes art* (See fig. 5, 6, 7; p. 71-72). A studio work based on a glitch with my printer, in which my printer could only work properly when sending files from my phone; otherwise it would print CMYK strips. For months I not only had to adapt to these issues, but the printer also acquired a sort of presence. I began to wonder how new technologies have the quality for one to attribute animistic features. Furthermore, even SNS users become animated by others, as I mentioned in the previous category. Is the immortality of data more than sets of digital archives?

As I mentioned in *Notions of immortality*, the immortality of data is possible because of construction surrounding the way Internet-users perceive the online world. Cyberspace then, is more than servers and code. There is meaning beyond its technicality. In this sense, different authors argue that it is because it has the characteristics to acquire spiritual attributions and therefore our imagination can build up a world that exists only in our minds. William Gibson in his science fiction work *Neuromancer*, for instance, describes cyberspace: “A consensual hallucination [...] A graphic representation of data abstracted from the banks of every computer in the human system [...] Lines of light ranged in the non space of the

mind” (in Davis, 227). Following this path, Margaret Wertheim in her book *The Pearly Gates of Cyberspace*, points out that cyberspace follows the laws of thought rather than the laws of matter (Davis, 228). In this sense, cyberspace is constructed virtually as thoughts are constructed in the human mind. Congruently, Hayles’ posthuman considers itself a flow of information, because technically its mind and cyberspace are there but everywhere—as immaterial data flowing in a virtual dimension as if both were one. Therefore, Mark Pesce, a computer enthusiast, argues that cyberspace works as a magical space, because both are a result of our imagination (Davis, 229). In cyberspace and even when using a computer, one interacts with entities that are simulations of real beings, which resembles what Alan Turing wanted to achieve with his test; however, Pesce’s contribution refers to the magical dimension cyberspace can acquire, as spiritual rituals when a shaman, for instance, interacts with forces and powers in an alternative world than in the everyday life.

Davis argues that mystical attributions to cyberspace are postmodern reinterpretations from pre-modern times. He specifically refers to the art of memory (*ars memoria*), an ancient mnemonic technique, in which one builds up architectural databases in one’s mind, a world constructed around memories as a combination of imagination and topics organizing ideas. Davis also adds that these constructions of memory or memory palaces, as he calls them, could come from real or imaginary spaces (236). Cyberspace then, works as a palace of memory, an external memory resembling the internal constructions made up in one’s mind. The art of memory, however, was just a technique in ancient times; but in medieval times it got transformed into a religious technique to remember heaven and hell (238). It was mainly used by the Renaissance Hermeticists,²² not only for magical purposes but mainly as a religious source. Though in modern times this technique became useless, it seems like cyberspace is reborn as spiritual lens similar to Renaissance

²² The practitioners and believers of esoteric doctrines of *Corpus Hermeticum*. Ancient writings are attributed to Hermes Trismegistus. These texts, together with a treatise on ceremonial magic known as the *Asclepius*, were believed to have the ancient Egyptian wisdom of Moses and Plato (Campbell)

Hermeticists. In this sense, Davis argues, “so while technical specs and blueprints of the *ars memoria* dimly anticipate the possible architectures of cyberspace, they even more profoundly reflect the desire we share with the Renaissance Hermeticists: to know the world and its information by capturing it in a virtual representation we can manipulate” (241). Davis’ point then states that the *ars memoria* as used by Renaissance Hermeticists does not only resemble its technical aspects but also its purposes as spiritual constructions, as if imaginative beliefs are realities working alternatively. This idea then, is complementary to and even reinforces Hayles’ view of the posthuman. In a sense that the posthuman sees itself and the world as virtual wherein information flows. There is no difference between the real world and the digital world, both are the same and information just changes its instantiations; which is Hayles’ main critique: human beings do live in a material world and human beings are embodied beings.

Digital games and science fiction stories, for instance, work in imaginative worlds. However, they do not replace the real-reality; instead, they work as alternative realities. Curiously, a variety of fantasy stories (such as the game *Dungeon & Dragons* and the story *The Lord of the Rings*), and science fiction stories (such as *Star Trek* and *Star Wars*) tend to bring back medieval mystical beliefs in imaginative creatures and fantastical worlds. However, these worlds are mental constructions based on parameters the fantasy or science fiction stories provide. In this sense, they show a fragment of a much bigger and broader world one creates in his or her mind. Cyberspace works similarly: Internet-users see more than what is there in the computer or mobile device. This is the essential reason why the Internet is treated as a physical space.

What is also interesting is the role of identities. In digital games, for instance, one becomes an avatar—an alternative identity of the self that is only alive in the game. The term avatar comes from Hindu traditions. It means descent, referring to the different incarnations a

god can take in this world (Davis, 266). Avatars in digital games then, are a *goddish* version of the self, and therefore an avatar is capable of acting in a way one would not in the real world, not only because they are fantastical (like flying or having magical powers) but also because sometimes they are prohibited to do so, such as killing opponents. Though identities in this perspective are at an extreme and even preoccupying edge, having multiple yet alternative identities is an essence of human beings; nonetheless, cyberspace reinforces this idea. Turkle explains that individuals are constantly working on their own identity throughout life, and therefore they use the tools one has at hand. In this sense, the online world allows one to present the better version of oneself accordingly to the focus of the platform (158). In a Social Network site like LinkedIn,²³ for instance, users tend to demonstrate how they are “good professionals,” even if in reality things are different. With Facebook or MySpace, which works more as representative identities of the everyday-self, users tend to show the ideal version of the self, what one wants others to see; which simultaneously is built up by others (what I explained as Intersubjectivity). I agree with Brubaker and Vertesi, who argue that online identities are good representations of the self, not because they show every detail of oneself, but because intersubjectivity in addition to technomystical attributions (what they call technospiritualism) show the self as more than mathematical informational patterns, what Hayles states as a cultural perspective of patterns and randomness.

In sum, one could gather that Davis’ notion of technomysticism and Hayles’ notion of posthuman complement each other. First of all, because the immateriality of the posthuman construction does not deny any mystical belief, instead these beliefs can easily get adapted to any instantiation. The posthuman is a set of informational patterns as well as its spiritual beliefs. And second, new information technologies join spiritualism and technological advancements into one, each one responding to the other. Spiritual beliefs in

²³ LinkedIn is a Social Network site for professional networking, online curriculum and job/professional seeking.

immortality, for instance, become empirically possible because technological advancements allow us to see ourselves as informational patterns. But furthermore, beliefs in immortality—such as the immortality of data, come from spiritual ideologies humanity has dreamt of for centuries. Therefore, new technologies and spiritualism are not opposite but complementary, and the very structure of the posthuman allows and reinforces this dynamic. It is my personal inquiry then, as shared with others, to see the consequences of this technospiritualism. In this I refer to how mourning and death-related aspects such as rituals are reinvented in the world of the posthuman.

- **Bereavement, grief and mourning**

We can never replace what has been lost, but we can make new connections, new meaningful relationships, new interdependencies.
Elizabeth Kübler-Ross and David Kessler, *On Grief and Grieving* (2005)

Losing a loved one can be one of the toughest experiences a person has to deal with. To go through it means to go through a long process including feelings and reactions; that eventually lead to an understanding that his/her own life needs to adapt to the absence of that person. In this section, I explore this process; I begin by defining terminology (specifically bereavement, grief and mourning) from different perspectives, and how I apply them for this project; followed by the exploration of the process itself, in which I focus on Elizabeth Kübler-Ross' notion of five stages of loss as explained in her book *On Grief and Grieving*, written with David Kessler.

Bereavement, as defined by M. Katherine Shear, a professor in Psychiatry, in her article *The Cutting Edge: Getting Straight About Grief*, refers to the experience of losing someone loved (461), yet not specifically to person's feelings or the reactions. The American Cancer Society provides a similar definition by referring to it as “the state of having suffered

a loss.”²⁴ However, grief and mourning, relate to the feelings, behavior, reactions and psychological process a person in bereavement (the bereaved) experiences. Many authors tend to treat grief and mourning as synonyms, especially since Freud’s writings on mourning presented it as the internal grieving process. However, other authors differentiate them, in the sense that grieving refers the individual and personal feelings and reactions towards the loss; and mourning, the public and cultural demonstration of that grief.²⁵ However, since psychoanalysis presented mourning as the internal and psychological response and work of coping with the loss, the definition of mourning became ambiguous (Rando, 3). Therefore, throughout this project I refer to bereavement as the state of having lost a loved one; grief as the internal and personal response to death; and mourning as the internal and external responses to death. Hence, I tend to use the term mourning more often, unless I am specifically referring to the individual process of dealing with a loss. In this section, however, I explain the process of grief,²⁶ focusing on the grief of a person who lost someone rather than on a dying person.

At the beginning of my research, I was aware that grieving is a process, yet I assumed that it was equal for all people and that a person experiences the same kind of feelings and reactions in all instances of grief. My initial response was to create an object and service helping people deal with this process (See fig. 8, 9; p. 68-69). Step 365 is a box that includes 365 steps in the form of tasks for the bereaved to follow, organized in five stages of grieving.²⁷ In this project, I mistakenly ended up treating grief as universal, as if it follows the same path for everyone. However, Kübler-Ross and Kessler explain that it is common for people in grief to experience five stages (denial, anger, bargaining, depression and

²⁴ Neither Kübler-Ross and Kessler nor Marasco and Shuff mention a definition of this term in their writings.

²⁵ Kübler-Ross and Kessler, nor Marasco and Shuff focus on grief; however they do not make an explicit differentiation between grief and mourning.

²⁶ Public, cultural expressions towards death and more specific externalizations of grief are explained in *Rituals, places and objects of death*.

²⁷ More details about this work is included in *Exploratory work and referential artists and designers*.

acceptance), yet they do not work as an established structure; they are not necessarily linear, can appear simultaneously or not, and are not the same for every person grieving. Instead, the five stages could be seen as tools for the bereaved to understand his/her feelings and reactions (Kübler-Ross and Kessler, 7). In this sense, feelings and reactions can appear more than once, even after the process of grieving. For instance, I created and prototyped the mobile app Doves (See fig. 12),²⁸ which is more personalized than previous work because it is filled according to the needs of the bereaved. However, the app treats grief as feelings and reactions that never resurface once the process is finished. Instead, Kübler-Ross' five stages begin by the opposite premise, in which they (feelings and reactions) can be revisited more than once. If they are organized in stages, it is to make the process more graspable for the bereaved.

In this sense, denial and shock are perhaps the first reactions towards the death of a close loved one. The authors explain that denial does not just refer to expressions like I cannot understand how this could happen, but rather as Marasco and Shuff add, refers to the opposite, like not being open to others emotionally or avoiding thoughts relating to death. Denial is the hope that the death of a loved one did not happen, that it was a dream or that the person will eventually come back. However, this denial is symbolic. For instance, denial is when the bereaved is home in disbelief that their loved one will not come through the door. Therefore, the bereaved knows death happened, yet his/her brain is trying to deal with that loss and survive the pain. Grieving someone then is the process of adjusting life to a new structure, in which the person does not forget the deceased but learns to live with the loss.

Either towards friends, family, people who did not come to the funeral, oneself or even towards the deceased; anger is a common reaction in grief. Kübler-Ross and Kessler state that anger appears once the person feels stronger, yet human beings tend to use anger

²⁸ More details about this work is included in *Exploratory work and referential artists and designers*.

to cover deeper feelings (11-12). Anger can even be expressed towards God or spiritual beliefs that are challenged in the face of death. For instance, some religious people tend to take some distance from spiritual practices and beliefs when they experience a close death, as if God has failed them because He did not stop the other person from dying. In this sense, the bereaved can also feel guilty, which is another form of anger but towards oneself, as if he or she did not do enough to save the person from dying. What anger provides, the authors argue, is a structure. At the beginning of a grieving process the bereaved tends to feel lost without any connection to the world. But when anger appears, it becomes something to hold on to, helping the person feel better (16). Furthermore, Marasco and Shuff add that the feeling of anger or rage often comes as a consequence of feeling robbed. They state, "Robbed is a word people use a lot around grief. They not only feel robbed by all those days suffering in hospitals; they also feel robbed of the ability to experience the good days they should be having. And these daily robberies make people mad. Mad as hell" (124). In making this comment, Marasco and Shuff state that feelings of being robbed and consequently anger also refer to not being able to enjoy moments of happiness. Anger then is a common reaction the bereaved could revisit more than once during the process and even after, in different forms and towards different people (12).

Another common reaction or stage during grief is bargaining. Kübler-Ross and Kessler state that bargaining works in two ways: one before the person dies (for instance, if the now-deceased was sick) and after death. Before the loss, people try to negotiate and promise to themselves or God to do anything in return for the dying person to heal (like for instance becoming a better person or stopping bad habits). After the loss, bargaining takes the form of a truce as long as the pain goes away (17). Ideas in relation to Heaven can work as a form of bargaining, in a sense that the person can find comfort by thinking that they (the bereaved and the deceased) will be reunited in Heaven. Bargaining can also appear after feelings of guilt, as a way to make up what the bereaved could have done for the deceased

during their life. Bargaining then, provides momentary relief for the tough feelings of grief, by allowing the bereaved to feel that he/she can fix the chaos; however the bereaved always ends up arriving at the same conclusion: that the person is gone (19-20).

In the three stages I have mentioned already, the bereaved tends to be stuck in the past. Depression, however, is a reaction towards facing the present. It is the deepest feeling of grief. Depression, in this sense, is not a mental illness, but a reaction towards the emptiness of the loss of someone loved. It implies a profound sadness, disinterest and lack of enthusiasm. Depression, however, gives the bereaved the opportunity to reconstruct himself/herself.

Usually, a final stage is acceptance, yet to accept the loss is not the end of a grieving process, but possibly the beginning of its end, a process in itself. Accepting death means to understand that that person is gone permanently and therefore to learn how to live without him/her. Kübler-Ross and Kessler explain that people tend to go back to their lives as they were before that person was gone, yet part of healing is based on restructuring life, on adjusting it to a world in which that person is not physically present. Healing, they state, is remembering, recollecting and reorganizing (25). Accepting then, is learning how to reorganize the pieces. In this sense, Shear adds that the bereaved needs to learn how to find meaning, purpose, joy and satisfaction in life without the deceased person (463).

My question would be how these stages are challenged in a world of patterns and randomness. One could gather that Facebook, for instance, when treated as a space for the dead, works as a kind of denial; yet as I have explained before, users recognize that the person is gone. However, it could be the case that hoping for a response or a conversation could be understood as a state of denial. In this sense, Facebook messages to the deceased could also be seen as forms of bargaining (like future encounters in Heaven or promises to

the person who is gone); as expressions of anger (like being angry to those who keep writing on the deceased Facebook wall); or even depression and acceptance could be perceived in the tone of the messages. However, these stages of grief are internal, individual and unique feelings. The platform, on the other hand, works as externalizations of those feelings. I believe that even though Facebook users are technically capable of remaining immortal as patterns and randomness, people are still aware that death is the absence of presence. A person in grief still experiences feelings and reactions towards a loss; and Facebook has become the space for the psyche to ease that emotional weight. I would dare say then, that as long as human beings continue as mortal beings, the essence of grief is likely to remain the same, because the instantiations of grief are unique and different, even for a person who has experienced more than one grief. However, it is the exteriorization of that grief, what is being affected by new information technologies like Facebook, in which the person has the opportunity to plan how to be constantly remembered after they die, creating a kind of immortality (what I previously referred as immortality of data), as if human beings would have found a consolation prize in the face of mortality.

- **Memory practices: ritualizations, spaces and objects of death**

Often, to foster connection is to simultaneously evoke absence
Elizabeth Hallam and Jenny Hockey, *Death, Memory and Material Culture* (2001)

Across cultures and communities, people have developed practices and manifestations in relation to death, taking the form of ritualizations, spaces and objects. Such expressions are not only forms to commemorate the deceased, but also ways to help people cope with loss. Both purposes, however, entail memory practices in relation to the dead and his or her relation to the living. In this section, I explore these practices as manifestations within the private and the public (especially in Western cultures), by focusing on two main sources: Elizabeth Hallam and Jenny Hockey's book *Death, Memory and Material Culture* (2001); and Margaret Gibson's article *Death and the Transformation of Objects and Their*

Value (2010). I begin by exploring rituals and ritualized practices; followed by the spaces of and for death; and ending with objects of death.

Coping with death leads the bereaved through a mourning process that is not only internal emotions (what I previously referred to as grief), but also external like ritualization. These rituals could either be established (death rituals) or ritualizations of the everyday (domestic rituals);²⁹ both involve embodied actions and material forms (Hallam and Hockey, 179). Death rituals are events in which commemoration and memory practices of the deceased are subjected to a temporality, codes and rules that designate spaces, guide embodied participation and transform an object's functionalities (funerals and memorials, for instance, are death rituals). Furthermore, when a ritual is repeated over time, new connections surface. On the other hand, domestic rituals refer to the ritualization of everyday or mundane practices recalling memories of the deceased. They do not work in specific temporalities nor spaces. For instance, doing tasks as their loved one used to do during their lifetime or using an everyday object that belonged to the now deceased are considered examples of such ritualizations. In this sense, these practices are diffused and individual to the bereaved, unlike death rituals that work under defined structures in a more plural context. However, both create metaphors of memory by giving tangibility to the intangible. For this reason, formal and domestic ritualizations involve the material, such as objects, bodies and spaces. Hallam and Hockey argue that this is either to provide notions of fixity and stability or to reinforce a process and transformation (27). In the online world, however, ritualizations in regards to death convey memories through immateriality, thereby constructed with data; in which users tend to treat death as a random event in a world of informational patterns. However, these expressions are complementary to ritualizations in the real world, wherein death is still treated as memories through materialities.

