

A blurred background of a crowd of people, with a thin diagonal line running from the top left towards the bottom right. The text "A PROTECTED LIFE" is overlaid in the bottom left corner.

A PROTECTED
LIFE

A PROTECTOR LIFE

*Speculations on object-mediated
relationships*

Master Thesis submitted by
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Declaration of Authorship

I, Luiza Prado de Oliveira Martins, author of this MA Thesis titled "A Protected Life: Speculations on Object-Mediated Relationships", confirm that this work submitted for assessment is my own and is expressed in my own words. Any uses made within it of the works of any other author, in any form, are properly acknowledged at their point of use and correctly referenced.

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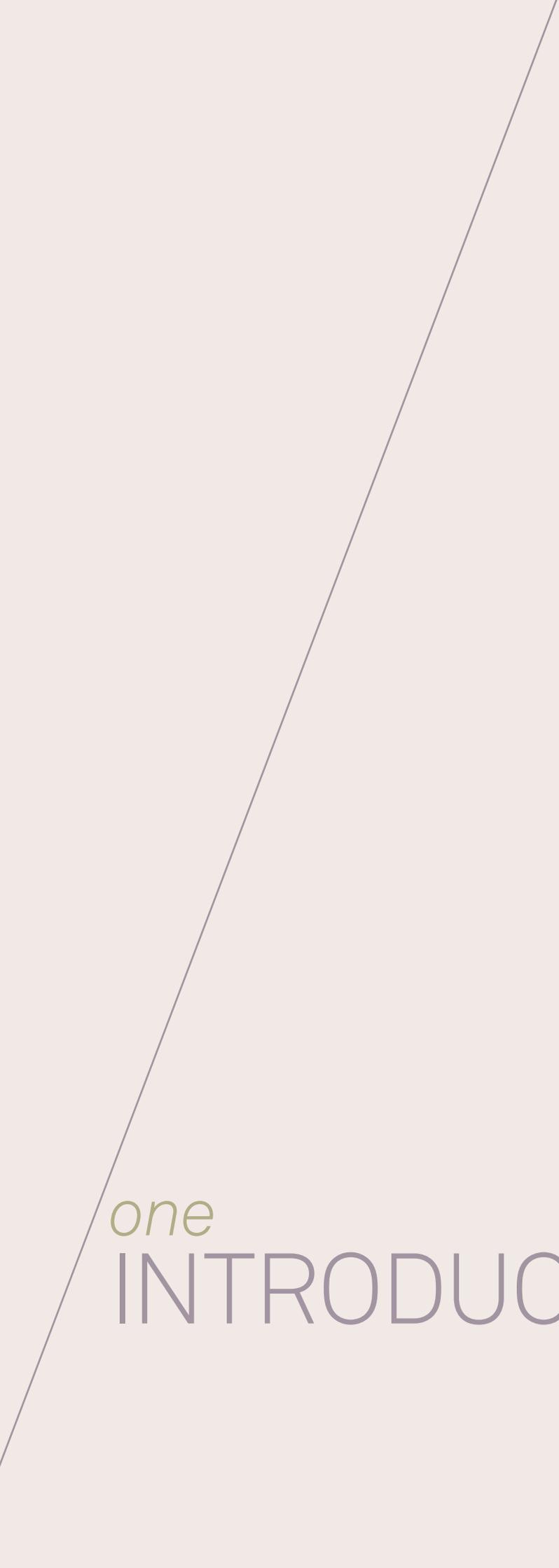
ABSTRACT



This research focuses on the discussion of online data filtering technologies and devices, their influence to contemporary culture and the possible implications that they may bring to society in the near future. Departing from an analysis of the multifaceted and mutant appearances that these technologies take in our everyday activities, this study strives to cultivate a critical discussion on how this culture of curation affects our social behaviors and our perceptions of reality. Three concepts are used as the main points of focus in order to approach the broad subject of filtering: reality, intimacy and identity.

The effects and affects of such culture over these three ideas are explored through a dual approach, where theory and practice merge. The theoretical part of the research provides an overview of current paradigms on the topic and discusses the role of Interaction Design disciplines in maintaining or addressing them. The practical outlet for the research, a small series of speculative objects, strives to provide an actualization of the questions raised by the theoretical discussion, while also contributing to the ongoing conversations on methodology and process within the specific field of Speculative Design.

Keywords: interaction design, speculative design, filtering, intimacy, technology, identity, self



one

INTRODUCTION

The future of technology is often presented as a realm of accomplishment and effectiveness: ‘faster’, ‘better’, ‘sleeker’ and ‘easier’ are but a few of the adjectives frequently used to describe the continuous stream of innovations to reach us. The picture of an ever-hopeful future is continually amended in its imbued expectations by every new device released to the public: things capable of taking on the role of assistants, helpers, secretaries, entertainers. Most of these devices and services operate under the established premises of efficiency, performance and productivity; objects that promise to make our lives more convenient, more protected, more organized and, ultimately, better.

From the homes of the late 1940s, when electronic objects were rare and luxurious commodities appearing mostly in the form of TV sets, to modern day houses whose daily routines are controlled by complex electronic alarm mechanisms, dishwashers and washing machines, the profound influence technology has come to exercise in our daily lives is quite astonishing. Throughout the past six or seven decades, technology has been slowly infiltrating itself in our routines, eventually becoming a constant background to everyday activities.

Advancements in science, engineering and product design have brought about significant changes on the way we relate to electronic objects; as more and more of our daily interactions are mediated by these devices, we become more dependent on their assistance. Projections for the near future seem to suggest that our dependence on device mediation will increase considerably in the next years, eventually becoming a necessity for life within society. As the amount of data to which we are exposed to on a daily basis increases significantly, we may need to rely more than ever on the electronic object as means to perceive and understand the rich, complex world that surrounds us. The act of filtering our activities - from reading news feeds to online conversations - may become a prime necessity in a fast-paced world where we find ourselves constantly wandering through the noise and beauty of information.

This study aims to explore a few of the multiple and diverse implications that the increasing need for filtering technologies can cause in society. As what activist and author Eli Pariser (2011) defines as *filter bubbles* - our “own personal unique universe of information that [we] live in online” - progressively encompass more and more of our most commonplace activities, often without our knowledge or approval, the consciousness and perception that we have of the world around is profoundly affected by these filters. By editing our perception of reality, these bubbles are responsible for shaping not only what we see of the world, but also how we relate to the social environments around us, our personal relationships and the images we have of ourselves.

The implications of the issues raised by the coming of filtering and tailoring devices are thus explored within the scope of Interaction Design. More specifically, the theoretical framework proposed by this study is actualized in a small series of speculative objects. These objects do not aim to provide definite answers or to expose a proof of concept, as many studies within the fields of Computer Science or Media Informatics do; instead, they were developed as embodiments of the pressing questions that drive this research and, as such, they strive to provoke reflection and incite the viewer to form their own inquiries on the subject. This perspective situates itself in the novel field of Speculative Design; as such, one of the goals for this text is to contribute for the ongoing discussion

on the methodologies and processes that encompass the discipline by presenting its own take on the subject.