²⁹ Although some authors treat *ritual* as if the term includes both perspectives: formalized rituals and ritualized domestic practices, I differentiate them as indicated above, in order to express both perspectives clearly.

Death also reinforces two categories: the sacred and the profane. In this sense, objects, bodies and spaces can reach a status of sacred or profane through the attribution of meaning in regards to the person who died; and consequently, value. Gibson through Emile Durkheim's thoughts explains that even though the sacred and the profane are opposite terms, each has the capacity to become the other. For instance, a mundane object such as a mug for coffee (profane) can become sacred if it represents memories of the deceased. In this sense, a regular mug acquires value beyond its functionality. On the contrary, if the mug is inherited by someone who does not attribute any meaning to it, the sacred mug loses value and returns to its profane status. Therefore, meanings and values are given through specific connections to the deceased and to a context.

Gibson brings an additional aspect to the dynamic profane-sacred: the abject. The author explains that the abject is the remainder, and its relation to the sacred is near, despite any moral and hierarchical classification (56). The notion of abject essentially refers to the remainders of the body, which is part of the living status of the person. However, when the person dies, the body itself becomes abject. In this sense, the abject is potentially sacred if it carries memories of a deceased. The deceased body is the abject, yet it is usually transformed into sacred as a memory object that activates remembrances of the deceased. Fragments of the body either as profane or abject³⁰ can work as representations of the whole deceased person, like remainders of hair or fallen teeth. The body then, can be understood as materiality sustaining memory (Hallam and Hockey, 26).

Living and deceased bodies can carry memories, yet the former specifically has the capacity to embody experiences and consequently to make memories, which is in essence the significance of the body during life (Hallam and Hockey, 11). Ritualistic practices of

³⁰ It is only considered abject when the fragment falls from the body (Gibson, 56)

death, for instance, require the bereaved to be involved by following codes and steps. In this sense, mourning as an internal and external process, requires a person to embody new experiences, feelings and reactions.

Embodied experiences, however, is what Hayles considers at risk in the posthuman construction, since the role of the body has been diminished as a mere instantiation. Replacing the body would transform the experience, and therefore the capacity to produce memories. However, ideas of changing bodies are still speculations, and each human being has no other choice but to live through their own body and therefore embody experiences, which are individual and unique to each person. Individual embodied experiences in relation to death, for instance, can be seen in the work of the artist Candy Chang, titled *Before I Die*;³¹ a public participatory artwork initially made in 2013 in New Orleans and later reproduced in different cities around the world. In response to the loss of a loved one, Chang created this project by painting the outside walls of an abandoned house like a chalk board with the incomplete quote *Before I die, I want to: _____*. The audience was invited to complete the quote by writing their personal dreams, desires and hopes. In response to Hayles' concern, I venture to say that Chang's project demonstrates that people are still likely to get involved in embodied experiences, yet they need to be encouraged. One could also gather that topics like the death of the self awakes people's participation. In this sense, Chang's work leads the participants to embody the bittersweet experience of dreaming yet by facing their own mortal condition. However if one is to look at most active Internet-users' everyday, it is likely that some embodied actions (such as in-person conversations or even death memorials) have been reinterpreted as online interactions. It is likely that the Internet might be reconceiving memory practices, especially in relation to death.

³¹ More information about Candy Chang's work in the section *Exploratory work and referential artists and designers* (section 4). Images of her work can be found on www.candychang.com

Memory practices relating to death also imply a spatial dimension. Physical places such as cemeteries are formal or dedicated spaces for death, wherein the bereaved attend to communicate and interact with the deceased. As such, decorating or cleaning the tomb are common embodied interactions as ways of commemorating the deceased. However, the understanding of spaces of death could be developed further. In this sense, I am not only referring to the space specifically dedicated for the dead, but also to those spaces, either physical or abstract, evoking memories of the deceased, such as domestic or public spaces not directly built for the dead. Spaces of death as sources of memory could be physical (such as the house of the deceased), mental abstractions (such as places evoking memory) or temporal spaces (such as those created by rituals). Memories then, always acquire a spatial dimension. In this sense, Hallam and Hockey explain, “memory processes have always been imagined and communicated through a variety of spatial and visual metaphors that construct an architecture of internal memory places” (77), what I refer in Technomysticism as memory palaces. Physical spaces then, have the potential to attain meanings beyond their physicality, what Hallam and Hockey refer to as the social meaning of space. They argue that a physical space can acquire social meaning, because social relationships and interactions are experienced in it.

In response to these ideas, I created a work titled *In Your Shadow* (See fig. 11, 12; p. 95-96), which is based on a pair of boots carrying a GPS module that lights up when the bereaved walks by locations the deceased checked in on Facebook during their life, creating a spatial connection between the bereaved and their memory of the deceased. Not all the checked-in spaces are necessarily sources of memory for the bereaved. However, once the boots light up in a location, it is likely that that space (which could be considered as profane) can acquire significance (as sacred). This would happen not because of memories of experiences lived with the now deceased person but because those spaces would be a material source recalling the person who died.

In this sense, the physical space, either public or private, can reach a higher level of value (especially in the event of death) by becoming a source for different kinds of memories in regards to the deceased. In addition to this, Hallam and Hockey argue:

Body, self and space have been increasingly linked with one another in acts of memory that privilege and attempt to sustain the unique character as well as the social status of the individual. Not only have individuals been associated with the spaces of their intimate lives, but also the embodied experience of objects and spatial locations are seen to encode values, beliefs and memories (79)

In other words, the relationship between body, self and space influence the individual's identity; not only because of his/her relation to the space but also because of embodied experiences with objects and their locations. To the last point, Gibson adds that bedrooms, for instance, represent the personalized way objects are arranged through their use by the person (59). One could gather then, that if the individual dies, the bedroom along with the location of the objects and remainders such as hair in a comb, become a strong spatial memory source.

In this sense, spaces of death are likely to become heterotopias, a term developed by Michel Foucault, which he describes as the actual place layering several spaces that are incompatible (Foucault qtd, in Hallam and Hockey, 83). Continuing with the previous example, a bedroom of the deceased is a place converted into multiple spaces through the memories and attributions the bereaved can provide to it. Cemeteries, for instance, are places to commemorate the deceased, yet it has also become a space for social interaction with others (Francis, Kelleher and Neophytou qtd, in Hallam and Hockey). Spaces then, can attribute different layers to the same physical space, yet it can be revisited imaginatively evoking the same memories. Furthermore spaces can be mentally constructed through objects and embodied action as they are in rituals, yet those spaces exist only within the temporality of the event.

Cremation is a tradition that reinvented traditional practices and events in regards to the dead. It reconfigured the spatial dimension of the formal spaces for the dead, in the sense that they can be kept, dispersed and even buried. Hallam and Hockey state that a study about cremation in East Yorkshire demonstrates that it (cremation) has transformed the experience of space, either public or private³² (Hockey, Penhale and Sibley qtd, in Hallam and Hockey 93). Cremation in this sense, has allowed the bereaved to venture to use the non-formal spaces as places for the dead, like scattering the ashes in spaces of public domain. Furthermore, in cremation the ashes become representations of the body of memory. Therefore, in the event of death, the significance of the body is transformed from embodied experiences to the primary memory object of the deceased. This is one of the reasons death rituals commemorate the person by having the deceased body presented in the ceremony, like in Christian funerals for instance. It is in this moment that sacred objects such as the tomb, the casket or the ashes become extensions of the deceased. Material objects then, either through formal events or domestic practices, serve to address the absence of the deceased (Hallam and Hockey, 25). In this sense, objects have always served as mnemonic systems, which reach meaning and value beyond physicality and functionality; achieving then, as I mentioned earlier, the status of sacred. Gibson states that there are three ways objects obtain value after a person dies: through monetary calculations in the marketplace of exchange, through symbolic attributions and through moral attributions. The latter refers to the moral economy in families or cultures, in which objects are divided into alienable and inalienable. In this sense, inalienable objects are those that cannot be subjected to monetary calculations because of their significance in regards to the deceased based on cultural or social codes; and alienable objects, on the contrary, as non-direct socio-cultural representations of the dead person. However, Gibson explains that only in the case of financial need or desperation, commodification of inalienable objects is morally

³² The results refer to older widows and widowers

acceptable. However, she states that the Internet and online markets are reconfiguring the moral economy, in the sense that deciding what is alienable and what is inalienable is becoming more of a personal decision rather than a social or cultural one, especially because the bereaved's feeling of judgement is reduced.

The symbolic attributions, instead, refer to representations of identity bringing back memories and images about the deceased (55). Hallam and Hockey through Deborah Lupton's writings in the *Emotional Self* (1998), explain that objects in a consumer society are essentially commodities, yet once they become representations of the individual's identity they are transformed into a sense of the self as subjective (42); thus potentially symbolic for others in the event of death. From this point, one could gather that online data, for instance, is reaching the same or deeper symbolic status as representation of the self that objects have had historically. Objects instead seem to be reaching the status of instantiation of that data, a characteristic of the posthuman construction. Furthermore, Hallam and Hockey state that an object can become symbolic not only as the subject's identity, but also as representations of relationships, events and feelings (43). Objects then, have the capacity to acquire meaning beyond their functionalities and physicality. However, it is perhaps part of the posthuman construction to reinterpret their meaning, purposes and value when they are entangled with data.

From this perspective, I venture to say that part of the posthuman worldview is to expand the dimension of materiality when data comes into play. The physical space is reinterpreted as cyberspace (as I explained in *Technomysticism*, the cyberspace is an intangible space yet perceived as physical). Objects, specifically electronic devices, do not reach a symbolic status in themselves but as instantiations of data (being that data is what carries symbolic value). Embodied experiences are transformed into online interactions in which the role of the body becomes secondary and information (data) primary. However,

expanding the role of these aspects (space, objects and embodied action) as part of memory practices, is leading Internet-users to achieve new forms of connections with the deceased.

In this sense, Hallam and Hockey state:

Memory practices forge connections and have significant social repercussions. Therein lies their power, one that can constitute both a resource and a threat [...] Often, to foster connection is to simultaneously evoke absence. Attempting to repair the social and emotional rupture of loss via memory making is also to confirm that loss and to stimulate pain" (181-182).

In other words, recalling memories of the deceased has a double consequence: reconnecting the bereaved with the deceased by bringing past memories to the present, yet highlighting his/her absence. However, in a context of patterns and randomness like Facebook, one could wonder how the dynamic connection-absence evocation works. Perhaps, if the event of death is treated as randomness, connectivity with the deceased user could be recalling its lack of patterns. Eventually, due to intersubjectivity, the user would become a pattern;³³ while the deceased person will remain as absence.

3. Wearable technology:

In this section I provide a definition of wearable technology, why I include it in my project and how my practice within this field begins.

3.1. Introduction to wearable technology

Wearable technology is, as expressed by its name, technology that is meant to be worn and carried on the body, which is likely to extend our capacities and affect our experience of the outside world. Though the term is relatively new, people have used wearable technology for centuries; for instance, sunglasses and jackets can be considered to be wearable technology. However, in this project I focus on wearable technology as devices

³³ As I explained earlier, users are constructed through intersubjectivity, which means constructed by other users rather than by the person themselves.

conveying and processing data (say, wearable technology as new information and communication technology). As I explain in section 7, my exploration and practice in wearable technology has led me to create wearable devices using deceased people's Facebook data. However, the connection between wearable technology, new information technologies, and death, mortality and mourning was not straightforward at the beginning, but more intuitive.

3.2. Early practice in wearable technology:

I begin exploring the field of wearable technology from scratch: not knowing what it was, nor that there are industries and communities exploring this field; and not even having all the required skills to include wearable technology as part of my studio work. This led me not only to learn about wearable technology theoretically (in which I focus on the book *Garments of Paradise* by Susan Elizabeth Ryan), but also in practice, wherein I had to learn the basics of electronics (like creating soft circuits), discover electronic components and also learn how to sew.

3.3. Role of wearable technology in this project:

The reason why I turn to wearable technology as the visual form of my project's studio component is because it reinforces the paradox between the immortality of data and the mortality of human beings. On the one hand, data as intangible informational patterns opens up to a space of immortality. In this sense, Facebook's dead users can remain immortal through data, yet immortality does not refer to the immortality of the body, but as a representative and alternative immortality: the immortality of data. However, on the other hand, a person who is mortal is essentially mortal due to his/her body. Even though data is likely to remain alive beyond our human condition, human beings die. This contradiction led

me to reflect on the role of wearable technology in this context, and how they are likely to create tension. Therefore I create wearable devices conveying data of a deceased, yet worn by the bereaved (the still living body).

PART II

4. Facebook analysis

This section is an analysis of Facebook in relation to death, mortality and mourning. I begin by introducing the platform, the memorial page and critiques of the platform based on online sources. Following this, I analyze Facebook through Hayles' notion of pattern/randomness.

4.1. About Facebook

Facebook is a Social Network site created in 2004 by Mark Zuckerberg.³⁴ With 890 million active users (newsroom.fb.com),³⁵ the site has not only achieved worldwide popularity but is also part of most users' everyday lives. Facebook is structured for sharing personal information such as events and activities in the form of messages, photos and/or videos. Furthermore, the platform fosters connectivity among users and interactivity between friends, family and institutions. As Facebook's official page states: "Facebook's mission is to give people the power to share and make the world more open and connected. People use Facebook to stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them"(citation). Facebook products are meant to pursue this purpose. The site accounts for eleven products (table 1): Profile, News feed, Graph Search , Instagram, Messenger, Photos and Video, Pages, Groups, Facebook For Every Phone, Home, and Events (newsroom.fb.com/products/). Each one encourages different forms of interconnectivity and interaction. The user profile for instance, works as a timeline enhancing the idea that Facebook is a space where we store and share our digital life.

³⁴ However, the initial development of the Facebook site and idea included more members, whose names I am not including here.

³⁵ The amount reflects an average of active users until December 2014.

- **Facebook Memorial page:**

In 2009, Facebook encountered the reality that users die. Thus, the site needed options for the family and close friends of the deceased. Later that year, Facebook began to give bereaved users three options: they can keep the account open, as it was before the user died, delete the account, or transform it into a Memorial Page. The latter looks like a profile yet it works slightly different; for instance, the deceased users disappear from the Events and People You May Know sections. However, Facebook friends of the deceased user can keep posting on his or her Facebook wall. In the event of asking to close the account or converting it into a Memorial Page, the relatives or close friends need to provide Facebook with a list of documents and proof confirming the user's death (Moreman & Lewis, 199).

- **Critique of Facebook:**

Despite its worldwide fame, Facebook has received several critiques. The company has been formally and informally accused of a variety of negligences and offenses to their users such data mining³⁶ by externals, data selling to third-parties (Peterson, 5), obtaining data of its users outside the site without consent,³⁷ code bugs causing possible danger on users' data security (Spencer), lack of interoperability³⁸ and data portability,³⁹ vulnerability to likejacking,⁴⁰ unethical and inaccurate research, and negative social and psychological effects.⁴¹

³⁶ Data mining is the analysis of usually large amounts of data (big data).

³⁷ In 2007, Facebook launched a system called Beacon, whereby third-parties sent information of the Facebook users' interactions on their websites by including a script (www.facebook.com/notes/facebook/thoughts-on-beacon/7584397130).

³⁸ Refers to making systems and organizations *operate* together.

³⁹ Data portability refers to the users' right to transport or easily obtain his or her own data. It has been claimed that Facebook does not allow users to clearly download their own data. Neil O'Neill's post is an example: <http://www.adweek.com/socialtimes/facebook-let-me-export-my-contacts/304921?red=af>

⁴⁰ It is a technique to trick users. They click on something they do not perceive. Therefore confidential information could be stolen. The BBC found a bug opening the possibility for hackers to obtain information from Facebook users. (<http://www.bbc.co.uk/news/technology-10796584>).

⁴¹ Studies and speculations report that Facebook can cause stress, envy, depression, isolation and addiction. It has also been found a cause of divorce and bullying.

A controversial example is Facebook's emotion research called Experimental evidence of massive-scale emotional contagion through social networks. It is a study that was run on the site in 2012 wherein the emotional content (positive or negative) from people's News Feeds was altered in order to prove that this could cause emotion contagion:

We show, via a massive (N = 689,003) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues. (National Academy of Sciences of the United States of America)

The research was highly criticized as unethical and inaccurate, because it was released without any user consent (Guynn), and the research method they used - the Linguistic Inquiry and Word Count - just reads words as positive or negative yet disregards any subtleties. Therefore, the conclusions determined are not precise.⁴² However, the Facebook research team still sustains that the significance of the project is relevant.⁴³

4.2. Facebook analysis

Hayles' notion of pattern/randomness, as I mentioned before, is a cultural perspective of developments in Information theory, which state that information could be pattern and randomness. However, Information theory focuses on the quantification of information, while the cultural notion of pattern/randomness given by Hayles is a qualitative view. In this sense, this notion carries particular characteristics that differ from the quantitative perspective. It is from these characteristics that I analyse Facebook in regards to death, mortality and mourning.

⁴² The accuracy of the method in regards to the conclusions of the Facebook research team was mainly criticized by Dr. John Grohol, a researcher and expert in mental health online (<http://bit.ly/1IAjEyC>).

⁴³ The website of the project is still showing the research as a productive study (www.pnas.org).

The notion of pattern/randomness, unlike the quantification of information, considers that the meaning of information is important. The meaning of postings on Facebook, for instance, directly affects to the user.⁴⁴ In the sense that the user's identity is constructed through the perception of those messages and interactions. Furthermore, as I explained earlier, the construction of a user is not only through publications of the person the user represents, but through interactions with other users, also known as intersubjectivity. The meaning of all publications in relation to the user is in fact what determines the user's identity and what allow users to be (at least technically) immortal. If the person dies, the user has the possibility to remain alive through others' online interactions with the dead-user. However, the platform recently released a new feature in which users can designate a legacy contact.⁴⁵ This means that if a person dies, the dead user can continue actively interacting on the platform.

However, no matter how the deceased's account remains (either as any account of living users, memorial page, active through a legacy contact or even deleted), the death of the person is likely to be understood as randomness in the user's identity. Death is an unexpected event (randomness) that creates a transformation (bifurcation) in how the user was perceived (pattern). This bifurcation or alteration of the pattern's path is called mutation. Hayles states that when randomness interrupts a pattern, it is likely to create a mutation, which demonstrates how a random event can affect a pattern. Changes of the perception of a user because of death, is then a mutation. However some time after, the transformation the user is seen as a pattern again, yet a different one than during life. The notion of pattern/randomness then, alters the notion of presence/absence. While death in the 'real world' is seen as loss and absence; in cyberspace, death is seen as randomness, yet later returning to its status as pattern.

⁴⁴ Throughout this analysis I refer to the user as *it* and not as he or she.

⁴⁵ The feature has not activated in all countries yet.

Switching from presence/absence to pattern/randomness reconfigures notions of ownership in terms of access. Ownership is based on the existence of the possession (which could be physical or unique); while access is based on replicability. Informational patterns are replicable, in the sense that more than one person can have the same information. It is not about owning it in physical form but having access to it. The services of Facebook and therefore its Terms of Service and Data Policy work under notions of access. In this sense a user's data belongs to the person (user), yet accepting the Terms of Service allows Facebook to have full access and control over that data. It is for this reason that even though what Facebook does with this data could be seen as morally debatable (such as selling it to third-parties or using it to know users better), terms and conditions are giving the company power to do so. Furthermore, users can delete their accounts, yet in its Terms of Service, Facebook states that data could remain in backup copies. Deleting, in this sense, means that you and others will stop having access, but because of replicability, Facebook still has access to the user's data. In the event that a dead user's account is deleted, it will visually disappear, but it could potentially remain immortal in Facebook's databases.

In this sense, notions of public and private are also challenged by patterns and randomness. Presence/absence determines that private and public depend on physical inclusion/exclusion. However, in terms of informational patterns, what is private differs from what is public based on credentials of access. For instance, a user can friend other users by providing them levels of access to their account. If the account is set up as public, friend-users, non friend-users and even non-users can have access to the account. Furthermore, accepting the Terms and Conditions Facebook outlines means that the user has access to the platform; and Facebook, to the user's data; which, they state, will be utilized for their own purposes.

In the Data Policy, Facebook states that users' data is collected to know users better and provide more accurate suggestions and information particular to each person's News Feed. In this sense, most data a user sees and perhaps ends up interacting with is strategically managed by Facebook. One could understand that the construction of a user's identity is not only given by other users, but also guided by the platform. Hayles states that another characteristic of the notion of pattern/randomness is that individuals are mediated constructions. The construction of identity has always been influenced by others. Brands, products and advertising, for instance, have achieved a relevant role in people's identities. However, Facebook (like other Social Network sites) plays a different, more intrinsic role, because the user's identity is constructed within the platform, and therefore its immortality relies on the site.

However, a user's identity is not separated from the person, because it is part of the posthuman construction to understand the self as a flow of information, in which the boundaries between the machine and the biological being are blurred, what Hayles refers to as symbiosis. In terms of Facebook, symbiosis could even be seen through more layers, in the sense that the platform itself plays an important role (which can be seen as an instantiation but also as sets of informational patterns), yet the person still needs a physical device to access the site. Therefore, symbiosis includes three entities becoming one. They simultaneously interact with other users that imply three other entities. When a user dies, the three-identity dynamic continues, yet the elements such as the biological person or even the device can change. However, for the posthuman those elements are secondary, unlike the informational patterns.

In sum, one could gather that it is likely that Facebook wants users to remain actively immortal (especially for commercial purposes); and therefore, the ways death is incorporated in the platform might be seeking to create immortality and to encourage other

users to continue interacting (perhaps mourning) with the dead user. If this is true, future adaptations of the platform would continue pursuing commodification, rather than moral means for the bereaved and in honor of the deceased. Consequently, as it has happened in the history of advertising, cultural interpretations and adaptations could be driven by a company's commercial purposes. One could wonder then, what it is like to be mortal when immortality is being sold and bought.

5. Exploratory work, referential artists and designers, and workshops

In this section, I explain my exploration through my own studio work, work and writing by artists and designers influential for my practice, and workshops.

5.1. Exploratory work:

- **Soul 72**

My initial response to the idea of death within cyberspace was to prototype a website for online mourning and data immortality, titled Soul 72 (See fig. 1, 2, 3, 4). The name came from dialogues in online forums and blogs about the time it takes a soul to get to Heaven. Most people state that it is 72 hours.

The website includes three main sections: Live Forever, Give Eternity, and Say Goodbye. The first section, Live Forever, focuses on providing people with the possibility to keep their online data stored in safe databases and to determine a group of representatives (family or friends) who would be in charge of the deceased's data. The second section, Give Eternity, is for people to create a space to commemorate a deceased. The third section, Say Goodbye, is the link where the commemoration sites created in Give Eternity are.

The website had several debatable issues, especially because the prototype focuses on forms people would need to fill, and not how online mourning or data immortality would actually look like. However, it helped me understand that topics in relation to death should be treated more carefully than a set of forms and buttons.

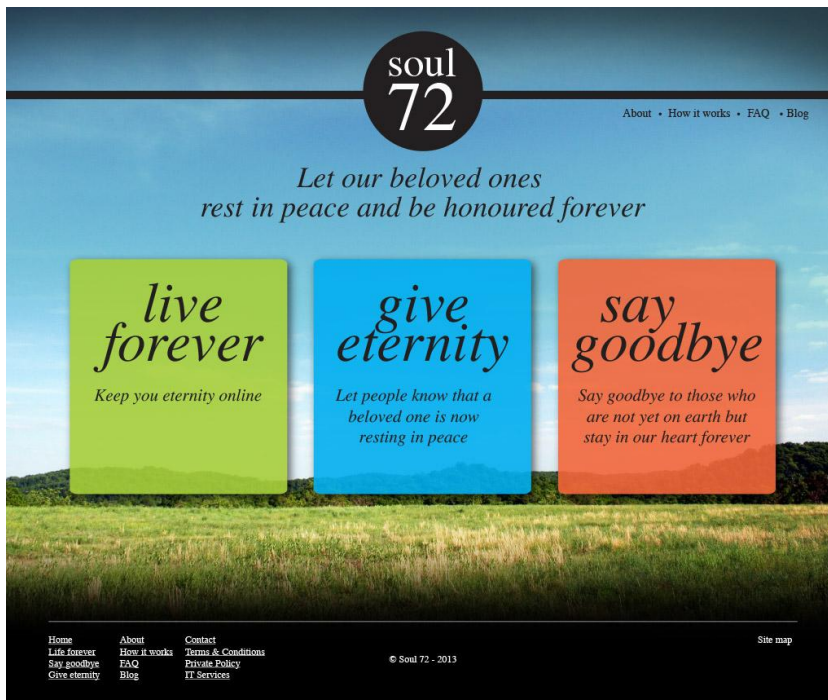


Fig. 1. Maria del Pilar Fernandez Davila. Soul 72.

Fig. 2. Maria del Pilar Fernandez Davila. Soul 72.

soul 72

live forever give eternity say goodbye

About • How it works • FAQ • Blog

Give eternity

Please introduce your contact information, you will be the account manager of the person who past away. After finishing with the online process, we will contact you by email and/or phone.

Your contact information:

Name: Last name:

Email: Alternative Email:

Address: Password:

Country: Phone number 1:

State: Phone number 2:

City:

[Continue >](#)

Home About Contact
Life forever How it works Terms & Conditions
Say goodbye FAQ Private Policy
Give eternity Blog IT Services

© Soul 72 - 2013 Site map

Fig. 3. Maria del Pilar Fernandez Davila. Soul 72.

soul 72


live forever give eternity say goodbye

About • How it works • FAQ • Blog

Say goodbye

[Search again](#)

Results:

 **Andrew Smith**
Toronto - Canada

Date of birth: 12 May 1970
Date of death: 30 July 2003

Peter Sanders wrote:
He was a musician and producer, working in USA. He was born and raised in Fairfield, Connecticut, and studied in Berklee College of Music (Boston). Later he moved to Atlanta [read more](#)

facebook twitter blog

Your name:

Message:

☐ I want a private message [Send](#)

Home About Contact
Life forever How it works Terms & Conditions
Say goodbye FAQ Private Policy
Give eternity Blog IT Services

© Soul 72 - 2013 Site map

Fig. 4. Maria del Pilar Fernandez Davila. Soul 72.

- **365 steps**

As a graphic and web designer, my practice has mostly relied on screen-based work. Therefore, I decided to challenge myself and approach the topic of online mourning process by creating a handmade prototype of a product responding to the topic. I began by questioning how a product for online mourning would look like. The outcome was Step 365 (See fig. 8, 9).



Fig. 8. Maria del Pilar Fernandez Davila. Step 365.

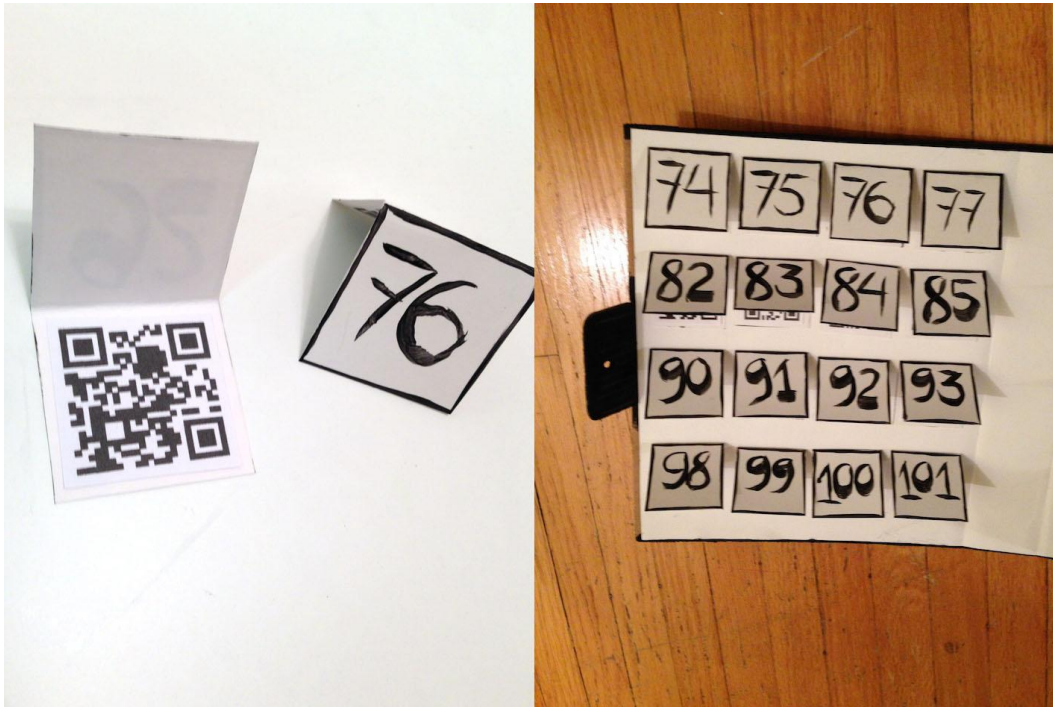


Fig. 9. Maria del Pilar Fernandez Davila. Step 365.

Step 365 is a product to help people mourn. It is set up with the framework of making daily steps in the mourning process. I began with the premise that the hardest period after the death of a loved one is during the first year after his/her death. Furthermore, the product was created on the assumption that mourning follows a similar path (five stages) for every person. In this sense, I organized the 365 tasks in the five stages of mourning (denial, anger, bargaining, depression and acceptance). The tasks included are presented as QR codes; when scanned with a QR reader app from a smartphone, take the bereaved to the web page wherein the task is explained.

Though it was productive to challenge myself in doing something different than my usual practice, the way I approached the topic imply different issues. First of all, the project began by personal assumptions, like that the bereaved would be willing to follow steps from day one of their mourning process, and moreover that the five stages are consecutive, all have the same duration and each happen once. Hence, as if the mourning process is equal in

all people. Furthermore, the idea of using QR codes does not necessarily respond to online mourning, but instead they became an excuse for the product to be connected to an online platform. The tasks, for instance, could have been the focus of the project, but they were not even developed, and were treated as secondary. However, as I explained in Bereavement, grief and mourning, this project opened up my reading of mourning as unique to every person, and the five stages as common responses people tend to have in times of mourning.

- **Doves**

After Step 365, I decided to create a prototype of a mobile app to help people mourn in a more personalized way. Doves (See fig. 10) includes seven sections: Message of the day (a daily quote to inspire the bereaved), Suggestions (general recommendations for the bereaved), Memories (memories of the deceased the bereaved would want to upload, yet they can only be seen by himself/herself), Your confidant (the service would include a specialist/therapist to talk to), Say goodbye (once the person is ready to let go of the deceased, it would delete the account), Profile (information about the bereaved), and Appearance (visual settings for the account).



Fig. 10. Maria del Pilar Fernandez Davila. Doves.

Though the app treats mourning in a more individualized way than previous projects, it shows the end of mourning as erasing a person from the bereaved's mind; when instead it happens when a person manages to accept and restructure his or her life without the deceased person, yet still remembers him or her.

- **My printer makes art**

The work, titled My printer makes art (See fig. 5, 6, 7), is made as a response to how electronic devices can be seen as animated, attaining a human-like presence. The work is based on a glitch in the printer, which makes the printer work properly from certain devices (such as my iPhone), and print colour strings instead of text or images from others (from my laptop, for instance). Furthermore, the colours attributed to each printing would vary each time, even with the same file. I ended up using the printer according to how it likes to print. Furthermore, I started referring to it as she, as if it became someone rather than something.

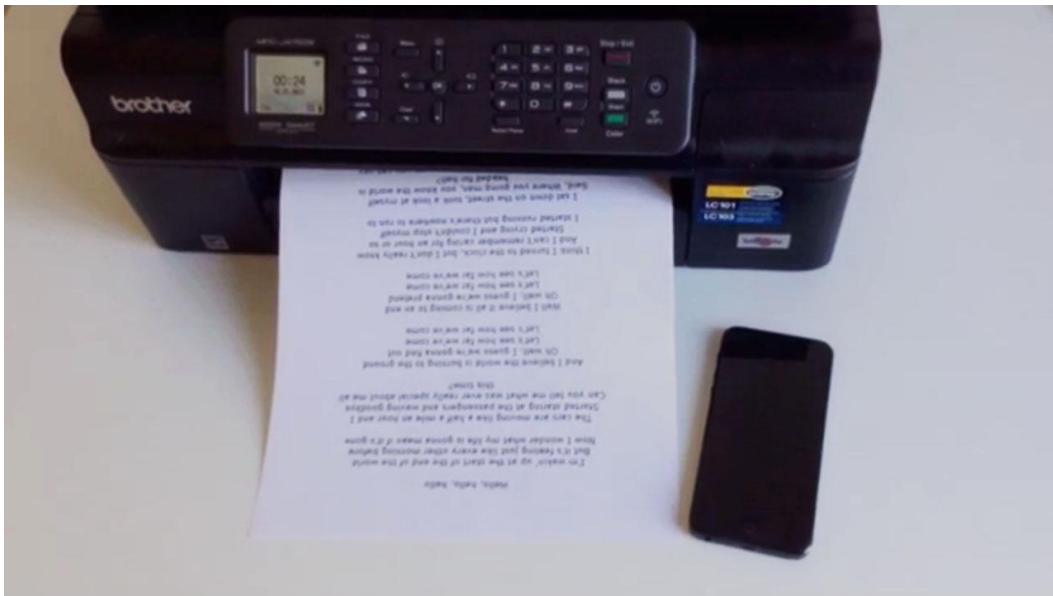


Fig. 5. Maria del Pilar Fernandez Davila. My printer makes art (video still).



Fig. 6. Maria del Pilar Fernandez Davila. My printer makes art (video still).



Fig. 7. Maria del Pilar Fernandez Davila. My printer makes art (video still).