1.1. Motivation

In the past few years, the concept of artifacts capable of offering the experience of a curated and filtered world has been steadily gaining attention and momentum. In a world where electronic artifacts have become affordable everyday commodities, the idea of a product that is adapted and tailored to one's needs and tastes has attracted considerable attention from the technology industry as a potentially lucrative commercial strategy. Amidst ubiquitous targeted ads on email services to product suggestions on e-commerce websites, tailored electronic devices and services have indeed become a common fixture in everyday activities. Through personalization, the mass-produced artifact, uniform and homogenous in its inception, loses its anonymity in favor of a new identity: that of a personified object. Everyday interactions have, effectively, become dominated by the curation of algorithmic entities, personified objects capable of offering everything from restaurant suggestions coherent with one's gastronomic preferences (Graham 2011) to projects devised with the goal of analyzing and categorizing songs with the final intent of offering music suggestions that match one's tastes (Westergren n.d.).

Research oriented towards the concept of a curated world does not, however, apply exclusively to commercial contexts. Much in tune with the developments towards algorithm filtering explored by technology giants such as Google or Amazon, academia has also, in the past years, shown a keen interest on the subject of algorithmic curation. An article written by Pattie Maes about the work developed by the Ambient Intelligence group at the MIT Media Lab, published by Interactions Magazine in 2005 starts with the question:

“What if the everyday objects around us came to life? What if they could sense our presence, our focus of attention, and our actions, and could respond with relevant information, suggestions, and actions?” (Maes 2005)

Maes then goes on to elaborate on such an abstract idea by highlighting situations where such technologies could prove helpful, effective and productive:

“For example, we are creating technologies that make it possible for the book you are holding to tell you what passages you may be particularly interested in, while the bookshelf in the room might show you which books are similar to the one in your hands” (Maes 2005)

A remarkably practical and concrete perspective seems to guide the research group's goals. Maes' understanding of the importance of the research being conducted by the group seems to be solidly rooted in premises such as efficiency and convenience:

“One motivation for this research is to make people’s lives more convenient. (...) By augmenting objects with sensors, communication and computation, and by using intelligent interface techniques to predict what a person may be interested in, we can integrate the digital and physical worlds more closely so that the most relevant digital information and services can be offered to a person when they interact with a physical object.” (Maes 2005)

Although the relevance of these investigations cannot and absolutely must not be overlooked, the prevalence of research questions and goals regarding “how” over questions of “why” within the field can strike as rather interesting indeed. The mere possibility of objects capable of predicting one’s taste is, without doubt, quite fascinating; nevertheless, Pariser’s earlier critique of how the web’s filters are shrinking our potential for acquiring new knowledge seems to be particularly fit to this case. A world where algorithms have complete and unquestioned power to determine what information is reaching us is, ultimately, a world devoid of the random, serendipitous experiences. A future where, for the sake of ideals of convenience and efficiency, the possibility of failure, playfulness, frustration or irritation are completely wiped out might be something to be wary of, for it is a future deprived of the rich unexpected, poetic and aesthetic aspects of life.

This text takes a profound interest in the issues that encircle the growing *filter bubbles* that seem inevitably destined to play ever more significant roles in the everyday situations of future life. Its proposed perspective, however, forsakes an approach as practical and concrete as the one presented by Maes and the Ambient Intelligence group; rather, this text and its accompanying research aim to focus on the uncanny, poetic or unexpected approaches to the development of novel technologies.

1.2. Methodology overview

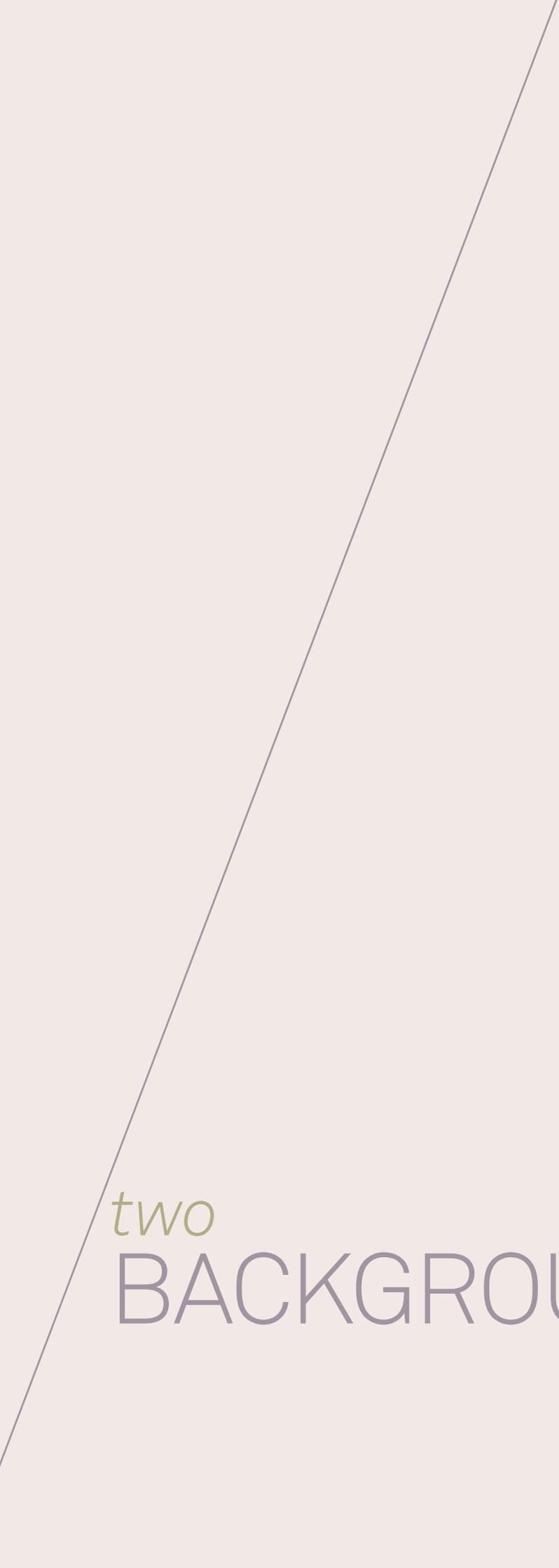
One of the most significant goals for this research is the contribution to the ongoing conversation on the methodologies and processes that inform Speculative approaches to Design disciplines. The methodology section provides a broad overview of some of the most relevant theoretical work in the field. Departing from this initial survey, the study strives to provide an extended understanding of the contributions of each author to the field by analyzing the diverse range of perspectives they have to offer.

More than affording a concrete, final answer to the discussions on methodology in the area, this text hopes to incite reflections on their very relevance. While a discipline as subjective as Speculative Design grants limited space for definitive, unique answers, the emergence of more questions should be highly encouraged. The exploration of the multiple and variable answers to those questions may be, in fact, at the very core of the discipline. Methodology, in this case, may be approached not as a straight line with a clear direction, but as a weave of intersecting pathways that together form a process of continuous transformation.

1.3. Structure

This thesis will be divided into six chapters, including this introduction. The second chapter attempts to offer a broad overview of the scientific, cultural and societal changes and advancements that form the background for the development of filtering technologies. The third chapter focuses more closely on the effects and affects of these technologies, contextualizing and analyzing their current influence on our perception of the world on three different levels: our social environments, our intimate relationships and our self-image. The chapter includes four sub-chapters; the first three are dedicated to the discussion of the three different levels of perception in which the research takes interest, while the last one presents the research questions that stem from this discussion.

The fourth chapter attempts to contextualize the project within current Design Research and Speculative Design frameworks, as well as presenting a discussion on their ongoing processes. The fifth chapter presents the project itself, with one sub-section dedicated to each of the objects in the series. The sixth chapter presents the final considerations for this study and attempts to offer an overview of its contributions to the ongoing discussions on methodology and process for Speculative Design disciplines.



two

BACKGROUND

2.1. *Technology and everyday life*

Despite having its roots as early as on the first half of the twentieth century, the infiltration of electronic objects into the household environment was a long, slow process. Products such as the television and the washing machine were among the first electronic artifacts to successfully make the transition from research or work environments into everyday life. By mid-century, their high prices had caused these contrivances to become symbols of status, present in affluent homes but still absent in the everyday lives of most of the population. This situation would, however, change significantly in the next decades: with the further development of early technologies towards cheaper and more efficient products, electronic objects had become, by the end of the twentieth century, commonplace artifacts. While most of these objects originated within scientific research or work environments, these technologies were slowly translated into objects aimed at the home user, triggering a still ongoing process of digitalization of our everyday interactions.

A particularly relevant landmark to the infiltration of electronic objects into environments other than those related to work or scientific research was the release of the first home computers in the second half of the 70s. The Commodore PET, the Apple II and the TRS-80 were three of the earliest examples of computers aimed at the home user; released in 1977 and subsequently dubbed by Byte Magazine the “1977 Trinity”, they were among the first pre-assembled models to reach the mass market. Ryan (2011, p.337) comments:

“By 1977 pre-assembled systems such as the Apple II, Commodore PET, and TRS-80 (later dubbed the *1977 Trinity* by Byte Magazine) began the era of mass-market home computers; much less effort was required to obtain an operating computer, and applications such as games, word processing, and spreadsheets began to proliferate.”

Although these first machines did reach relevant commercial success for the time, computer prices still remained too high for a significant part of the population. The founding of several other tech companies in the following years, however, changed the situation. The economical constraints that had been the most significant setback in the commercialization of the first home computers were significantly diminished in the subsequent years: as more and more companies entered the business, the prices for electronic components plummeted, favoring the production of new, cheaper models:

“Distinct from computers used in homes, small business systems were typically based on CP/M, until IBM introduced the IBM-PC, which was quickly adopted. The PC was heavily cloned, leading to mass production and consequent cost reduction throughout the 1980s. This expanded the PC's presence in homes, replacing the home computer category during the 1990s and leading to the current monoculture of architecturally identical personal computers” (Ryan 2011, p.337)

The IBM PC was a remarkable commercial success, selling more than 10 million units in the following 10 years (Scannell 1991, pp.47-50). The cost reduction triggered by this commercial

success, as mentioned by Ryan, was one of the key factors to the successful absorption of PC use into everyday life; by the end of the decade computers were on their way to becoming a staple in most homes, and by the late 1990s they had become ubiquitous presences in the routines of daily life both in and outside the house.

The momentum generated by the popularization of the home computer opened up space for several other electronic devices to be released to the public in the late 20th and early 21st centuries. The 1990s were a particularly significant decade for the development of communications and technology; almost at the same time when the Internet finally started to reach a significant part of the population, mobile communications also experienced an unprecedented boost with the development of the first GSM network (Ling 2004, p.09). As home computers were taking the leap from static artifacts - only capable of performing a pre-determined set of tasks and depending on external devices such as CDs or floppy disks in order to expand their capacities - to mutant devices acting as an open door to a potentially infinite archive of information and functionalities, telephony was experiencing a similar leap. The commercial release of cellular phones offered a novel form of communication which would profoundly affect everyday interactions and dynamics.

Although both internet connections and cellular networks were initially fairly expensive and unreliable services, their resounding success and enthusiastic adoption by consumers resulted in a remarkably fast development of new and existing technologies. Moreover, this commercial success was not exclusive to these two services; by mid-decade electronic objects had become commonplace things in everyday life, with devices such as pagers, electronic organizers, discmans and walkmans having already asserted seemingly permanent roles in daily activities.

Whilst this last decade of the 20th century was testimony to the rise of the electronic object as a common everyday device, during the first decade of the 21st century this role became even more entwined with the social and cultural aspects of life. The initially wobbly and uncertain presence of such objects progressively gained more importance; as devices became more reliable they started playing increasingly relevant roles in our daily tasks and routines. The mobile phone and the home computer had, by then, become essential to everyday interactions; communications relied heavily on emails or SMS messages, profoundly affecting the dynamics of time and space in the interactions between people.

This chapter aims to present current developments and offer critical observations on how does technology affect the relationships we experience in our everyday routines. Possible future developments within this scope will also be discussed; these topics are approached individually in the following sub-sections, in order to present a clearer overview of the role each one has played within this study.

2.2. The explosion of data: sharing and filtering content

The introduction of internet connectivity for mobile phones, starting in the second half of the 90s, might be held partly responsible for the profound impact these devices had in communications in the following decade. The possibility of being constantly connected not only to the immediacy of a phone network, but to a worldwide network with a virtually infinite amount of information being offered, dramatically expanded the role that these devices had already begun to assume. The introduction of smartphones, within this shifting context, was a symptom not only of the advancing technology in mobile communications, but a clear representation of its imbued value in everyday life. In contrast with the first devices, which included only a few simple functions - calling, sending messages, a phonebook, an alarm clock and a few basic games - smartphones represented a considerable leap in the role played by mobile telephony. In the ten years following the first experiments with internet connectivity for mobile devices, phones went from tools capable of performing basic communication tasks to artifacts capable of performing an innumerable number of activities. Sending emails, searching for a building in the map of a city, recording and editing videos, playing music and taking pictures are now but a few of the functions a phone can perform. The very act of communicating in the connected contemporary world has become inextricably associated with mobile devices; the accumulation of functions in one single object stands as a loud testimony of the relevance these objects have come to possess.

The reality of a world constantly connected through a worldwide network has undoubtedly had a profound impact in the way we select, filter and absorb information. Google CEO Eric Schmidt discussed, during the Techonomy conference held in 2010, this looming “explosion of data” (MacManus 2010) and its possible consequences for society:

“There was 5 exabytes of information created between the dawn of civilization through 2003, (...) but that much information is now created every 2 days, and the pace is increasing... People aren't ready for the technology revolution that's going to happen to them.” (Kirkpatrick 2010)

Google, as well as many other web companies, seems to show a particular concern with the issues that the overwhelming amount of data we are exposed to on a daily basis might bring. In a sea of abundant information, much of it might not be perceived nor absorbed, as the human brain is capable of focusing on a limited amount of data at a time; thus, several ideas have sparked, in the past few years, with the intent to focus, control and filter the information that reaches us - consumers, users, clients. Rather evident and straightforward uses of these types of systems are the product suggestion engines commonly found on e-commerce websites such as Amazon¹. According to a specific user's past searches and orders, these systems are capable of suggesting other items tailored to the interests of that particular person. Essentially, these systems attempt to emulate the act of physically walking into a store and discussing what products might be of interest with a clerk.

¹ <http://www.amazon.com> (accessed March 23rd 2012)

Moreover, these engines also aim to improve on the traditional experience by eliminating possible errors a human clerk is bound to make with the cold precision of algorithmic curation.