As I explained in Technomysticism, new information technologies are likely to acquire technomystical attributions, in the sense that people tend to attribute animistic mysticism through spiritual imagination, yet electronic devices have qualities that respond to those myths. In this project, however, the animistic presence is seen through a glitch in the networked printer. I began to wonder how this human-like presence would be perceived with

more intelligent technological advancements, especially if one can carry them around such as a smartphone.

- **69280**

Influenced by Candy Chang's work, I decided to investigate people's reaction to death by inviting them to be part of the work. I came across the idea of inquiring about events in my country (Peru). Therefore, I created participatory installation titled 69280. The artwork is based on the socio-political conflict between terrorist groups and the Peruvian government between 1980 and 2000, a conflict that affected the whole country, changing lives forever. This bloody war resulted in 69,280 casualties, and this artwork commemorates them.

In order to recall the Peruvian roots in the Andean culture, the piece takes the form of a quipu, a mnemonic system employed in the Andean culture to remember events, information and ideas. A quipu is composed of a main string from which other strings are hung. On these strings, knots are created as representations of information to be preserved. The work was exhibited in a gallery, and visitors were invited to tie as many knots on the quipu as there were victims. They could make all the knots they want, and then mark on the wall the knots they had tied (See fig. 13).

The project was a good experience helping me explore death from a different perspective than what I was used to, and putting myself out of my comfort zone. I decided not to continue exploring the notion of death through Peruvian happenings nor through the Andean culture. However, the quipu as a wearable device expanding the wearer's mind, allowed me to reflect upon the role of technological advancements in the everyday. Along with previous ideas about the immortality of data, I began to wonder how the concepts of death and mourning might be affected or influenced by electronic technology, especially with

portable and wearable devices, since they are people's connection to (immortal) data, yet work as an extension of the (mortal) body.



Fig. 13. Maria del Pilar Fernandez Davila. 69280.

- **I'm with you**

In response to reflections in regards to the previous point, I created the bracelet I'm with you (See fig. 14). The leather bracelet is meant to be worn by the bereaved in connection to the deceased. It includes a QR code linked to the memorial page on Facebook of the deceased. The bracelet attempts to serve as a reminder of the deceased's death and the wearer's mortality.

This idea also came from explorations in objects of death. With this, I came across a modern adaptation of the memento mori (remember you will die, in Latin) practice. This trend was initially conveyed through paintings and sculptures in medieval times in Rome, wherein people reflected on their mortality. The modern adaptation,⁴⁶ however, was expressed through wearable objects, especially in the form of jewelry either carrying reminders through

⁴⁶ It happened mainly in Europe and North America.

quotes or death-related images such as skulls. The objects could be shared in funerals as a way to remember the deceased, yet they were also meant to be reminders of one's own mortality (a trend utilized by Christianity as a way to encourage a good earthly life for a celestial afterlife in Heaven). Objects given in funerals were also called mourning pieces, and did not necessarily include death-related images or phrases.

From these approaches along with questions from previous studioworks, I created this bracelet. However, I'm with you presents a too literal connection between a wearable device and data; instead of creating a more subtle experience wherein the immortality of data plays the main the role.



Fig. 14. Maria del Pilar Fernandez Davila. I'm with you.

5.2. Referential artists and designer:

- **Dunne and Raby**

Anthony Dunne and Fiona Raby have been working together on critical design projects for several years in their co-founded studio Dunne & Raby. They can even be considered to be pioneers in defining critical design as a field. They use design as “a medium to stimulate discussion and debate amongst designers, industry and the public about the social, cultural and ethical implications of existing and emerging technologies” (www.dunneandraby.co.uk). Their work and writing became the main sources for my understanding of critical design, and the forms it can take such as speculative design and design fiction.

Their collection *Do you want to replace the existing normal?* became particularly influential in my practice. It is a set of products based on needs people might have in the future, which they believe could be more complex and subtle than today. From the list of products, the *Statistical Clock*⁴⁷ specifically caught my attention. It is a device that retrieves news of technologically mediated accidents (such as car, train or plane accidents) from the BBC website. When an accident is found, the *Statistical Clock* announces the news (www.dunneandraby.co.uk). This work helped me reflect on how people could be invited to consider the influence of technological advancements on our perceptions of death, mortality and mourning, in a subtle way. Moreover, the Statistical Clock became inspiring for my project *Social Whisper*.

- **Julian Bleecker**

Julian Bleecker is an artist and technology-expert who works using design as a form to work across disciplines, especially in his lab Near Futures Laboratory. His writing *Design*

⁴⁷ The Statistical Clock and other work from Dunne and Raby can be found on www.dunneandraby.co.uk

Fiction: A short essay on design, science, fact and fiction has become a relevant source for expanding my perception of design, and my understanding of design fiction. Bleecker states that design helps describe and materialize ideas (5), even working across disciplines. Furthermore, he adds, “we can say that design, if only the word but probably much more, is a practice with the ability to travel and be taken-up in various creative, material-making endeavors” (Bleecker, 4). Design fiction for instance, is a combination of design, science fact and science fiction. Science fact refers to real science discoveries; and science fiction, to imaginative stories created around science facts. In this sense, science fiction creates alternative and imaginative worlds. Design fiction does the same but through design objects; objects that tell stories. Bleecker also argues, “Design fiction is about creative provocation, raising questions, innovation, and exploration [...] stories that speculate about new, different, distinctive social practices that assemble around and through these objects” (7).

In this sense, Bleecker's ideas have influenced me to consider a world narrated through my design pieces. Specifically, the products from the collection *Remember you will [not] die* have been structured in such a way that each one tells aspects of the same story; a story that aims to create conversation around the influence of technological advancements in new information technologies, such as Facebook on our perceptions of death, mortality and mourning. Furthermore, Bleecker's Design Fiction text provides interesting examples and references of artists and designers working in the field. Sascha Pohflepp's work, for instance, became very inspiring for my studio work.

- **Sascha Pohflepp**

In Bleecker's Design Fiction, I came upon the artist, designer and writer Sascha Pohflepp and his work *Between Blinks & Buttons*⁴⁸. In this project, Pohflepp creates a blind camera that does not take pictures, but captures all the similar pictures that have already

⁴⁸ Images and more details about Pohflepp's work can be found on www.pohflepp.net

been taken from that same location. This project seeks to create conversation around the everyday practice of taking pictures. The camera, as a networked device, not only allows people to create photos and make them public, but also create traces of themselves. Furthermore, each picture is a memory and a set of information about its context, like when and where it was taken. This project invites people to create narratives between one's memory and someone else's moment crossed over in time (www.pohflepp.net).

- **Candy Chang**

Candy Chang's projects focus on the relationship between public space and personal well-being, usually in the form of public art or participatory installations. Chang's work is always inviting people to interact and connect with the social concerns. She usually gets involved with communities, asking them to think about social issues and to interact by sharing their personal perspectives. Her work has provided me with new ways of connecting artist/designer to a viewer/participant, leading both to be part of the work and not just producer and observer, respectively. Her artwork has had great influence in my thinking throughout this masters program, specifically her project *Before I Die*.

Chang's work *Before I Die* is a public participatory artwork initially made in 2013 in New Orleans and later reproduced in different cities around the world. Her work began as response to the loss of a loved one. She painted the outside walls of an abandoned house like a chalkboard with the incomplete quote Before I die, I want to: _____. The audience then was invited to complete the quote by writing their personal dreams, desires and hopes. This project has been reproduced in 425 neighborhoods, twenty-five languages and more than sixty countries, leading her to publish a book titled *Before I Die* to showcase and celebrate these walls. The success of the project demonstrates how people are willing to engage in dialogues relating to death if the subject is presented properly. In this sense, Chang's work helped me consider alternative ways of approaching the topic of death, and

inviting others to a dialogue, by using art and design as a medium and without even putting any religious or spiritual charge on it.

- **Fiona Carswell**

Fiona Carswell is a multi-disciplinary artist and designer. Her artwork focuses on wearable technology and interactive screen-based projects; and her design practice, on interaction design, visual design, and motion graphics (www.fionacarswell.com). Her collection *Contemporary Memento Mori* became a great influence for my practice. It includes two wearable technology pieces as a form of persuasive health design. One of the pieces is titled *The Smoking Jacket*. It carries a valve in the form of lungs that absorbs the exhaled smoke turning the lungs darker. The other piece is *The Malignant Mole Bikini*. By using UV sensitive paint, the bikini displays moles when exposed to the sunlight. Through this project, Carswell mainly sought to investigate the users' emotions, impulses and behavior towards the product. Furthermore, the project seeks to explore the role of social shame and support (www.fionacarwell.com).

This work gave me an understanding of how an everyday object, when properly adapted and displayed can become a strong commentary, beyond its materiality. Furthermore, through this project, I reflected on the power of wearable technology to create intimate experiences; in the sense that when worn, the wearer embodies the experience. Using wearable technology to create a dialogue around the relationship between new information technologies and death, mortality and mourning became an appropriate direction for my project.

5.3. Workshops:

- **ITP Camp**

ITP Camp is a one-month summer program at the Interactive Telecommunications Program faculty (ITP) at New York University. The program is comprised of different kinds of workshops in technology, programming, craft and design. I had the opportunity to attend this program as part of my masters at OCAD in June 2014. At ITP I focused on exploring the technical aspects of wearable technology, such as learning the basis of electric circuits, Arduino hardware and software, sewing circuits and getting familiar with materials and components to work with.

- **The Extrapolation Factory & Futurematics**

The Extrapolation Factory is an "imagination-based studio for design-led futures studies" (www.extrapolationfactory.com). They work on creating future scenarios and artifacts embodying those experiences, what is called experiential futures.

I had the opportunity to participate in one of their workshops, titled Futurematics, when I attended the ITP Camp. This workshop is given by the Extrapolation Factory along with Stuart Candy (future scenario expert, Situation Lab co-founder, and OCAD professor). The workshop focuses on encouraging people to create products responding to imaginative scenarios of the future. The scenarios are structured by a card game titled *The Thing From The Future*⁴⁹ (cards provide aspects to help participants construct the scenario). Participants are gathered in groups, and have to create products in the context of those scenarios. After the creative process, participants have to build a mock-up or prototype of one of the products. At ITP, we gathered all the product ideas and each person chose one and made their own prototype. I ended up making a helmet with improved signal for people using the

⁴⁹ *The Thing From The Future* game has been created by Situation Lab at OCAD University.

dating app Tinder, in order to get better dating options. At the end of the project, the whole group went to Canal St. and set up the products as if they were for sale.

Participating in this project gave me a better understanding of how to create future scenarios and future products. Furthermore, it allowed me to see that an argument in this sense is better conveyed when the scenario is experienced and the products support the story.

6. Speculative Design Foresight

As I mentioned in the Methodology section, Speculative Design Foresight does not necessarily determine what is likely to happen, yet envisions plausible futures. The decision to use a future scenario and therefore future research techniques came up as a consequence of developing some of the pieces that are now part of the chosen scenario. Although these pieces are responding to my main argument, they need a context. Situating them in the present restrict the objects to a realistic context (or at least, it would be harder for the audience to detach the products from actuality). However, talking about the future frees people's imagination and allows for a more engaging conversation. Furthermore, working in a future scenario also helped my own creativity, allowing me to create non-existing products and to develop objects that attain a more accurate provocation. Specifically, my goal by using this methodology is to invite people to participate in a dialogue to examine how new information technologies especially Social Media, are transforming the way we perceive death and mortality, and consequently altering the mourning process. The projection itself tackles three elements (death, mortality and mourning) based on Hayles' posthuman; creating then an exaggeration of the posthuman's future if some aspects (the driving forces or uncertainties of the topic in question) continue or disappear.

In this sense, this project foresees a future ten years from now. The decision for the amount of years comes from a combination of two key factors. On the one hand, technological advancements are faster than one can imagine. Every year there is a new smartphone, a new device or a new discovery. On the other hand, cultural transformations tend to be slow processes that take decades. Therefore, technically the products I create for this project are doable today, but culturally speaking it is still hard for people to see these pieces working in the current context. From my own experience, people tend to think that dealing with Facebook data of a deceased person is insensitive, disrespectful or even a

waste of time. However, others change their mind when they themselves have to deal with such situations. Facebook, for instance, did not come up with an actual “solution” for dead users until 2009, when the company created the possibility for memorial pages (Moore, “Facebook introduces 'memorial' pages to prevent alerts about dead members”).

The following paragraphs in this section reveal the creative process of building up an imaginative future. Therefore, the final result is a combination of collected data and my own creativity. I begin by explaining how and what I have included as important data; continuing with the categorization and organization of this data; followed by the construction itself of four scenarios using the two-axes technique and the selection of a specific scenario for the project’s focus. Details of the chosen scenario are included in a later section of the document titled Remember you will [not] die.

6.1. Environmental Scanning

Environmental scanning, as determined by the futures specialist Jamais Cascio, is a Futures Thinking technique for gathering as much data as one can find in relation to the research focus, categorize the collected data and then find its driving forces. Sources for this technique tend to be more informal, in a sense that this technique is used to understand what is happening out there, what people are doing and how they are behaving, in relation to the research topic. I combine different types of sources: books, websites, blogs and magazines. Once the sources are determined, my process begins by determining signals, followed by trends and finally drivers.

- **Signals**

The gathering of data determining signals comes from three techniques. First, I looked at books on how to approach the future and understand the twenty-first century, such

as Approaching the future by Ben Hammersley. These sources served as guidance for meaning. Second, I determined key words in relation to death and new technological developments (mostly from Social Network sites and Wearable Technology). And finally, I searched for news from the main technology sites and magazines such as Fast Company, Wired, The Economist, and Mashable. The list includes 82 signals (See table 2).⁵⁰

- **Trends**

Trends are determined by reading patterns from the list of signals. After putting together a list of possible trends, I have valued the implication of each signal to the trend(s) it is related to (See table 3). Values are given from 1 to 3 (blank = non relation, 1 = indirect relation, 2 = somehow related, 3 = very related, 4 = the most direct relation). Then, I have organized each trend with its most related signals; a list of possible implications and the list of drivers that can either move the trend forward or alter its path. In the process, I found that some trends did not have significant implications for the core topic, and therefore have been taken out of the list. The list (See Appendix B) includes the final group of trends I am using for this project along with the list of signals, implications and drivers.

- **Drivers**

Driving forces or drivers are the reasons why a trend is likely to continue moving forward. Drivers can either keep to the trend's path or change it. In this sense, the uncertainty of what will happen depends on the drivers themselves. The following list includes the most relevant drivers guiding these trends:

⁵⁰ Most of the signal titles in this list are taken from the source posts or modified from existing content for clarification.

Lower uncertainty	Moderate uncertainty	Higher uncertainty
<ul style="list-style-type: none"> • Desire for immortality • Desire for competition • Desire for connectivity • Data as representation of the self • Perceptions of data as eternally permanent • Desire for Singularity 	<ul style="list-style-type: none"> • Miniaturization and empowerment of technological advancements • Nanotechnology • New attitudes towards privacy 	<ul style="list-style-type: none"> • Facebook's structure and features • Socio-cultural values

6.2. Scenario planning and development

From the list of drivers influencing the trends' direction, I have chosen two main drivers in relation to the core topic of this thesis project, in order to build up the scenarios through the two-axes technique (See fig. 15). These two drivers are those with a higher level of uncertainty and importance to the project's intentions:

- Driver A: Facebook's structure and features
- Driver B: Socio-cultural values

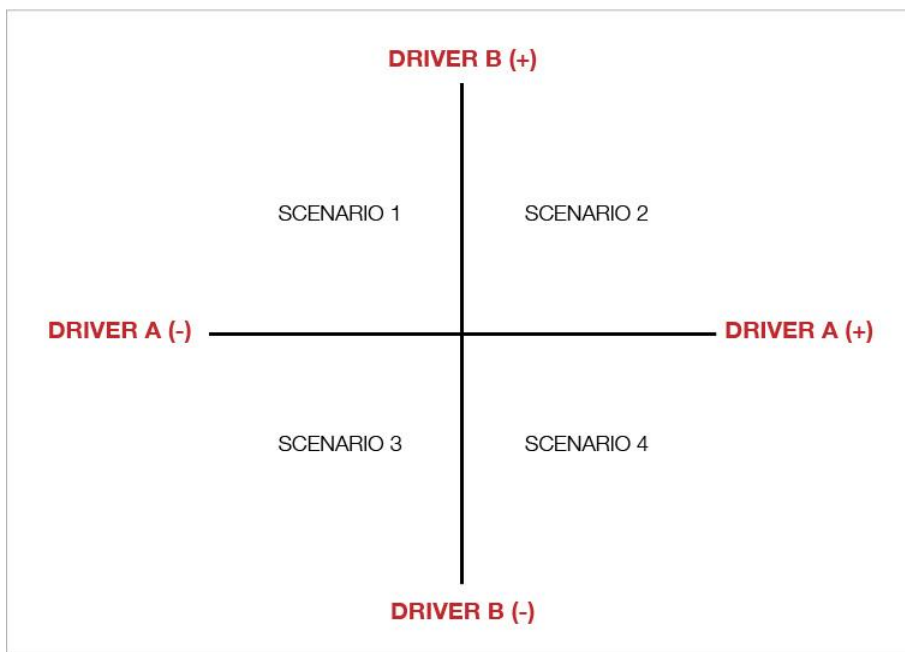


Fig. 15. Two-axes' general scenario-structure.

Driver A (See fig. 16) refers to how the platform could be in the future: if it continues working as a Social Network site, or if it becomes something else beyond being a SNS.

Driver B refers to people's position in terms of data, technological advancements and data's importance as representation of the self. It could be either materialist, wherein technological advancements and the economical value of data are given a higher degree of importance over human essence; or spiritualist, wherein human beings are more valuable and important than technological advancements (data then working as representation of the self).

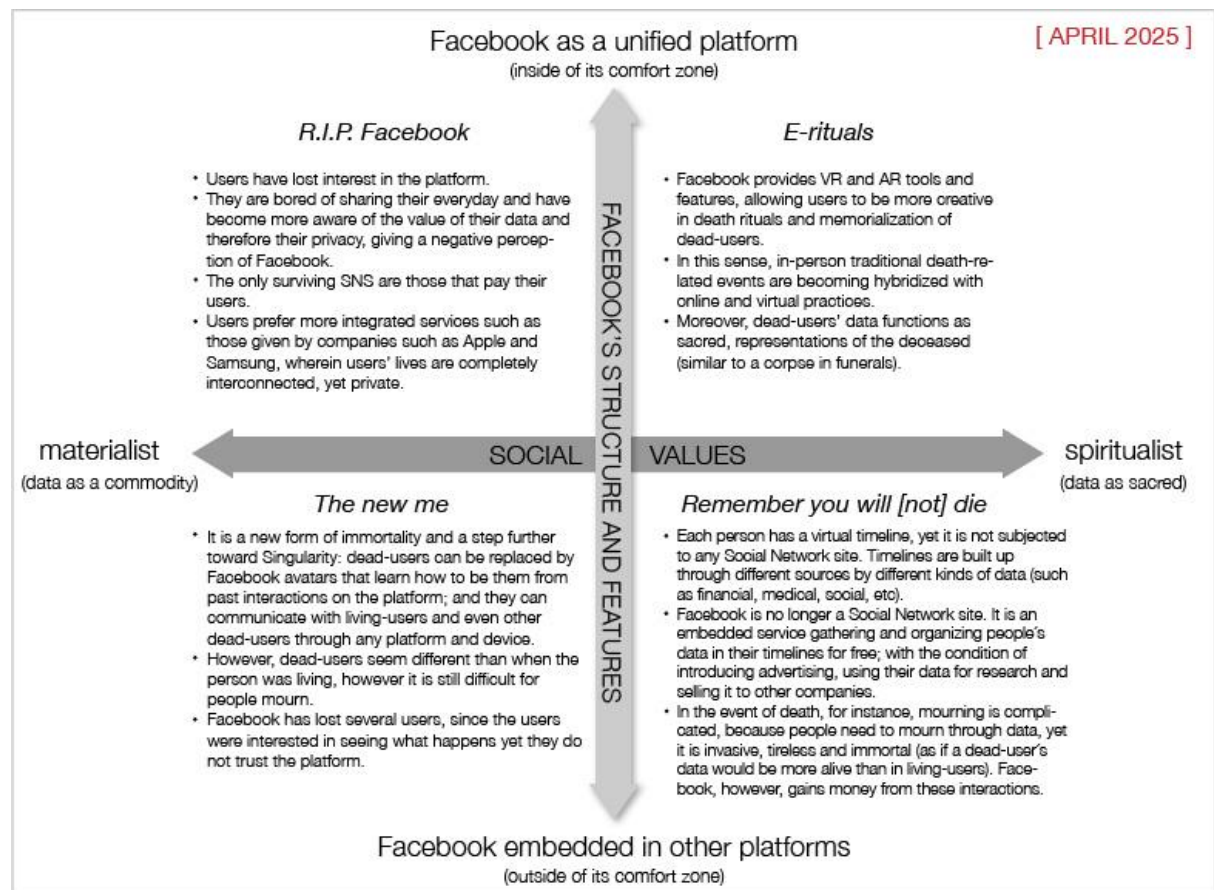


Fig. 16. Project's scenario-structure.

Crossing these two uncertainties I have created four scenarios. The description of each scenario is the results of my creative process based on environmental scanning along with the Facebook analysis and the formal research of this project.

- **Scenario 1: R.I.P. Facebook**

This scenario is constructed under the premises that in year 2025—ten years from now, (A) Facebook continues as a SNS; and (B) people are likely to focus on materialist aspects rather than spiritual beliefs:

Users have lost interest in the platform. They are bored of sharing their everyday and have become more aware of the value of their data and therefore their privacy, giving a negative perception of Facebook. The only surviving SNS are those that pay their users. Users prefer more integrated services such as those given by companies such as Apple and Samsung, wherein users' lives are completely interconnected, yet private.

- **Scenario 2: E-rituals**

This scenario is constructed under the premises that in year 2025—ten years from now, (A) Facebook continues as a SNS; and (B) people are likely to continue with spiritual expressions through data:

Facebook provides VR and AR tools and features, allowing users to be more creative in death rituals and memorialization of dead-users. In this sense, in-person traditional death-related events are becoming hybridized with online and virtual practices. Moreover, dead-users' data functions as sacred, representations of the deceased (similar to a corpse in funerals).

- **Scenario 3: The new me**

This scenario is constructed under the premises that in year 2025—ten years from now, (A) Facebook does not continue as a SNS; and (B) people are likely to continue with spiritual expressions through the platform:

It is a new form of immortality and a step further toward Singularity: dead-users can be replaced by Facebook avatars that learn how to be them from past interactions on the platform; and they can communicate with living-users and even other dead-users through any platform and device. However, dead-users seem different than when the person was living, however it is still difficult for people to mourn. Therefore, Facebook has lost several users, since the users were interested in seeing what happens yet they do not trust the platform.

- **Scenario 4: Remember you will [not] die**

This scenario is constructed under the premises that in year 2025—ten years from now, (A) Facebook does not continue as a SNS; and (B) people are likely to continue with spiritual expressions through data.

Each person has a virtual timeline, yet it is not subjected to any Social Network site. Timelines are built up through different sources by different kinds of data (such as financial, medical, social, etc). In this sense, Facebook is no longer a Social Network site. It is an embedded service gathering and organizing people's data in their timelines for free; with the condition of introducing advertising, using their data for research and selling it to other companies. In the event of death, for instance, mourning is complicated, because people need to mourn through data, yet it is invasive, tireless and immortal (as if a dead-user's data would be more alive than in living-users). Facebook, however, gains money from these interactions.

- **Choosing the scenario:**

Creating the four scenarios has been helpful for reflection towards the focus of this project, yet not all of them work as provocative environments or some of them do not sufficiently convey the arguments of this project. For instance, scenario 2 assumes that ten years from now, there will not be many changes; technological nor behavioral. From my perspective it is not a provocative scenario. Scenario 1 shows the other side of the coin: Facebook ends. Whether it could happen or not, it limits further considerations assuming that Facebook will not do more to reinvent itself. Scenario 3 is interesting yet it slightly changes the path of the project toward transhumanism, which is not the focus. Finally, scenario 4 (the chosen one) shows a transformation of Facebook as a company confronted to an animistic, spiritualized human-like data yet still working as informational patterns. It is the posthuman essence made truth.

7. Remember you will [not] die

Remember you will [not] die is a future scenario 10 years from now (2025) to encourage people to envision an alternative everyday and invite them to a conversation on how new information technologies, especial Social Network sites, are transforming the concepts of death, mortality and mourning. The following subsections are: first a narration of the scenario and the fictional characters living in it; and second, the collection of products and service as a consequence of the needs in such scenario.

7.1. Remember you will [not] die, the scenario

Although people are still mortal beings, their immortal virtual data has attained an established spiritual role: it represents the person in all aspects. Data are people's IDs around the world. Each person's data is organized in a timeline. Having one is not a choice, but a necessity. Timelines are built up not only from SNS but from different sources (such as wearable and implantable devices tracking people's everyday). In this sense, lifelogging and self-quantification practices are required and they are embedded in everyday life.

Social Network sites have had to reinvent themselves to survive. Facebook, for instance, is no longer an active social network site. Instead it has become an embedded service gathering and organizing people's data in their timelines. Furthermore, Facebook has become the lens for people's lives, displaying to each person what the company wants them to see. For instance, if a person needs to buy food, Facebook will show only the restaurants working with them; which at the same time will become part of the person's timeline, such as the location, preferences, etc. In this sense, Facebook has become a big competitor for Google. Furthermore, others can access the user's timeline, if he or she gives them permission, yet connectivity is more private, different than a SNS.

Facebook provides its services without charging a fee to users, yet their data, aside from advertising, is utilized for research and is sold to other companies. The management of one's data has become embedded and more invasive; however since having a timeline is required, users depend on Facebook.

Since data is the virtual representation of each person, data is part of the mourning process. Virtual rituals are gaining more importance than traditional rituals, yet in-person funerals and memorials still exist, and usually incorporate VR and AR reality settings. However, the big issue is the internal mourning process. Data is even more invasive even when the person has died, in the sense that it chases the bereaved to interact with the deceased's data, letting Facebook gain income from those interactions. People need a strategy to control the data of the deceased, and also to prepare for their own afterlife to prevent this kind of invasion of other people's lives. The following mourning pieces work as such.

7.2 Remember you will [not] die collection

The *Remember you will [not] die* collection is presented as a set of products and service to help people mourn and/or prepare for their online afterlife (in terms of how they want to be remembered by others). In this sense, a person can purchase the products in advance for others to mourn him/her once he/she has died. Therefore, the objects have two functions: as mourning pieces and as reminders of mortality, the latter being less evident than the former. The function as a reminder of mortality would be discovered as one is invited to purchase the objects for others to mourn him/her. As I explain in the website

subsection,⁵¹ people can buy the products for themselves (to mourn someone's death) or for his/her own afterlife (for others to mourn the buyer's death). Products are recommended to be used for a year or on special dates, yet the final decision of the timeframe and hours per day would depend on the wearer.

Though this collection is presented as purchasable products, the true purpose of this project is to invite people to a dialogue about this topic. From a critical design perspective, the collection is my own commentary of how new information technologies are propounding to reconceive the concepts of death, mortality and mourning; and also an invitation for people to be part of this dialogue. Nevertheless, I have made user interviews including user testing to prove if each product is conveying the right message and appropriate reactions.

- **Social Whispers**

Social Whispers is a wearable device in the form of a collar that retrieves data from a deceased person's Facebook timeline (See fig. 17). It transforms this data into audio and conveys it through a pair of headphones attached to the structure. Social Whispers is meant to be worn by the bereaved as a way of mourning and a reminder of our own mortality. The collar and the audio are meant to isolate the wearer in time (the audio revisits past events yet the wearer has no control over the data, since the device only has two buttons: play and stop), and in this space (the person cannot see through the collar). The wearer will hear all kinds of data included in the deceased's timeline, such as the deceased activities during his/her lifetime, others' interactions with the deceased's timeline, and even advertising in relation to the deceased's lifestyle and likes. The main purpose of this product is to provoke and draw attention to how online data can be invasive during a mourning process. In this

⁵¹ See next subsection *Remember you will [not] die branding* (subsection 6.3)

sense, I decided to use audio instead of visual images, because I consider that sound in this case works as a more invasive sense than the visual.



Fig. 17. Maria del Pilar Fernandez Davila. Social Whispers.

As I mentioned in *Facebook analysis* (section 3), one of my concerns is how invasive advertising could be, especially in Social Media, in which advertisements end up becoming part of the digital construction of the self. Nonetheless, advertising in general is already part of most people's everyday, and even has become a way for people to construct their identities. However, Social Media tends to highlight these facts. My intention with this product then, is also to demonstrate how advertising is embedded in a person's online presence and becomes part of this data-invasion during a mourning process.

In order to prove if the product is conveying the message I intend, I performed user interviews, which also included user testing.⁵² I invited three participants to read a story about a character (See story 1 in table 4), try the collar, and then asked them about the

⁵² The user interviews/user testing were made individually with each participant, yet it is likely that most of the responses I include are those that were common among the three participants, unless some of them tackles something I find particularly interesting.

experience. All of them responded right away that they felt awkward and uncomfortable using the product. They found it morbid, creepy and invasive. Furthermore, all of them stated that they themselves would not use the product, yet some mentioned that other people might be more likely to use it. The main and common issues the participants had with the products were technical. Some mentioned they got distracted by the automated voice of the product (the first version of the product utilizes an automated male voice), in which a human-like voice would work better; there was also difficulty with attaching the collar to the neck without my assistance, which demonstrates that even if the product continues as a collar it needs to be easier to put on. Each person had issues understanding where the data came from (for instance, there was confusion with distinguishing between the profile data and the newsfeed), yet they knew it was from Facebook. Furthermore, no one commented on the role of advertising, yet they mentioned there was data that does not belong to the deceased, because the automated voice reads all the details found on the site, like what each button says including the website address.

However, the interviews demonstrate that some aspects of the product are conveyed properly. For instance, all participants felt they did not have control over what was going on, as if they were trapped, isolated or encapsulated. In this sense, one of the participants mentioned that he would use it if the product would be less evident, because he does not want people to know what he is doing. Another participant stated that he would like to stop the data anytime he wants without having to take off the product (there is a button to stop the sound yet it requires taking off the collar), because he cannot predict his emotional response.

From all this feedback, I believe that the product needs to continue being awkward and invasive, yet the information received on how it works and what it conveys needs to be clearer. In this sense, since the future scenario assumes that Facebook no longer continues

as a SNS, the product does not need to convey all data as in Facebook, yet just as a timeline wherein advertising is embedded. Furthermore, aspects that need to be fixed are the physical usability of the product as easier to be worn, and the audio as a human-like voice and not an automated one. Based on the feedback, I created a new version of the Social Whispers (See fig. 18), in which details from the first version are fixed, such as the automated voice is now a human-like voice (the buyer can choose on the website if he/she wants his/her own voice, or a narrator's voice (either female or male); the structure is easy to wear, and the audio conveys data from the deceased's Facebook timeline without noisy details such as URLs or names of buttons as in version 1.



Fig. 18. Maria del Pilar Fernandez Davila. Social Whispers (new version).

- **In Your Shadows**

In Your Shadow boots is a mourning piece that retrieves data from the locations checked in on Facebook by a deceased person during his/her life (See fig. 11). The boots are meant to be worn by the bereaved and light up when he/she passes by those locations. Though the work is presented as a mourning piece, my intention is to show how data could be invasive even within the physical space. The immateriality of data then, achieves a material-like dimension creating an intrusion in the everyday.



Fig. 11. Maria del Pilar Fernandez Davila. In Your Shadows (video still).

As I mentioned in the section Rituals, places and objects of death, there are places and moments specifically dedicated to death and mourning, such as cemeteries and funerals, yet there are spaces that represent death in a unique and individual form based on the person's experiences in relation to a deceased. In this sense, a cafe or even the bereaved's own house can become reminders of another's death because of the memories the space comprises (See fig. 12). In Your Shadows works like that. It highlights and pushes

the wearer to face mourning perhaps in a crude and invasive way. In this sense, one of my intrigues relies on how data can create new mourning spaces that the wearer was not aware of or did not have any memory in relation to a specific location.



Fig. 12. Maria del Pilar Fernandez Davila. In Your Shadows (video still).

The In Your Shadow boots were also subjected to user interviews and user testing, wherein participants also read a story about a fictional persona (See story 2 in table 4). The interviews brought up interesting comments; for instance, most participants found that the product causes a bittersweet feeling, in which is nice to remember the deceased through spaces and bring up memories, yet it could be extremely hard when death has happened recently. All stated that they would use the product, yet whether it would be daily or occasionally is something that varied among participants. For instance, one said that it would be nice to use the product on special occasions; while another participant mentioned that she would use it as an everyday accessory and in this sense she would like to be surprised by it. All of them felt comfortable with the physical form of the product and the way it works, and they stated that they would not change anything about it. Taking into account all the

feedback, I believe that the product is successfully conveying the message I intend and I will keep it as it is right now. However, the boots now include aesthetic details (fabric circles) that visually connect this product to the other three (See fig. 20).



Fig. 20. Maria del Pilar Fernandez Davila. In Your Shadows (new version).

- **Beat My Heart:**

Today almost every activity, thought and event can be translated into digital data, such as regular everyday activities and functions of our physical bodies—as I explained in the *Quantifying the self* trend in the *Speculative Design Foresight* section (section 5). Most of this data is shareable and reproducible on Social Network sites. Part of the creation of this future scenario is to convey how Facebook allows us to upload new forms of data. From this perspective, I created Beat My Heart, which uses the stored data of the heartbeats of a now-deceased person during his/her lifetime (See fig. 19). The product has two parts: One is a hug pillow and the other a hugger sweatshirt. To make the product display the heartbeats' sound, the bereaved has to hug the pillow wearing the sweatshirt. As part of the service, the

bereaved can receive a message on a special date of the deceased person's lifetime to remind him/her to hug the pillow.



Fig. 19. Maria del Pilar Fernandez Davila. Beat My Heart.

My intention in creating this product is to highlight the quantification of the self along with the loss of the body as part the mourning process. Quantification of the self has been used mostly for health and wellness purposes, which can potentially help people connect with the state of their bodies. Caring about the physical body resembles the fragility of the human body and our dependence on it to be alive. Death occurs when the physical body stops working. For those who are still living, death is the loss of the person and his/her physical absence. Beat My Heart tackles the contradiction Social Media creates as conveying the self as pattern/randomness, when in reality human beings depend essentially on their physicality.