Admittedly, such a system does have a significant potential to offer a streamlined and efficient shopping experience, inciting the consumer to buy more products and ultimately resulting in higher revenues for the retailer. The fact that these systems have a strong tendency to overlook the individual quirks, quirks and subtleties of personality that make us human cannot, however, be overlooked. Tastes, sensibilities and preferences are complex social, cultural and historical constructions, hard to capture and unique to each individual. Despite the considerable advancements computer sciences have made, capturing such delicate balances of individual personalities is still quite far from reality.

Whereas systems capable of fully substituting human interactions are still far from reality, the practical uses of the currently available ones do seem to show some degree of awareness of the issues they are currently facing. Case in point, product suggestion engines on e-commerce websites rarely hide other options besides the ones they offer; rather, they merely highlight products that might be of interest, while still allowing the customer to freely browse through the website and venture outside of the system's suggestions. From a commercial perspective, completely hiding other products beyond the curated list would certainly prove highly damaging to business.

Albeit the use of curation engines on e-commerce websites might seem harmless enough, these examples do not make up the entire spectrum of filtering and tailoring algorithms that commonly orchestrate our everyday interactions. Google's concern with the coming data overload, expressed so vehemently by Schmidt, has already effectively been translated into measures taken within the various services offered by the web company. A very recent example of Google's move towards offering curated information instead of raw data is the "Search Plus your World" (SPYW) service, which aims to present curated results to the user according to information shared by his or her friends on Google's own social network, Google+²:

"Google is rolling out Search, plus Your World, an advanced Google search that pulls in tips, photos and posts from the "content and social streams" of you and your friends when signed into Google+. The search results are personal and private to you when signed into Google+ and are marked with a distinctive icon." (Blazenhoff 2012)

The initiative has - not unexpectedly - come under strong criticism; interestingly enough, however, most of the criticism is not aimed at the act of filtering itself, but rather to its use by the web giant as a tool for competition with other web companies such as Twitter³ and Facebook⁴:

2 <http://plus.google.com> (accessed April 10th, 2012)

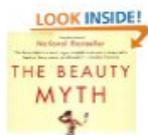
3 <http://www.twitter.com> (accessed March 23rd 2012)

4 <http://www.facebook.com/> (accessed March 23rd 2012)

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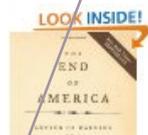
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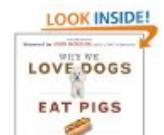
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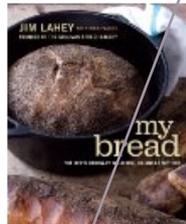
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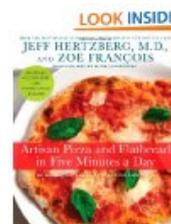
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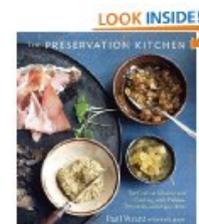
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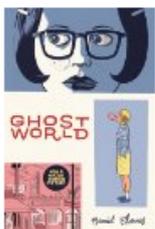
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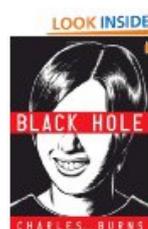
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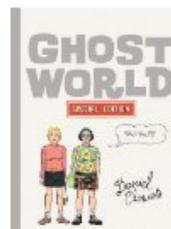
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Fig. 01: Amazon.com product suggestion system based on the consumer's buying and browsing history.

“There's a good reason for that revulsion: SPYW is a mess. In trying to deliver personalized results, Google polluted the page with its own inferior products (like Google+ instead of Twitter, Google Places instead of Yelp) while banishing competitors to lower listings in the results. Ads are everywhere. The People and Pages sidebar that now appears in search results is particularly galling. It is the ultimate subversion of Google to a commercial end. Basically, it's an enormous ad for Google's other products, hogging your screen.” (Honan 2012)

Despite the controversy caused by the release of this new product, SPYW is hardly Google's first foray into content filtering; in fact, SPYW is nothing but the latest and most evident application of the concept. Avaaz's co-founder Eli Pariser discussed, in his March 2011 TED Talk, the influence of algorithmic filters in the way we perceive the world, specifically singling out Google's search engine as an example:

“If I search for something and you search for something, even right now at the very same time, we may get very different search results. Even if you're logged out, one engineer told me, there are 57 signals that Google looks at. Everything from what kind of computer you're on to what kind of browser you're using to where you're located, that it uses to personally tailor your query results.” (Pariser 2011)

The ubiquitous presence of several filtering and tailoring algorithms in all facets of our online lives creates what Pariser dubs as the “online filter bubble”: a wall that effectively eliminates from view the data its algorithms decide isn't interesting to that particular user.

“Your filter bubble is kind of your own personal unique universe of information that you live in online. And what's in your filter bubble depends on who you are and it depends on what you do. But the thing is that you don't decide what gets in, and more importantly you don't actually see what gets edited out.” (Pariser 2011)

The idea of tailoring content is not exclusive to Google or to search engines; Facebook's algorithms for friend activity feeds, for instance, are built around the idea of filtering content:

“If users saw all of the posts for all of their friends, they might be overwhelmed (or bored) and tune out—a disaster for Facebook, which needs eyeballs to earn revenue. But in doing so, Facebook's ranking system makes judgments about items it thinks you'll be interested in.” (Weber 2010)

Facebook's newest addition to its content management system, the concept of “frictionless sharing” (Erickson 2012), seems to point to the same direction. Through this service users are able to access content directly from apps inside the website; these apps in turn automatically publish the content accessed by that specific user in his or her profile. The bypass of explicit and specific authorization from a user as to what is posted in his or her profile has, evidently, sparked numerous protests on the ensuing privacy issues by several media outlets:

⁵ <http://avaaz.org/en/> (accessed March 29th 2012)

“(…) with these apps you're automatically sending anything you read into your Facebook news feed. No "read" button. No clicking a "like" or "recommend" button. As soon as you click through to an article you are deemed to have "read" it and all of your Facebook friends and subscribers will hear about it. That could potentially cause you embarrassment and it will certainly add greatly to the noise of your Facebook experience.” (MacManus 2011)

“If a woman reads a Yahoo News story about breast cancer and that fact is automatically noted in her Facebook activity, what are her friends to make of that? Does she have cancer? Does she have a friend with cancer? Perhaps a colleague was quoted in the article. Maybe she accidentally clicked on the wrong link. Facebook is presenting this information with no context. **In the absence of context, people make assumptions.**” (Sonderman 2011, my emphasis)

Aside from the evident privacy issues concerning frictionless sharing, Facebook's practice - when considered in the context of the examples presented earlier in this text - might represent one early manifestation of a trend that is engulfing technology research. All of these projects seem to pinpoint rather clearly to a future where devices and services will be meticulously tailored to our individual tastes; objects that will be able to predict and, ultimately, decide through algorithmic curation what could or should interest us and our peers. The inevitable merging of digital experiences into analog reality seems indeed to be charged with the idea that all aspects of life must be as efficient as possible. This is rather evident on Google's recently released Project Glass:

“Project Glass, an enterprise at Google's highly secretive Google X lab, released photos and posted a video to YouTube on Wednesday to preview the search company's long-rumored foray into building a better pair of specs. (…) Shown literally through the eyes of a hip downtown New Yorker, the video starts with the glasses booting up. A series of icons flash into his field of vision, Terminator-style. He checks his calendar and the weather, chats and shares photos with friends in his circles (…) and listens to music.” (Braiker 2012)

The project was met with much appraisal from most media outlets, generating a considerable amount of attention and publicity for the project. A few critics have nevertheless come forward, highlighting the issues such a direct and constant intrusion of technology into our routines may create. Holmes (2012) reflects on the guiding design goals of such an intrusive object:

“(…) it's creepy because it seems designed to eliminate all the parts of life that are effectively games of chance. It's designed to make you 100 percent efficient — and therefore about half as happy.”