To prove if the product is reflecting the intended message and reactions, I engaged in user interviews and user testing as with the other two products (See story 3 in table 4). The product captivated all participants, bringing up comments about how powerful the heartbeats are as symbols of life, especially combined with a hug. Because of technical issues, the heartbeats stopped after a few minutes and all were intrigued by this, some stating that it resembles the moment of death, especially because this happened right after the heartbeats accelerate (an effect I created on purpose). Another issue some participants

had was carrying it (although they were carrying it properly, they thought something was wrong), yet all said that it is because they need to lie down. When I asked if they would use the product, none of the participants hesitate in saying they would use the product, especially at night or in a dark setting lying on a bed or couch. In this sense, they also stated that they would be likely to buy one. However, some mentioned that it could be overwhelming for some people, especially if the person does not like to talk about death. Furthermore, none of them mentioned the lights, perhaps because they could not see them, yet when I asked it did not bother them.

In sum, the product generally properly conveys the message, yet there are some details to be fixed. For instance, I may need to be more specific about how the product is meant to be carried or used, indicating that the product is better to be used lying down on a bed or couch. Furthermore, I believe that it is good to change the rhythm of the heartbeats as it was initially planned, since it keeps the user alert, and even use the glitch (when the heartbeat stops) as a benefit, yet starting again after a few seconds. Therefore, based on the feedback, I fixed the product: now the sound of the heartbeats is looped, and the way the pillow should be carried is conveyed at the exhibition and on the product packaging.

The interviews for these three products have helped me think further not only about details to be kept or fixed in each product as mentioned above, but also about how they should be presented (for example, at the final exhibition). For instance, all participants always referred to the products through their personal experiences, not using the characters of the stories I asked them to read at the beginning. However, the stories of these characters would be helpful in a video displayed next to each product at the exhibition, allowing people to see how the product is meant to be used, in what context and for what purpose.

7.3 Remember you will [not] die branding

The brand, as well as products and service, are as a company, separate from Facebook, yet using Facebook's data with the permission of users.

- **The brand**

The name of the brand is inspired by the historical trend memento mori (remember you will die in Latin), as I explain in the section Exploratory work and referential artists, designers and workshops, when describing the project I'm with you. However, since the notion of the immortality of data as patterns and randomness is technically a contradiction to biological death as the absence of the physical presence, I decided to include [not] in the phrase, in order to convey the paradox (See fig. 21).

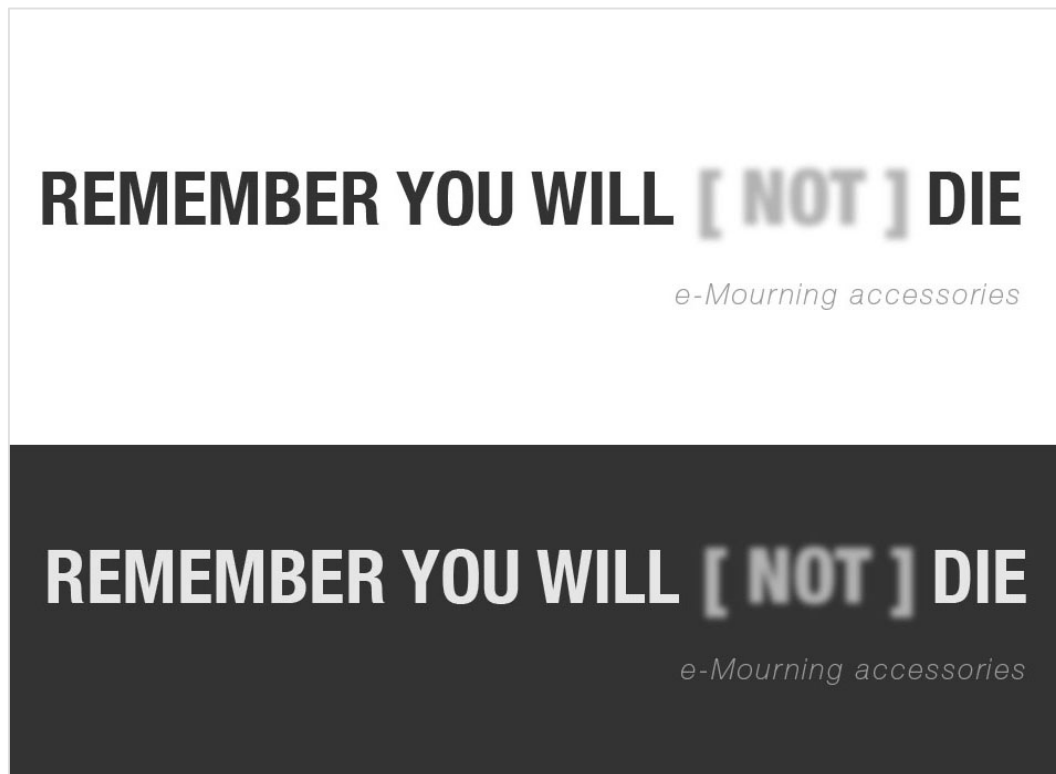


Fig. 21. Maria del Pilar Fernandez Davila. Remember you will [not] die logo

- **Website**

The website (www.rememberyouwillnotdie.com) is an online store where people can pre-order the products (See fig. 22). The potential buyer will not be aware of the purpose of the project until he or she clicks on the pre-order button, which takes him/her to a page wherein the purpose of the project is explained, and invites people to share their thoughts, especially in terms of what they would do to prepare for their digital afterlife.

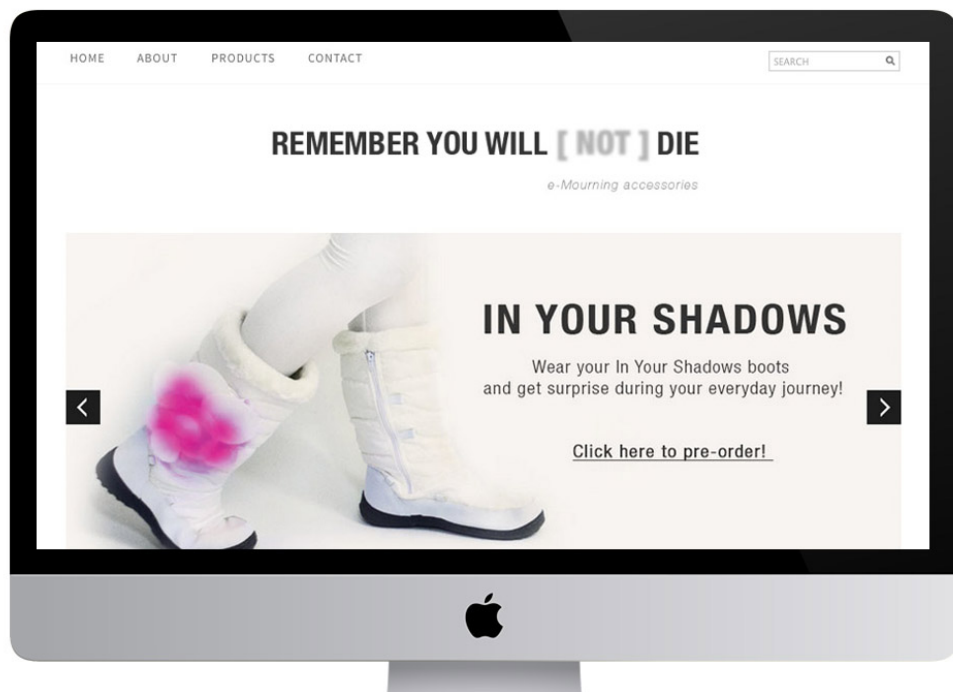


Fig. 22. Maria del Pilar Fernandez Davila. Remember you will [not] die website

8. The Exhibition (launch)

The exhibition was presented as the launch of the *Remember you will [not] die* collection and service, in which the website was also released for people to pre-order the products online. However, for this project the exhibition was an experiment. My intention with exposing the products and the project itself to the public was to observe people's reactions, and interaction with the topic in real time.

The exhibition lasted three days (from May 8th to May 10th) including an opening reception on May 8th (See fig. 23, 24), and took place at Milk Glass gallery (a gallery and event space on Dundas St. West). I decided to use this specific space because as an event and exhibition place, it fits with the purpose of the exhibition. Furthermore the space is located in a busy area, it has a display window looking to the street (See fig. 25), and it is big enough for three products.



Fig. 23. Maria del Pilar Fernandez Davila. Remember you will [not] die opening reception (1)



Fig. 24. Maria del Pilar Fernandez Davila. Remember you will [not] die opening reception (2)



Fig. 25. Maria del Pilar Fernandez Davila. Remember you will [not] die display window.

The set up for the space was minimalist and the elements were mostly white to match the aesthetic of the products the products (See fig. 26, 27, 28). Each product was displayed on a mannequin and turned on, next to its box with a sign explaining how the product works (See fig. 29, 30, 31). I also include elements that reinforce their status as commercial products. For instance, I mounted a shelf with boxes for each of the three products (See fig. 32), and set a pile of catalogs (See fig. 33) and business cards. Furthermore, at the opening reception I had two sales assistants wearing T-shirts with the brand, responding to people's questions and inviting them to pre-order the products online.



Fig. 26. Maria del Pilar Fernandez Davila. Remember you will [not] die exhibition space (1)



Fig. 27. Maria del Pilar Fernandez Davila. Remember you will [not] die exhibition space (2)



Fig. 28. Maria del Pilar Fernandez Davila. Remember you will [not] die exhibition space (3)



Fig. 29. Maria del Pilar Fernandez Davila. *In Your Shadows* exhibition photo



Fig. 30. Maria del Pilar Fernandez Davila. *Social Whispers* exhibition photo



Fig. 31. Maria del Pilar Fernandez Davila. *Beat my Heart* exhibition photo



Fig. 32. Maria del Pilar Fernandez Davila. Remember you will [not] die boxes



Fig. 33. Maria del Pilar Fernandez Davila. Remember you will [not] die catalog

At the opening reception and the two days following, I had the opportunity to observe people's reactions. Most people believed that the products were for sale, and there was a tendency to ask me about prices and if they could get the products right away, in which case I answered that prices are online and products are likely to be available soon. Some people, however, were more skeptical and asked me if I was really going to sell these products, in which case I assured them that this is an actual business project I am running. Most people visited the website at that precise moment and confirmed my answer. What is most interesting is how people were engaged with the topic. They commented on how they have thought about or dealt with people interacting with dead Facebook users; some even confessed that they have at least once said good-bye to someone who died on Facebook.

Without being asked, most people told me which product was their favorite and why. In this sense, I noticed that more people liked *Beat my Heart*, mentioning that it is something they would actually use, especially at night. Most people referred to *Social Whispers* as creepy or invasive, yet those few who liked it perceived it as a device creating a space for reflection. Opinions on *In Your Shadows* varied: some people were curious about

being surprised by the light when using the products, yet some mentioned this would be scary, creepy and even invasive.

The exhibition has been a key element in this project, in which the products and service attained their role as critical design. The exhibition contextualized the products inviting people to the conversation about death, mortality and mourning on Facebook, and encouraging them to share their thoughts. As a designer always behind the scenes, it was interesting and enriching to see potential users (either people I know or even strangers) immersed in the dialogue, sharing their thoughts, experiences and opinions either with me or with the sales assistants.

9. Conclusions

The following section includes the future directions this project could take, and the discussion and conclusions obtained in this exploration.

9.1. Future Directions:

This project could possibly take me to further explore and/or expand four different areas: the development of the other three scenarios; the creation of workshops for alternative scenarios in relation to death and Social Media; the role of advertising and consumerism in the construction of the digital self; and/or the exploration of different kinds of loss through the lens of critical design

Due to the timeframe of this Masters Program, I decided to explore one of four scenarios created through the two-axes technique. A future direction this research might take is to develop the other three scenarios, in which I would create products and/or services based on each context. In this sense, it would also be interesting to develop each context as experiential futures, possibly in the form of participatory installations, wherein people can interact with the products and services.

The second direction I might follow is to invite people to the conversation through workshops, wherein participants would be asked to create future scenarios in relation to death and Social Media; and consequently to imagine products and services working in those contexts. Furthermore, this would allow me to expand my knowledge and practice in futures thinking techniques.

The third direction my work could take as an extension of this research project, is to explore the role of advertising in the construction of the self. I was tempted to address aspects of consumerism and advertising in more depth for this project, but in order to narrow it down I had to be more concise. However, I strongly believe that it is an interesting topic to research, and that combining advertising with critical design is a path my studio work is likely to follow.

The fourth direction I am personally interested in would be to explore different kinds of loss and endings through the lens of critical design. In this sense, I would like to investigate how the mourning process works in different contexts aside from death, such as when a person loses a job or when a couple break up; or even when a person deals with the end of stages in life, such as when a teenager transitions into adulthood.

More importantly, I am sure that my studio work outside of this project and this masters program will continue working through the lens of critical design, exploring more aspects of speculative design, futures thinking and design fiction.

9.2. Discussion and Conclusions:

I began this thesis project referring to death as if everyone would think about it relatively similarly, and consequently the mourning process would work the same way (even though I was aware of different spiritual beliefs, and hence different constructions of death). However, one of the first aspects I understood about researching a topic like death, mortality and mourning, is that beyond cultural, social and/or religious beliefs, death is individual to each person, not only the event of dying but the construction one creates around death. However, external aspects can affect or influence these constructions. For instance, religion can work as a guideline for people's constructions in relation to death like beliefs in afterlives,

in which traditions (either religious, cultural or social practices like death-rituals) can help people cope with a loved one's death. Furthermore, following Erik Davis' ideas, technological advancements have been working as the other side of the same coin, making those spiritual beliefs look more real or attainable. In this sense, another important external aspect is how technological advancements (specifically in new information technologies) have attained an important role in the construction of the self, referred to as the posthuman. It is from this point that my research began to question how the concepts of death, mortality and mourning are perceived if the construction of the self has changed.

The posthuman construction brings to the table an interesting paradox: on the one hand the individual is believed to be a set of informational patterns in which its body is just a replaceable embodiment, wherein information (say, data) flows from instantiation to instantiation. Therefore, the posthuman is essentially capable of reaching a kind of immortality. On the other hand, however, human beings are still embodied beings living in a material world (which is one of the critiques of the posthuman Hayles constantly highlights), and therefore mortal beings. It is likely to think that this contradiction between mortality and immortality would produce a kind of chaos. Nonetheless, human beings (and I specifically refer to Internet-users) have managed to keep both aspects living together and complementing each other. This happens because both perspectives work under different layers, yet both belong to the lens of how human beings see the lifeworld nowadays. The first perspective works under the notion of presence/absence; and the second is based on the notion of pattern/randomness. In the event of death, these two notions come into play: death in the material world is absence, wherein people mourn the absence of the deceased. In the virtual/online world, however, death is a random event altering patterns. The dead-user does not specifically die as in the material world, but suffers a transformation (what Hayles refers to as mutation). In this sense, new information and communication technologies (specifically Social Network sites like Facebook) are not necessarily changing the perception of death like

diminishing or ending with traditional beliefs, but expanding it. It is clear that human beings acknowledge their human condition as mortal beings, yet cyberspace gives them the opportunity to be remembered forever through their data, a kind of immortality famous artists and writers have reached for centuries. The term immortality, in this sense, does not refer to the immortality of the human being (of the flesh, crudely expressed), but of archives (digital data) bringing memories back about the now deceased person.

The concept of mortality is also expanding. Though mortality relies essentially on our physical bodies subjected to a physical world, the posthuman construction through technological advancements are reinterpreting what it is to be a mortal being. With this, I am referring to how our human physical capacities have been expanded especially because new technologies have been reducing notions of time and distance. In this sense, a person can reach someone else on the other side of the world or obtain information about a place far away from home in a matter of seconds. Therefore it is likely to think that one could be anywhere anytime without physically moving. However, this possibility does not deny the fact that human beings still need physical interaction and experiences with people, objects and places. We, human beings are still mortal, yet new technologies are providing us with the possibility to expand some aspects of that condition, not all of them.

One of the most evident aspects of the effects of new technologies in relation to death, is how people mourn deceased ones through SNS. The mourning process has also been expanded due to online practices in relation to death. Traditional public expressions and practices such as rituals and memorials have not been replaced by online practices. Instead, messages to the deceased work in addition complementing those traditions, yet without following any established rule as in formal rituals. It is also important to highlight that spiritual beliefs are attributed and expressed to SNS such as when people write messages to a deceased as if he/she were in Heaven, and the site is a way to communicate with him/her.

One could gather then that Facebook, for instance, works as a communication medium not only among living human beings, but across worlds (for those who believe in a kind of afterlife). Furthermore, in terms of grieving (the internal mourning), it is almost impossible to state that SNS are changing or expanding it, because each grieving process is unique. Nevertheless, one could say that a grieving process is likely to be affected, either positively or negatively, by SNS, in the sense that it can pull back memories at the right or wrong moment. However, what is important to acknowledge is that this door is open: SNS can cause an effect on the bereaved during the grieving process.