Project Glass unwillingly strikes an interesting chord regarding the limits of how technology is capable of shaping our realities. As a subject for critical reflection, Project Glass opens up a rich field for interpretations on the current state of our relationship with electronic objects and how it might develop in the future. Involuntarily, Google's venture can lead us to ask if and how are we

willing to let ourselves be passively guided by the gadgets that are part of our daily activities. It raises questions as to what is private, what is to be shared with a select group of people and what is to be shared with the world more than any social network has; by constantly showering its user with information and offering multiple functions to be performed concurrently, the glasses show us a glimpse of a hyper-active future, where information seems to be valued above context. Much in tune with Sonderman's earlier comment on the absence of context for data, Holmes (2012) goes on to comment:

"I don't want to be able to track my friends through their GPS devices so I know how far away they are when they're coming to meet me, because then they won't send me funny texts about why they're held up, and I don't want them to track me through their GPS devices, because I might want to stop along the way and get them a box of truffles, and I don't want them to be wondering why I'm stopping at the truffle place. I don't want to be asked all the time where I am, what I'm doing, whether I want to talk. Not all the time."

A world where the power of algorithms only presents us with the most efficient, pleasant, desirable and convenient life experiences might sound, at first, like a world to strive for. A world devoid of unpleasant unpredictability, devoid of overcrowded subways, traffic jams or long minutes waiting in line is, however, a world also devoid of the chance encounters that give us the possibility to reconnect with an old acquaintance, explore a new part of the city, meet a new friend or simply enjoy the view of our surroundings. A perfect and efficient world might be a world to be wary of, for it leaves no room for the unexpected narratives that make up such a treasured part of our lives.

2.3. Spimes and the Internet of Things

The previous section of this background presented an overview of current filtering, tailoring and tracking technologies. Although most of these technologies are currently being explored in several applications, others - like Google's Project Glass - seem to be still in the realm of speculation, as no product has been released as of yet. A few technologies do, however, suggest that the commercialization of filtering and tailoring products might not be so far in the future after all. Radio Frequency Identification, or RFID, is one of those technologies: widely available and used for in a rather impressive range of different applications, RFID tags are small chips capable of tracking and storing data. Sterling (2005, p.88) explains:

"an RFID is a very small chip of silicon with a tiny radio antenna. An RFID tag can be as small as half-a-millimeter square and no thicker than a paper price tag. When it's hit by a blast of radio energy in the proper wavelength the antenna will bend with the radio energy. The bending causes it to squeak a jolt of electrical energy through the attached silicon chip. The chip then automatically broadcasts a built-in ID code back through the tiny antenna."

The practical applications of such a device are fairly evident, with retailers such as Walmart taking the lead in the use of RFID chips as a method to track merchandise (Weinstein 2005). The implications of such a technology are, however, much more profound than the prosaic tracking of products in supply chains. RFID chips - and the general idea of being capable of fully tracking objects throughout their lifespans - indeed have the potential to be applied in many, many more instances. Sterling speculates on the idea of future, fully trackable objects, capable of garnering and storing data on anything from how they are used to where they are located. This data would be available for anyone to access, in real time:

“‘SPIMES’ are manufactured objects whose informational support is so overwhelmingly extensive and rich that they are regarded as material instantiations of an immaterial system. SPIMES begin and end as data. They are designed on screens, fabricated by digital means, and precisely tracked throughout their earthly sojourn. SPIMES are sustainable, enhanceable, uniquely identifiable, and made of substances that can and will be folded back into the production stream of future SPIMES. Eminently data-mineable, SPIMES are the protagonists of an historical process.” (Sterling 2005, p.11)

These objects would, evidently, generate immense amounts of data throughout their lifespans, much in line with Eric Schmidt’s observation (made in 2010) on the coming data explosion. This data would need to be available and accessible to anyone who could take interest on it, in real time; by documenting the process through which the objects that make up our daily interactions we could, then, learn more about our own habits. Sterling (2005, p.77) elaborates:

“The data generated remains available for historical analysis by a wide variety of interested parties. (...) A SPIME is, by definition, the protagonist of a documented process. It is an historical entity with an accessible, precise trajectory through space and time.”

While revolutionary, the idea of a world where anything, from a pen to a car, could be continuously tracked, with its pertinent information retrieved and updated in real time would be useless if not accompanied by a system capable of handling the immense amounts of data implicit within the idea of SPIMES. Without such a system, generating raw data would be a useless endeavor, as the sheer amount of information would be unmanageable. Thus, Sterling goes on to speculate on the idea of an Internet of Things:

“The primary advantage of an Internet of Things is that I no longer inventory my possessions inside my own head. They’re inventoried through an automagical inventory voodoo, work done far beneath my notice by a host of machines. I no longer bother to remember where I put things. Or where I found them. Or how much they cost. And so forth. I just ask. Then I am told with instant real-time accuracy.” (Sterling 2005, p.93)

Although he did develop the initial concept into a deeper reflection, Sterling was not the first one to delve into the idea of an Internet of Things - or, for short, IoT. During a presentation at Procter & Gamble in 1999, Kevin Ashton first mentioned the idea of IoT; in an article written ten years later, he comments:

“Today computers - and, therefore, the Internet - are almost wholly dependent on human beings for information. Nearly all of the roughly 50 petabytes (a petabyte is 1,024 terabytes) of data available on the Internet were first captured and created by human beings - by typing, pressing a record button, taking a digital picture or scanning a bar code. Conventional diagrams of the Internet include servers and routers and so on, but they leave out the most numerous and important routers of all: people. The problem is, people have limited time, attention and accuracy - all of which means they are not very good at capturing data about things in the real world.” (Ashton 2009)

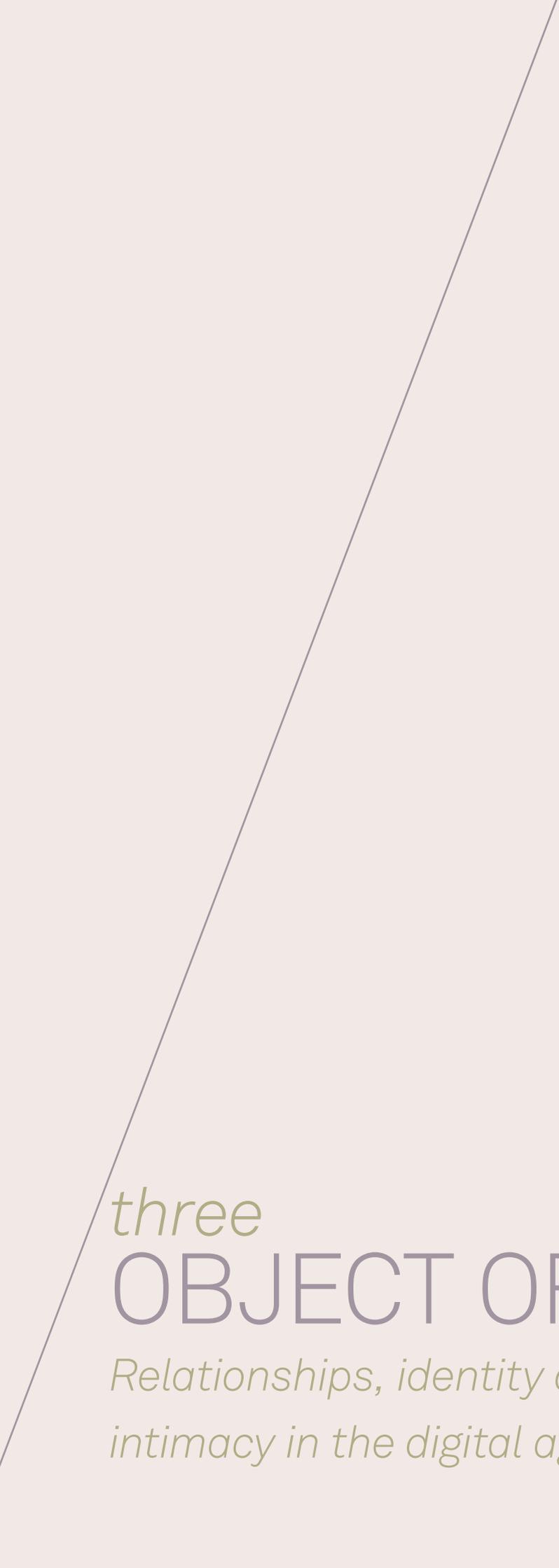
In a reflection very much in line with Sterling’s ideas, Ashton goes on to speculate on the shifts that machines capable of gathering and organizing data without human assistance could create in the dynamics of our relationships with objects and consumption:

“If we had computers that knew everything there was to know about things - using data they gathered without any help from us - we would be able to track and count everything, and greatly reduce waste, loss and cost. We would know when things needed replacing, repairing or recalling, and whether they were fresh or past their best.”

The realization of Sterling and Ashton’s ideas, however, would imply not only deep shifts in our relationships with the consumption of electronic artifacts, but also on how we relate to them. Widely available tracking technologies would offer an immensurably fertile ground for the further development of the filtering and tailoring technologies previously discussed in this study. As the mediation of electronic objects would become more and more present in our daily interactions - with plates capable of recording what and how much we eat, for instance - the act of filtering would become both easier and more reliable. A world of SPIMES would be a world where we would have unprecedented knowledge on our patterns of behavior: what, how and how frequently we consume, use, like or dislike. We could track behaviors, like where do we put things when we arrive home after a work day. We could know exactly how many times a certain pair of shoes have been used, where and for how long. All of this data, if available and accessible, could provide valuable information on our relationship with the material things that make up our routines; moreover, it could perhaps provide even more valuable information on the psychological aspect of our relationships to objects. The uses of this data could vary widely, from inoffensive curiosity to positive actions to prevent waste to harmful manipulations. Filtering stands somewhere in the middle of this spectrum; depending on how it is used, it could prove both extremely useful or alarmingly damaging. The potential of filtering as a manipulation strategy is enormous; so is its positive potential as a tool for reducing the data noise that constantly circles us. Dunne (2005, p.21) discusses the electronic object as an ideological and political tool:

“According to Virilio (1995): “‘Interactive user-friendliness’ (...) is just a metaphor for the subtle enslavement of the human being to ‘intelligent’ machines; a programmed symbiosis of man and computer in which assistance and the much trumpeted ‘dialogue between man and the machine’ scarcely conceal the premises: ... the total, unavowed disqualification of the human in favor of the definitive instrumental conditioning of the individual”. This enslavement is not, strictly speaking, to machines or to the people who build and own them, but to the conceptual models, values, and systems of thought that the machine embody.”

The views expressed by Virilio and Dunne incite reflection on the ideological and political background responsible for promoting the current trend for the development of filtering devices. Though the alarmism that sometimes encircles the development of new technologies usually stems from a lack of knowledge and fear of the new, being aware of the uses of these new technologies is of absolute importance. The social, cultural and political reflections that arise from the use of filtering technologies may seem like a fertile ground for far-fetched conspiracy theories coming out of Science Fiction books. The fact that our perception of the world is being curated for us without our knowledge or approval is, however, very real. Filtering technologies are quickly becoming ubiquitous, permeating more than we can imagine. As much as campaigning for the rejection of these technologies is a naive attitude, we also face also the pressing need to raise awareness towards this fact. By understanding the relevance of these technologies we may, in fact, be able to gain a more complete understanding of our own world and its complex dynamics. Perhaps what we leave out from the complex weaves that illustrate our lives may, in fact, say even more about ourselves than what we leave in.



three

OBJECT OF STUDY

*Relationships, identity and
intimacy in the digital age*

3.1. Relationship filtering and the “unsubscribe” behavior

“Technology can aid efficiency — it can prevent us from getting lost, make locating the nearest restaurant easy, help us avoid inconvenient traffic, and eliminate the wait time between physicians and patients. Yet aided by apps and served by services, we leave little up to chance. We seek out the specific. We cut out needless words. We know that less is more. And therefore, we’ve adopted technology to aid us.” (Danzico 2010)

The previous section of this study presented a broad picture of how the idea of a filtered, curated world is currently being widely explored both in academic research and commercial products. The various examples hitherto presented seem to pinpoint to a future where most everyday activities will be associated to some degree with the curation and orientation of electronic objects capable of offering the most efficient, pleasant or effective experience. From books capable of highlighting passages that might be of interest to that specific reader to augmented reality glasses that offer direction advice to the wearer, the perspective of such a sleek world certainly seems desirable.

The curation of our life experiences is, certainly, not an alien concept within capitalist societies, where competition, efficiency and financial gain are desirable things, things to strive for. Products capable of offering streamlined experiences comply with this mindset, where wasting time means wasting money, wandering means being lost and searching needs to yield direct and concrete results. This same mindset puts an unprecedented focus on the needs of the individual; within this context, tailoring becomes a necessary feature for the products of tomorrow. The same shell, capable of offering infinite possibilities and combinations suited to each individual’s needs. The same object becomes a different device for each owner, flexing itself to suit his or her every need. Matching tastes, expectations and desires, these objects make our lives practical and frictionless. Instead of perusing books, we can get the information immediately and without much effort; instead of wondering what or where might eat for dinner, we can simply follow the instructions given by a service tailored to our food and drink preferences (Baldwin 2011). This systematic focus placed by modern societies on the needs of the individual over all others is summarized by author and social activist bell hooks¹ in her essay “Being Rich”, where she discusses the consequences of individualist culture on issues of race and class within society (my emphasis):

“While today’s youth are eager to live in a world where racism does not exist, they do not want to do the political work of changing themselves or society. That world entails confronting pain and hostility. *And they are the generations who are constantly told via mass media that only losers feel pain, that the good life is a life without difficulties.* They are constantly told that the only peace and happiness they can have will come to them through rugged individualism, through a focus on meeting self-centered needs.” (hooks 2000, p.81)

¹ hooks’ name is intentionally uncapitalized, according to her preference.