Although I am positive about the benefits technological advancements can bring to our everyday, I strongly believe that we are situated at a moment before things could begin to change radically in a not so positive way. In this sense, some experts in the field highlight their concerns: Sherry Turkle, for instance, states that technology is leading us to isolation like when one gets lost in the depths of a smartphone; and Katherine Hayles constantly argues that human beings are still embodied beings living in a material world, and (despite the posthuman construction as immaterial) they should not forget that. Perhaps one of my main concerns and critiques about technological advancements in relation to death, is relatively connected to Hayles' concern. SNS are still a representation of the self (not the self), in which the essence of the person behind (a mortal human being) is somehow scattered when the person dies. Intersubjectivity along with technomysticism keep the user alive, but the essence of the person that data represents will not continue being *there*. It will be just data that brings up memories. My concern relies on how interactions with dead-user can go further to the point of creating confusion. For instance, there are projects seeking to recreate people through their own data (table 2, point 27). Although it is clear that the new-being would not be the same person, it is likely to create chaos and confusion among living beings, especially if technology reaches the point when is hard to differentiate which is a person and which is a machine. Moreover, if these recreations are merged with Virtual Reality

or Augmented Reality technologies, the dynamic between presence/absence and pattern/randomness would then become chaotic or radically transformed.

This research project then leads me to conclude that the concepts of death, mortality and the mourning process have not become something else due to technological advancements yet, but their meanings have broadened and expanded. Immortality is still being hoped for as has been throughout history, yet nowadays this hope is embodied in cyberspace, as the immortality of data. It is also important to highlight that understanding all of this, and specifically the dynamic between the material-world view and the online-world perspective, would have not been possible without Katherine Hayles' notion of pattern/randomness. In the sense that it sets the difference between two layers that are comprised in the lens of how human beings see the world today.

I finish this thesis project more scared of dying and death than ever, yet still wanting to be mortal. I deeply wish that after such event, I could be remembered as the person who inspired me to pursue this project, my grandma, who reminded me that memories never die.

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Appendices

Appendix A: List of trends

- ***Connected beyond life***

In the last few decades, connectivity among people has increased and become easier. Current technological advancements demonstrate that what people understood as connectivity twenty years ago has reached levels and forms that not many could imagine. Social Network sites specifically, have revolutionized not only the way people get in touch with others around the globe, but also with whom or what people connect with. Specifically in terms of dead users, as I mentioned by the end of Notions of immortality (section 2), studies show that living users tend to communicate with the dead. Connectivity then, has surpassed death, and signals open up the possibility that such behavior can continue and evolve along with technological developments. Furthermore, Social Network platforms have taken into account that living users have to deal with the dead ones. Therefore SNS have created options for the bereaved.

Some signals of this trends are:

- LivesOn will let you tweet after dying (Mashable).
- If I Die, an app to send private messages and emails to friends and family after death, launched a campaign called If I Die 1st in August 2012, which asks people to create goodbye messages and offers to the participant who dies first to publicize his/her message for a month within the community and media (Mashable).
- Social Media encourages users to talk to the dead (B2C).

Some of the implications this trend might cause are reconception of death and mortality; new forms of mourning;⁵³ distraction and attention issues as a social transformation; Isolation and decrease of in-person conversation; determination of specific privacy laws for online data; and importance of data as part of one's legacy.

⁵³ See *E-mourning*

Some of the drivers conducting this trend are miniaturization and empowerment of technological advancements; socio-cultural values; desire for immortality; Facebook's structure and features; desire for Singularity; desire for connectivity; data as representation of the self; perceptions of data as eternally permanent; and new attitudes towards privacy.

- ***Manipulable bodies***

Treating bodies as if they are easy to manipulate and modify is likely to continue and even increase. Practices in biotechnology and genetic engineering, among other disciplines, enforce this trend. Ben Hammersley in his book *Approaching the future* states that a current fact to help us understand what the future of these fields might look like is biohacking. Hammersley explains that genetic engineering focuses on manipulating an organism's genome to produce a desired effect, yet the procedure does not assure the goal will be achieved: However, the MIT research scientist Tom Knight developed standardised components to produce the precise effect one pursues (206). Furthermore, advancements in implantable and ingestible technology, and even video game and virtual reality have started to be used for physical improvements and adjustments.

Some signals of this trends are:

- There is a video game attempting to train eyes to work better together (Popular Science).
- One can build a biotech startup for less than a mobile app (Fast Company).
- Biohackers and DIY cyborgs are working on echolocation implants, brain-controlled software programs, and even cybernetic rats (Fast Company).

Some of the implications this trend might cause are new perceptions of mortality; new medical specializations; higher connectivity; higher self-quantification; self-diagnosis of illness or health issues; longer lifetime spans; cyborgism; new illnesses; and implantable and ingestible technology as normal options in health and wellness practices.

The driving forces moving this trend forward are desire for immortality; desire for Singularity; miniaturization and empowerment of technological advancements; socio-cultural values; and nanotechnology.

- ***The Internet of Things (IoT)***

Term determined by Kevin Ashton, specialist in RFID⁵⁴ and research at MIT, the Internet of Things refers to a world in which objects can communicate with people and even with other machines. Furthermore they are objects connected to the Internet, working with sensors and measuring details of the everyday. The IoT then, could revolutionize the presence and role of objects, and even blur perceptions of what it means to be a living being.

Some signals of this trends are:

- The smart home could be a reality in 2020 (Mashable).
- Soofa, smart park benches, soon will be launched at the Rose Kennedy Greenway in Boston (Fast Company).
- BeClose is a system based on wearable devices and sensors, to monitor an elderly long distance (Postscapes).

Some implication of the IoT are perception and role of objects in the everyday; disappearance and reinterpretation of job positions; emergence of new job positions; improvement of social security; more time for leisure; reconception of death and mortality; isolation and decrease of person-to-person conversation; and determination of specific privacy laws for online data.

Driving forces pushing this trend are miniaturization and empowerment of technological advancements; desire for connectivity; desire for Singularity; socio-cultural values; new attitudes towards privacy; desire for competition; and data as representation of the self.

⁵⁴ It refers to *Radio-frequency identification*, which is the wireless transmission of data to track and recognize objects with tags. Technique utilized in Virtual Reality.

- ***E-mourning***

This trend refers to mourning practices either individual or social on online platforms. Social Network sites and memorial websites, for instance, have been increasingly activated as online cemeteries or spaces for commemoration, as well as spaces to deal with someone's death. Moreman and Lewis state that nowadays it is more common to see users writing to the dead on Social Network sites, either as ways of expression or as if the dead user would read the message. In this sense, spiritual beliefs from the offline-world tend to be reinterpreted online.

Some signals of this trends are:

- A guy puts a QR code on his mother's tombstone to create a dynamic memorial (Mashable).
- Robin Williams' death is collectively mourned on Twitter and Facebook (New Republic).
- Michael Kibbee created an online cemetery in 1995 right after being diagnosed of a terminal disease. The World Wide Cemetery is still active years after his death (Newsweek / World Wide Cemetery).
- Leonard Nimoy, the actor from Star Trek who died recently, had an online memorial (io9).
- A girl states that mourning her mom before and after Facebook were two different experiences (Buzzfeed).

Some of the implications this trend might develop are online death-related rituals as normal; reinterpretation of death and mortality; reinterpretation of the mourning process; changes in mourning-therapies; changes in psychological beliefs and practices towards mourning and grieving; determination of specific privacy laws for online data; and importance of data as part of one's legacy.

The driving forces guiding this trend are socio-cultural values; desire for immortality; Facebook's structure and features; desire for connectivity; data as representation of the self; perceptions of data as eternally permanent; and new attitudes towards privacy.

- ***Death 2.0***

In the future, it might become usual to treat online data as part of a deceased person's legacy. This trend then, refers to the treatment of data not only as a representation

of oneself, but also as a person's possessions an individual leaves behind after they die and thus would have to be accounted for. An individual's data in Social Network sites, for instance, would technically be part of his or her legacy, a perception that might cause complications and perhaps the reinterpretation of policies in these platforms, since legally all data belongs to Facebook.

Some signals of this trends are:

- Google creates digital will and testament (Fast Company).
- By 2012, 30 million people who have died still have active Facebook accounts (Mashable / The Huffington Post).
- Lately deceased users have become victims of trolling, which means that memorials sites have been hacked and transformed into a space to make fun of the deceased (First Monday).
- Mashable creates a list of the 20+ tools to prepare one's death online (Mashable).

Some of the implications might include reinterpretation of Social Network sites' policies in terms of data ownership, reinterpretation of death and mortality; decrease of users in a Social Network site if the company is not likely to yield a users' data; people's legacy could be invaded and interrupted due trolling, hacking and even advertising; determination of specific privacy laws for online data; and data as part of one's legacy.

Some of the main drivers pushing this trend forward are desire for immortality; perceptions of data as eternally permanent; desire for connectivity; socio-cultural values; data as representation of the self; Facebook's structure and features; new attitudes towards privacy; and desire for competition.

- ***Let's play a game!***

This trend focuses on gamification as a trend in new information technologies, especially in relation to online businesses that do not necessarily provide actual games but treat their platform as if users would (through specific strategies) be playing. Gamification is based on the use of game-psychology, in which users are encouraged to behave as if they were playing a game. For instance simulating an environment with gaming structures (or

associations), such as competition, reward, and perhaps unconscious comparison to others, are some of the techniques of this trend. However the goal is to have people focus on what the company wants. Different Social Network sites like Facebook or Foursquare use such techniques driving people to perform tasks or create the kind of data the company requires for commercial purposes. Since perceptions of death, mortality and mourning seem to be affected by Social Media, one can imagine that death might be eventually treated like a game.

Some signals of this trends are:

- Yelp-users tend to write reviews not out of altruism but because they enjoy it, seeing the activity of translating experience into words as an opportunity for creative output (Fast Company).
- Websites, Social Network sites and apps such as Facebook, Twitter and WeightWatchers, work under parameters of the psychology of digital games (Approaching the future).
- Social Media might be causing envy among users (Fast Company).

Some of the implications this trend might derive are death, mortality and mourning treated as games; a more evident and exaggerated commodification of the self; reinterpretation of death and mortality; reinterpretation of the mourning process; changes in mourning-therapies; increase of data per user; and determination of specific privacy laws for online data.

Drivers conducting this trend are Facebook's structure and features; socio-cultural values; desire for connectivity; new attitudes towards privacy; desire for competition; and data as representation of the self.

- ***The alternative me***

Attempts to attain Singularity, a term coined by Ray Kurzweil referring to the time machine surpass human beings in all aspects, along with a strong desire for immortality has led researchers and computer-experts to work on potential durable forms for human beings to remain immortal. These could be manifested by taking the form of a computerized entity

by transporting the mind to a machine, or by having the computer 'learn' how to embody (or 'be') an individual based on his or her digital data.

Some signals of this trends are:

- Project exClone: Reaching immortality by creating a clone constructed on the individual's digital data (Silicon Angle).
- Eterni.me is a project that seeks to create artificial intelligence online as avatar representing a person through his/her data (Eterni.me).
- In 2014 Transcendence, a movie taking on ideas of consciousness and singularity is released (Newsweek).

If Singularity is achieved, implications might take unimaginable paths; however having an alternative computerized representation of the self might include the following implications: reinterpretation of death and mortality; alterations in mourning; changes in mourning-therapies; new fields or specializations such as computational health; changes in psychological beliefs; and new forms of life.

Driving forces moving this trend forward are desire for Singularity; desire for immortality; socio-cultural values; Facebook's structure and features; miniaturization and empowerment of technological advancements; desire for connectivity; perceptions of data as eternally permanent; new attitudes towards privacy; nanotechnology; desire for competition; and data as representation of the self.

- ***Lifelogging for the afterlife***

Lifelogging is the practice of capturing and recording information of the everyday, and sharing it online. Practitioners of this movement use either lifelogging devices such as the Memoto camera (a wearable camera taking pictures every 3 minutes throughout the day), or even their own smartphones with lifelogging apps. Furthermore, Social Network sites encourage people to share information about their own life in the form of videos, photos, public messages, and so on. In addition to the trend of lifelogging, people are starting to see

their online data as part of their legacy. An idea that is highlighted by a new feature of the Facebook platform: the determination of a legacy contact to be in charge of one's data.

Some signals of this trends are:

- Memoto is a tiny wearable camera to capture every moment (Fast Company).
- Light, an app from Light of Creativity art workshop, aims to create a digital record of people's digital record, similar to dropbox but including social functionalities (Mashable).
- In 10 years, every person connected to the Internet will have a timeline (Slashdot)

Some of the implications could be determination of specific privacy laws for online data, either for the lifeloggers as well as for the people depicted in those images without being aware; expansion and adjustments in data storage tools; decrease of current forms of crime, and the arrival of new ones; new forms of caring for elderly, mentally disabled people or kids; data as a part of one's legacy; data legacy fulfilled from useless or unrepresentative data; and new perceptions of privacy.

The drivers pushing this trend forward are socio-cultural values; Facebook's structure and features; miniaturization and empowerment of technological advancements; desire for connectivity; perceptions of data as eternally permanent; desire for competition; and data as representation of the self.

- ***Quantifying the self***

This trend comes from the Quantified Self (QS) movement, in which people track information about their own activities through electronic devices such as wristbands or even tracking apps in smartphones. The purpose of doing this is to use that data for other purposes. Tracking one's information is not a new activity, yet it was usually done because of health issues. For instance, an article from the website Mashable explains that Chris Dancy, the most connected man in the world, began tracking himself because doctors determine and track information about his body. However developments in technology have encouraged people to apply this practice to other ends, such as sports records, online

activities or even wellness improvements. Practitioners of QS activities are able to share that information with other practitioners or even on SNS, which tends to create competition among Internet-users.

Some signals of this trends are:

- There are currently 40,000 health-related smartphone apps, and 60% of U.S. adults track their weight, diet or exercise (Mashable).
- The Quantified Self initiative is a collaborative project founded by Gary Wolf and Kevin Kelly. The goal of this initiative is to create a community around quantification of data and to help people understand their data (Quantified Self).
- A.R.O creates an app that records everything you do by just using a sensor from the smartphone (Computer World).
- The most connected man, Chris Dancy, began tracking himself because of health issues (Mashable).

Some of the implications this trend might attain are earlier detection of health issues; people being able to have control over their own health information; data as a part of one's legacy; reinterpretation of how health and life insurance companies determine policies; changes in life insurance companies' determination of what those insured can get; determination of specific privacy laws for online data; and data discrimination between employees and employers in the workplace and the quantification of work development.

Some driving forces conducting these trends are miniaturization and empowerment of technological advancements; socio-cultural values; desire for immortality; Facebook's structure and features; desire for competition; and data as representation of the self.

- ***Virtualizing and augmenting reality***

Virtual and augmented reality have been applied mostly to video games, but this trend is reaching new fields such as medicine, Social Media and advertising. Virtual reality (VR) is based on creating computerized simulations of the environment, either as alternative or real worlds, in which the person is immersed mostly through wearable sensors connecting the person's senses to the virtual world. Environments are shown in a computer screen or more likely with 3D imaging devices. Augmented realities (AR) are the interactions of real-

physical elements that are computer-augmented altering the perception of reality. For instance, an article from Mashable states that Facebook is working on apps of VR for social experience. Applications of these two practices have been also included to health and wellness aspects. Virtual and augmented reality then, seem to be a likely path for new technological advancements.

Some signals of this trends are:

- MindLeap, one of the latest devices in Virtual Reality using cameras and depth sensors, is used to help rehabilitate patients with paralyzed limbs (The Verge).
- The future of Facebook could be a combination of messaging, wearable technology and virtual reality (Nasdaq).
- Facebook closes its two-billion-dollars Oculus Rift acquisition. (The Guardian)
- Pepsi launches an augmented reality (AR) campaign for the Super Bowl (Fast Company).

Some of the implications of this trend are new forms of communication; physical and psychological studies and improvements; and alterations in the perception of reality

Drivers guiding this trend include desire for connectivity; desire for immortality; miniaturization and empowerment of technological advancements; desire for Singularity; and data as representation of the self.

- ***Technology on, through, in!***

Becoming a cyborg has often been a dream in sci-fi movies; however, in the last two decades, electronic devices for communication and information have become smaller, more powerful, closer to us and more embedded in our everyday. Wearable, implantable and even ingestible technologies seem to be the form technological advancements might take in the coming years.

Some signals of this trends are:

- A group at Carnegie Mellon University create a smartwatch that uses the skin of the wearer's arm as a surface on which the buttons of the watch are placed (Wired).
- Philips is developing an ingestible gadget, a pill that will allow doctors to send medicines to the specific gastrointestinal tract. The iPill also measures pH levels and temperature, and transmit the information to an external device (Fast Company).
- Mimo is a smart wearable baby monitor, in which the baby gown carries the device monitor.
- In 2025 people could be wearing Facebook (Postscapes).
- *pplkpr* (people keeper) is an app along with a wristband that tells users how specific people make them feel (Mashable).

Some implications this might cause are emergence of new disciplines such as e-fashion or e-health; increase of connectivity; self-quantification and external/internal lifelogging; health and wellness progress; self Health-awareness and detection of health-issues without going to a doctor; and new illnesses.

Drivers guiding this trend are desire for immortality; miniaturization and empowerment of technological advancements; nanotechnology; socio-cultural values; and desire for connectivity.

Appendix B: Tables

Table 1. Facebook products descriptions.