The social and cultural constructs behind the “rugged individualism” mentioned by hooks are, ultimately, the same social and cultural constructs that drive the pursuit of an ideal, personalized product. The modern capitalist model for success manifests itself as both cause and consequence in the electronic objects that enable us to lead a good, frictionless life. By streamlining the numerous processes that make up the puzzle of our everyday existence - from taking the bus to talking to a friend or a partner - we could possibly achieve the ideal of maximum efficiency. We would be able to compartmentalize, filter and curate with unprecedented accuracy; these objects could, perhaps, give us the feeling that we are in fact able to exercise complete control over our existences. The streamlined efficacy of this ideal modern life might, however, bring along a few unforeseen consequences. Danzico (2010) argues:

“(…) with this efficiency may come drawbacks: People may be less exposed to chance or less inclined to try new things; behavior may be planned such that there are no discoveries or surprises. Technology may be increasing the opportunity for specificity, but is it decreasing our chances for serendipity?”

Chance plays a significant part in our everyday interactions: by way of small, random occurrences we are able to momentarily walk out of our social and cultural bubbles and enjoy different outlooks, situations and perspectives that we might have failed to notice or experience, had it not been for the interference of chance. Danzico goes on to comment:

“Chance encounters, by chance, are often present in discovery. Whether they’re attributed to Columbus’s discovery of America, Newton’s naming of gravity, or Nobel’s discovery of dynamite, in travel, medicine, science, technology, and inventions, serendipity is often cited as a key factor in the success of the new.” (Danzico 2010)

Under this light, eliminating the serendipitous aspects of our everyday interactions might seem like a naive and possibly misguided approach to how objects can improve our everyday lives. What does filtering technology bring to the table, then, as a new contribution to our daily routines? How could we establish solid connections with such constraining devices? A possible answer to these inquiries may lie in the fact that filtering services and devices don’t tend to be overtly confining; instead, most of these mechanisms focus not on what is left out, but on what is let in. Perhaps the most enticing quality of filtering technologies might be their ability to provide us with the chance of concentrating our shrinking attention spans (Pasternack 2011) on fewer things, allowing us to focus only on that which *they* consider as being relevant to us while erasing the unimportant or the unpleasant.

Beyond the seductive aura that accompanies the ability to concentrate and focus our interactions, it becomes essential to question the ideological structures that inform the erasure of certain pieces of information from our lives. From the moment when we abdicate control from certain decision in our lives, we submit ourselves to these decisions being made by other instances. Filtering mechanisms like all designed objects are, invariably, implementations of the complex sets of social, political and cultural constructs that surround their coming into being; the electronic object

cannot help but be a representation of the context within which it was developed. Dunne and Raby (2001, p. 58) argue that Design is, in itself, an ideological tool:

“(…) all design is ideological, the design process is informed by values based on a specific world view, or way of seeing and understanding reality.”

Unquestionably, these filtering mechanisms comply with contemporary ideals that equate a smooth, easy and effortless lifestyle with success while concomitantly equating difficulties, sadness and unhappiness with failure. We are constantly bombarded with the message that the desirable life is devoid of unhappiness, that successful people can never be dissatisfied. From psychoactive drugs to surgical enhancements, we are constantly offered products supposedly capable of making us fit into the binary ideals of success and happiness. Within this context, could filtering be, in essence, an extension of the concept of constant artificially-enhanced satisfaction we are expected to pursue? Norman (2009) reflects:

“As interaction designers, we strive to eliminate confusion, difficulty, and above all, bad experiences. But you know what? Life is filled with bad experiences. Not only do we survive them, but in our remembrance of events, we also often minimize the bad and amplify the good.”

Taken within the context of hooks' and Raby's reflections, Norman's comment seems to suggest a role for Interaction Design as a filtering discipline in itself. By striving to “eliminate confusion and difficulty”, the design process aligns itself with the very same ideological structures that promote the model of the frictionless life. The easy, smooth path is the successful, happy path; unhappiness means failure. Interaction Design's role within these sociocultural structures is the erasing of unpleasant experiences through its products, which will in turn offer the bliss of a difficulty-free life. It is within this context that filtering products come into being: rather than constrictive measures, these products are created to embody the very essence of our paradoxical contemporary need for carefully controlled freedom. Norman (2009) goes on to discuss the complex mechanisms that allow us to absorb and handle the memories we acquire:

“We remember events differently when we achieve distance from them, whether the distance is time or space. We anticipate and evaluate the future, remember and reflect upon the past. (...) There is considerable psychological evidence to support the notion that positive and negative events fade at different rates from memory, and that affective elements fade differently than cognitive ones (...)”

The relevance of the discussion of filtering mechanisms lies precisely in their potential as manipulators of memory and perception of reality. As much as the human brain has its own filtering, storing and retrieving mechanisms, this mechanism depends on external stimuli in the first place. By pre-filtering the experiences that reach us we are, in fact, submitting ourselves to perceiving a skewed and curated object-mediated reality and, ultimately, we are subscribing to the ideological agendas that they represent.

Although filtering does constitute an essential part of life, the act of relieving ourselves from the burden of selection and instead relying on products to perform this task is a highly significant act from a socio-cultural perspective. As we rely on devices in order to perform more and more tasks related to our everyday activities, we might have become uncannily dependent on these pieces of technology. As much as computers revolutionized science and research with their capacity to perform complex operations that would take up enormous amounts of time for a human to complete, personalized filtering devices might become, in a very near future, essential tools for everyday interactions. Much like a dedicated secretary, iPhone's Siri² obediently wakes its owner at the exact time it - or she - was programmed to on the previous night. Although the alarm clock function is nothing new in itself, the fact that one can verbally ask an iPhone to perform a certain task changes significantly the context of the interaction. Devices are now surpassing the mere role of personalized objects, becoming instead *personified* objects: assistants, helpers, specialists. Anthropomorphic features in electronic objects have a profound effect on the way we develop relationships with them; it is more of a statement on human nature and the complex mechanisms of our psyches than on the products themselves:

“Besides being aware that anthropomorphism can take different forms, we must keep in mind that it is a human characteristic, not a quality of the anthropomorphised object or creature per se: the fact that we recognise human traits in objects in no way means those objects are actually human, or even designed with the intention of seeming that way. Anthropomorphism is an extremely subjective business. Research has shown that how we experience anthropomorphism and to what degree, are extremely personal - what seems anthropomorphic to one person may not to another, or it may seem much less so.” (Mensvoort 2012b, p. 352)

Evidently, as we anthropomorphise and personify electronic objects we start responding to them - and their flaws - much in the same way we respond to people. When a device doesn't work we instinctively say that it doesn't *want* to work, as if the object was able to take its own decisions. The anthropomorphisation of objects might in fact contribute to how dependent we have become on the mediation and assistance of technology in our daily interactions with our environment and other people.

“Most researches agree that anthropomorphism can be advantageous as well as dangerous. On the one hand, it can encourage an empathetic relationship between the user and the product. If the expectations are not met, however, disappointment and incomprehension can result” (Mensvoort 2012b, p.353)

Whereas anthropomorphism might be a significant factor in explaining our dependence on technology, it does not offer sufficient explanation for the extent of this dependence, or even the profound feelings of helplessness we might experience when a device doesn't perform as expected. Although anthropomorphism, as a psychological response, does provide a base for the study of these

² <http://www.apple.com/iphone/features/siri.html> accessed on March 29th 2012.

responses, our relationship with technology is not, by any means, a solely personal issue. Our affiliation with objects is influenced by individual factors just as much as it is by social ones. When these objects become not only means for performing tasks, but also tools for the communication with other human beings, the context presented by anthropomorphism might become even more complex. Being cut off from the world by a cell phone that doesn't work - or maybe doesn't want to - affects us in rather interesting ways: what if someone needs to talk to you? What if your spouse sent a message reminding you to pick up some milk on the way home? What if there is an important work-related email that you should read immediately?