Product	Description
Profile	Profile lets you organize and highlight the events and activities that matter most to you. You can choose the information you want to share on your Profile, such as interests, photos and work history.
News feed	News Feed is a regularly updating list of stories from friends, Pages, and other connections, like Groups and events. People can like or comment on what they see. Each person's News Feed is personalized based on their interests and the sharing activity of their friends.
Graph Search	With Graph Search, you can search across the information that's been shared with you on Facebook. Find people, places, photos and other info using simple phrases like "Photos of my friends in Paris" —just type in the search bar. Graph Search beta is available for a limited audience in the US and UK, and work is under way to expand it to other audiences and mobile devices.
Instagram	Instagram makes it easy for you to capture what's happening in your world and share those moments instantly with friends and family, whether it's a video of your baby's first steps, a memorable sunset or a photo of your friend crossing the finish line. Instagram inspires us to explore and see the world differently—to go on adventures, to take detours, to take in everything around you and to share what you see with the world. Take a photo or video, choose a filter and share.
Messenger	Messenger is a mobile messaging app that lets you reach people instantly on their phones. With Messenger you can send private messages and stickers, chat with groups, and make free calls, even to people in other countries. You can also see who's available on Messenger and who's active on Facebook. Messenger is available on Android, iOS, and Windows Phone.
Photos and video	With more than 350 million photos uploaded each day, Facebook is the most popular place to share photos on the web. People can upload an unlimited number of videos and high-resolution photos, create albums and choose their audience. It's easy to add details like a caption and location. Tagging lets people identify friends in a photo or video and automatically share that content with them.
Pages	Pages are public profiles that let artists, public figures, businesses, brands, organizations, and non-profits create a presence on Facebook and connect with the Facebook community. When someone likes a Page, they can start seeing updates from that Page in News Feed. When someone likes or comments on a Page post, that activity may be shared with their friends, increasing the Page's exposure and reach.
Groups	More than 500 million people around the world use Groups. Groups give people a private space to share with small groups of people, like family, teammates or best friends. Privacy settings can be customized for each Group. Within a Group, people can post updates, share photos and files and organize events.
Facebook For Every Phone	Facebook for Every Phone works on more than 3,000 feature phones—including some costing as little as \$20—from almost every manufacturer in the world. The app includes Facebook's most popular features, like News Feed and Photos, and it uses less data than other Java apps and mobile sites, making it affordable to try and use. Partnerships with mobile operators around the world allow for free or discounted data on Facebook For Every Phone in specific regions.
Home	Home is an entirely new experience that turns Android phones into great, living, social

	devices. Cover feed fills the screen with the latest posts from friends. Upfront notifications give updates from friends and apps right on the home screen. And Messenger and chat heads let people chat even while they're using other apps.
Events	With events, people can organize gatherings, manage invitations and send notifications and reminders to their friends. People can use events to invite their friends to anything from a dinner party to a community fundraiser. There are currently more than 16 million events created on Facebook each month.

Source: Facebook Newsroom (www.newsroom.fb.com/products/)

Table 2. List of Signals.⁵⁵

N°	Title	Source
1	In 2015, Facebook launches a new feature, Legacy Contact, which allows users to assign someone to be in charge of their Facebook accounts after their death	CBC
2	Digital Beyond launches a list of websites for dealing with one's or others' death and digital presence.	The Digital Beyond
3	Lately deceased users have become victims of trolling, which means that memorials sites have been hacked and transformed into a space to make fun of the deceased.	First Monday
4	Wearables help us move closer to a notion of immortality either by improving human health or by allowing people to collect more data on themselves.	Wired
5	A Google Glass app will detect emotions.	Fast Company
6	Yahoo Japan launches a service to manage your digital presence after death.	Mashable
7	Photographer documents the death of real-life conversation: people focused on their smartphones instead of talking.	Mashable
8	Project exClone: Reaching immortality by creating a clone constructed on the individual's digital data.	Silicon Angle
9	Social Network site Tsū allows its users to earn money from their status.	Geektime
10	LivesOn will let you tweet after dying.	Mashable
11	If I Die, an app to send private messages and emails to friends and family after death, launched a campaign called If I Die 1st in August 2012, which asks people to create goodbye messages and offers to the participant who dies first to publicize his/her message for a month within the community and media	Mashable
12	In February 2011, the transhumanist initiative called Project 2045 was created. The name comes from the belief that in 2045 minds could be transported to a more durable embodiment.	2045
13	By 2012, 30 million people who have died still have active Facebook accounts.	Mashable / The Huffington Post

⁵⁵ I created this table with collected sources from websites, and it serves x function in the scheme of my research.

14	Social Media might be causing envy among users.	Fast Company
15	A girl is obsessed with the Facebook account of her deceased best friend.	The Atlantic
16	A woman uses Facebook as a way to cope with her mom's suicide.	Reader's digest
17	In 2012, Facebook did an emotion manipulation study, manipulating users' feelings by altering the kind of information seen within the newsfeed section of the platform.	Fast Company
18	Google launches a tool to help users plan for digital afterlife.	The Guardian
19	Social Media encourages users to talk to the dead.	B2C
20	A study shows that hospitals with more Facebook 'Likes' have lower mortality rates.	The Atlantic
21	Memoto is a tiny wearable camera to capture every moment.	Fast Company
22	Google search trends indicate that Facebook would lose 80% of its users by 2017, instead the future of Social Media would be Pinterest especially because of the GIFs files.	Syracuse University - Information Space
23	The smart home could be a reality in 2020.	Mashable
24	Google creates digital will and testament.	Fast Company
25	Soofa, smart park benches, will soon be launched at the Rose Kennedy Greenway in Boston.	Fast Company
26	A guy puts a QR code on his mother's tombstone to create a dynamic memorial.	Mashable
27	Eterni.me is a project that seeks to create artificial intelligence online as avatar representing a person through his/her data.	Eterni.me
28	The Record Keeper is a new sci-fi short about people able to reach immortality.	Digg
29	In 2014, Apple launched the Apple Watch.	USA Today
30	MindLeap, one of the latest devices in Virtual Reality using cameras and depth sensors, is used to help rehabilitate patients with paralyzed limbs.	The Verge
31	A group at Carnegie Mellon University create a smartwatch that uses the skin of the wearer's arm as a surface on which the buttons of the watch are placed	Wired
32	There is a video game attempting to train eyes to work better together.	Popular Science
33	Philips is developing an ingestible gadget, a pill that will allow doctors to send medicine to the specific gastrointestinal tract. The iPill also measures pH levels and temperature, and transmits the information to an external device.	Fast Company
34	3D glasses providing VR experience can be the next big thing in technological development.	Flipboard
35	Light, an app from Light of Creativity art workshop, aims to create a digital record of people's digital record, similar to dropbox but including social functionalities.	Mashable
36	People are commenting from different perspectives on how Social Media is affecting or altering the way we mourn.	The Star / Cheri Lucas Rowlands

37	Mimo is a smart wearable baby monitor, in which the baby gown carries the device monitor.	Postscapes
38	A girl states that mourning her mom before and after Facebook were two different experiences.	Buzzfeed
39	Apps' creators are focusing on the emotional aspects of the apps and not only on technicalities.	Fast Company
40	Robotics, autonomous systems and the swarm are examples of the near-future world where one's data and machines can interact.	Fast Company
41	One can build a biotech startup for less than a mobile app.	Fast Company
42	Yelp-users tend to write reviews not out of altruism but because they enjoy it, seeing the activity of translating experience into words as an opportunity for creative output.	Fast Company
43	Hackaball is a throwable computer (or toy) that teaches kids how to program.	Fast Company
44	A 6 year-old kid learned coding with Wonder Workshop toy-robots.	Fast Company
45	Biohackers and DIY cyborgs are working on echolocation implants, brain-controlled software programs, and even cybernetic rats.	Fast Company
46	A website dedicated to the Future of Facebook is encouraging people to contribute with their experience with the platform.	Future of Facebook
47	BeClose is a system based on wearable devices and sensors, to monitor an elderly long distance.	Postscapes
48	Pepsi launches an augmented reality (AR) campaign for the Super Bowl.	Fast Company
49	Facebook's latest potential for growth relies on its mobile platform.	The Guardian
50	In 10 years, every person connected to the Internet will have a timeline.	Slashdot
51	Mark Zuckerberg states that the future of Facebook is mobile.	Tech Times
52	In 2025 people could be wearing Facebook.	The Street
53	The future of Facebook could be a combination of messaging, wearable technology and virtual reality.	Nasdaq
54	The Quantified Self initiative is a collaborative project founded by Gary Wolf and Kevin Kelly. The goal of this initiative is to create a community around quantification of data and to help people understand their data.	Quantified Self
55	Facebook creates internet.org, a non-profit organization to increase internet connection around the world.	internet.org
56	Endaga (a telecommunications company) creates Telco-in-a-box, a low-price cell signal box that people in developed countries can install in a tree and provide cell signal.	Fast Company
57	Heart monitoring, monitoring Parkinson's, smart tattoos and dermally-implanted sensors are some of the examples given by the Engineering in Medicine and Biology Society (EMBS) in wearable and implantable technology.	Engineering in Medicine and Biology Society (EMBS)

58	Robin Williams' death is collectively mourned on Twitter and Facebook.	New Republic
59	A blog named Selfies at funerals asks Internet-users to share photos with them of people's selfies at funerals or as an expression of mourning.	Slate
60	Bruce Feiler, a NY Times blogger, explains that mourning in the digital age might be changing because of the speed of life and the Internet.	New York Times
61	In 2014 Transcendence, a movie taking on ideas of consciousness and singularity is released.	Newsweek
62	Michael Kibbee created an online cemetery in 1995 right after being diagnosed of a terminal disease. The World Wide Cemetery is still active years after his death.	Newsweek / World Wide Cemetery
63	Mourning can be replaced by digitalization of the deceased.	Newsweek
64	Leonard Nimoy, the actor from Star Trek who died recently, had an online memorial	io9
65	Wikipedia provides descriptions for online memorials and online mourning. The latter refers to grieving on the Internet, not as a revolution in mourning but a change of medium to mourn. Online memorial, instead, refers to spaces for remembering, celebrating and commemorating beloved deceased ones.	Wikipedia
66	Facebook aims to exploit its Facebook messaging platform.	NY Times
67	Facebook hires Paypal's CEO to be in charge of the Facebook messaging platform, which seems to be an aspect to exploit as a future success for the Social Network company.	Wired
68	Wearable technology allows bosses to track employees' work, rest and play.	New Scientist
69	Facebook closes its two-billion-dollars Oculus Rift acquisition	The Guardian
70	Websites, Social Network sites and apps such as Facebook, Twitter and WeightWatchers, work under parameters of the psychology of digital games.	Approaching the future
71	Mashable shows 20 Life-Tracking Tools for Better Health, Wealth and Productivity.	Mashable
72	There are currently 40,000 health-related smartphone apps, and 60% of U.S. adults track their weight, diet or exercise.	Mashable
73	pplkpr (people keeper) is an app along with a wristband that tells users how specific people make them feel.	Mashable
74	Wristband notices when you fall asleep and records your TV show.	Mashable
75	Gary Wolf, co-founder of the Quantified Self initiative, gives a Ted talk about how people tend to create data and use electronic devices to track and analyze that data.	TED
76	69% of people track Health stats, but often without a gadget.	Mashable
77	The most connected man, Chris Dancy, began tracking himself because of health issues.	Mashable
78	Nintendo jumps into health tracking with a sleep sensor.	Mashable

79	Karl Toomey creates lifelogging products for the future.	Science Gallery
80	A.R.O creates an app that records everything you do by just using a sensor from the smartphone.	Computer World
81	Mashable creates a list of the 20+ tools to prepares for one's death online.	Mashable
82	Lifestreaming blog shows videos of lifeloggers.	Lifestreaming Blog

Table 3. Evaluation of signals.

Blank = non relation, 1 = indirect relation, 2 = somehow related, 3 = the most and direct relation.

A = Connectivity beyond life; B = Manipulable bodies; C = The Internet of Things (IoT); D = E-mourning; E = Death 2.0; F = Let's play a game; G = The alternative me; H = Lifelogging for the afterlife; I = Quantifying the self; J = Virtualizing and augmenting reality; K = Technology on, through, in!

 = Most representative signals

SIGNAL NUMBER	TRENDS										
	A	B	C	D	E	F	G	H	I	J	K
1	4			3	3	2	2	2	1	1	1
2	3			4	3	3	2	2	1	1	1
3				3	4	2	1	1			1
4	2	1	3	3	3	2	3	3	3	2	4
5	2	1	3	1		2		3	3	2	4
6	4	2	2	3	3	3	3	3	3	2	1
7	4		2					3	2	1	3
8	3	3	3	3	3	2	4	2	2	2	2
9	3			1	1	3		3	3		2
10	4		1	3	3	1	3	3		1	2
11	4		1	3	3	3	2	3	1	1	2
12	2	3	3	3	3	1	4	1	1	2	1
13	2			3	4	2	2	2	1		1
14	2					4		3	3		1
15	3			4	3	1	1	2	1	1	1
16	3			4	3	1	1	2	1	1	1
17	4	1				3		3	1	1	1
18	2		2	1	4	2		3	3		2
19	4			3	3		2	1			
20	2	2	1	2	3	3	1	3			1

21	2	2	3	1	1	1	1	4	3	1	4
22	4		1	3	3	2		3	3		1
23	2		4			2	3	3	3	2	1
24	2			3	4	2	1	1	1		
25	3		4			2	3	3	3		2
26	3		3	4	3	3	2	3	2	1	2
27	3	3	3	3	3	3	4	3	3	2	2
28	2	3		3	3		4	2	2	1	2
29	3		3			2	2	3	3		4
30	2	3	3	1			2			4	3
31	2	2	3			2	2	2	2	1	4
32	1	4	1			3	2		2	1	2
33	2	3	3		2		2	1	3		4
34	1	2	3			2	2	1	1	4	3
35	2		2	3	3	1	2	4	2		1
36	2		1	4	3	1		2	2		1
37	2	2	4			2	2	2	3		4
38	3			4	3	1	1	3			
39	4		1			2		3	3		1
40	3		4			2	4	3	3	2	2
41		4	2		2		2				1
42	2					4		2			
43			3			4	1				2
44			3			4	1				2
45		4	2		2		3				2
46	3			3	3	2		3	3		1
47	3	2	4	1	1	2	2		3		4
48	3		3			3	3			4	2
49	2		2	1	1	2		3	3		3
50	3		1		4	2		4	4		1
51	3		2	1	1	2		3	3		3
52	3	1	3	1	1	2		3	3		4
53	4	1	3	1	1	2	1	3	3	4	4
54	1		2			3		2	4		2
55	4			1	1	1	1	3	3		1
56	4			2	2	1		3	3		2
57	2	4	3		2		2	2	3		4
58	3			4	3	1	1	2			
59	3			4	3	3		4			2
60	3			4	3	2		2	2		1
61	2	3	2	2	3	1	4	2	2	2	
62	3			4	4	2		2			

63	2			4	3	3	3	2	2	3	3
64	3			4	3	1		3			
65	3			4	3	1		2	2		
66	4		2	1	1	2		3	3		3
67	4		1	1	1	2		2			3
68	3	1	2			2		2	3		4
69	3	3	3	2	2	3	4	0	0	4	3
70	2			1	1	4		3	3		1
71	2	2	2		1	3		2	4		3
72	2	2	2		1	3		2	4		3
73	3	2	4			3	1	3	3		4
74	3	2	3			3	1	3	4		3
75	1	2	2		1	3		2	4		3
76	1	2	2		1	2		1	4		3
77	3	4	2		1	2	3	3	3	1	4
78	3	2	3			3	1	3	4		3
79	3		4			3		4	4		3
80	1		2			2		4	4		2
81	3			2	4	4	1	3	3		
82	3		3	2	3		3	4	4		3

Table 4: Fictional characters

Story 1	<p>John Peterson was a nice guy. He loved to play guitar and travel at least once a year. Sadly he had a car accident a month ago, and instantly died. Family and friends still cannot believe he's gone. It is incredible to lose a 34-year old whose life was so fulfilling. Some say that sometimes it seems as if he is not gone.</p> <p>Think of John as if he were a dear friend, someone you knew for years, someone you really miss and would like to reconnect with. The following product conveys a representation of his Facebook data. You will hear what would be happening on his Facebook news feed.</p>
Story 2	<p>Samantha Rott was happy and always smiling. She loved to doodle and find new cafes and restaurants in the city. Sadly she got lung cancer a year ago, and died a month ago. Family and friends still cannot believe she's gone. Even when she was sick, she looked so alive. It is incredible to lose a 29-year old so soon.</p> <p>Think of Samantha as if she were a dear friend, someone you knew for years, someone you really miss and would like to reconnect with. The following product is a representation of her Facebook data. Walk through the marked path in the room. Every time the boots light up, it represents a place the deceased checked in on Facebook during his/her life.</p>
Story 3	<p>Andrew Smith was an energetic guy. He loved to go on adventures and play sports. He used to run every morning and go to the gym every afternoon. Sadly he had a heart attack two months ago, and died almost instantly. Family and friend still cannot believe he's gone. He always looked so healthy and alive, even his friends used to make jokes about him never being exhausted. It's sad to have lost this 32-year old guy.</p>

	Think of Andrew as if he were a dear friend, someone you knew for years, someone you really miss and would like to reconnect with. The following product conveys a representation of his Facebook data. You will hear what would be happening on his Facebook news feed.
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