“The worry is that life online is giving us what researcher, David Levy, calls "popcorn brain" -- a brain so accustomed to the constant stimulation of electronic multitasking that we're unfit for life offline, where things pop at a much slower pace.” (Cohen 2011)

Life offline seems, in comparison, incomplete: we need to know, even if we have no idea of what it is. We crave the control technology seems to give us over our life and our routine; we crave having information under our thumb and being able to communicate with anyone, if we wish; we crave the multitasking and the excitement.

“The human brain is wired to crave the instant gratification, fast pace, and unpredictability of technology, Cash says.” (Cohen 2011)

Within this perspective, the central point to the concepts of personalization and filtering stands in the fact that they *make time* for other things to happen. Personalization might, perhaps, allow us to pursue and explore other forms of gratification, instead of focusing on a single one; the core goal of filtering devices lies in preventing us from wasting time, be it searching for a product on a website or reading an acquaintance's numerous ranting posts on our Facebook newsfeed. It is a goal directly connected to our need to perform multiple tasks at once while wasting a minimum amount of time and attention. In a world where we need to be reachable and connected at all hours, endlessly scrolling through images and words in luminous screens, time and attention might have become valuable commodities. Our digital imprints are often flattened and simplified to the point where we absolutely *need* filtering mechanisms in order to manage the information that reaches us. A clear example of this simplification can be seen on Facebook: every single person on one's list is defined as “friend”. From our closest, real life friends to acquaintances we haven't seen in years or coworkers present and past, all of the people in our lists are equal, labeled as “friends” regardless of our relationship with them. In the guts of the social network's engine, however, things work differently: algorithms constantly observe and evaluate the quality of our interactions with these people in order to decide the ones that will make it into our newsfeed. Surely, it is possible to manually set up what appears in our newsfeed, both by unsubscribing³ from certain people's posts

³ This feature can strike as particularly interesting given its context in social networks: in the case of unsubscriptions, the person who was muted isn't warned by the system. Essentially, the function works as a discrete mute button, capable of avoiding unpleasant social situations for both parties, by sparing one of reading unnecessary posts and the other of knowing that what he or she expresses is deemed as not relevant, interesting or worthy.

and by subscribing to pages and individuals who are not necessarily within our social circles. This control is, however, quite limited if we consider that even the content that we can control has been already selected and personalized without warning. Our digital selves live in a jungle of dormant, unseen connections, marginal yet still present. Ellison et al. (2009) reflect:

“In our everyday lives, we frequently encounter people with whom we may want to reconnect at some point in the future, but the social or logistical barriers to do so are insurmountable. (...) Social network sites can help eliminate these barriers. With minimal effort and the thinnest of information, a profile can be located and a connection created. Social network sites facilitate interaction, both at that moment and in the future. The latent connection can be digitally reconstituted at any time, should the need or desire arise.”

The loose connections that keep us in touch with the marginal members of our social circles, although pale and oftentimes barely remembered, play an important part in our social lives; Ellison et al. argue that these distant relationships, defined by Granovetter (1973) as the “weak ties” are loose yet close enough to be able to offer us more possibly important information, such as job offers and professional opportunities. We live through snippets of information, to other realities we are not capable of fully understanding and experiencing. Instead, we are constantly presented with small pieces of narrative that, when taken individually and separated from their original contexts may not seem relevant. Nevertheless, the collective relevance of these narratives is the very fabric that makes up our digital identities. Barthes (1977) reflects:

“(...) [C]arried by articulated language, spoken or written, fixed or moving images, gestures, and the ordered mixture of all these substances; narrative is present in myth, legend, fable, tale, novella, epic, history, tragedy, drama, comedy, mime, painting (think of Carpaccio's Saint Ursula), stained glass windows, cinema, comics, news item, conversation. Moreover, under this almost infinite diversity of forms, narrative is present in every age, in every place, in every society; it begins with the very history of mankind and there nowhere is nor has been a people without narrative.”

Could the small snippets of information that reach us on a daily basis be understood as cellular units, the building blocks of the broader narrative of our digital personalities? Perhaps much like contemporary, fragmented narratives, our personalities might have also fragmented themselves between what is digital and what is real, physical space and ether. We spread through several different databases, leaving traces of our presence; even after our bodies stop working, our digital imprints still survive (Hartley 2012). In “The Language of New Media”, Manovich (2002) argues:

“As a cultural form, the database represents the world as a list of items, and it refuses to order this list. In contrast, a narrative creates a cause-and-effect trajectory of seemingly unordered items (events). Therefore, database and narrative are natural enemies. Competing for the same territory of human culture, each claims an exclusive right to make meaning out of the world.”

Are our identities becoming fragmented throughout the fast pace of numerous databases, competing for territory with the slowly unfolding of the narratives of physical reality? As the digital bleeds into the physical, with technologies and concepts such as RFID chips, *Spimes* and the *Internet of Things* as strong indicators to what is to come in the very near future, will our digital behaviors merge with the ones we have established in the physical world? We now need to be constantly connected to these digital personalities; our devices and gadgets have become, more than simple pieces of technology, expressions of our desires, preferences and tastes. We fill them with content, data, pieces of information that make up the puzzle of our own identities, and we constantly need to keep in touch with these fragments. We express ourselves as individuals through the mediation of objects. Again, hooks' critique of our rugged individualism peaks out from behind the curtain of social networks, RSS feeds, subscriptions and email lists of our online lives: despite of the complex data weave we have become inextricably entwined with, we cannot help but be spaced out most of the time.

We keep in touch with the fragments of others by reading blog posts or social network updates while drinking coffee and talking on the phone; we work while browsing websites and reading the news. We have lunch while checking our emails; we keep a constant eye on the RSS feed that keep us informed on our subjects of interest. We conduct online conversations with several friends from different social circles. As an inevitable consequence to this intense multitasking, we have become simply incapable of absorbing so much information, devoting only a fraction of our time and attention to most of these tasks. Coupled with the data overload we experience daily, the lack of context most information presented to us online suffers from might also affect the way we experience feelings of empathy, proximity and affinity.

We live among constant bouts of data noise coming from every direction; has this overload of fragmented information shortened our attention spans to the point where developing meaningful relationships based on empathy and affinity with those around us has become a burdensome and difficult task? Have we developed a need to rely on filtering mechanisms - such as Facebook's unsubscribe button - in order to make our digital cohabitation with our peers bearable?

3.2. Intimacy behaviors and contemporary displacement

Under this light, the idea of place within modern life comes inevitably into play: are we perhaps living in an era of de-spatialization, where the physical and psychological place we occupy seldom coincide? As we spend our lives jumping from data fragment to data fragment, we might perhaps find ourselves suspended in an information ether, where the list of items that constitutes the multifaceted realities through which we live cannot and will not be organized. The loneliness of this ether might be sometimes quite palpable; Marche (2012), in an article written for The Atlantic, reflects:

“Over the past three decades, technology has delivered to us a world in which we need not be out of contact for a fraction of a moment. (...) Yet within this world of

instant and absolute communication, unbounded by limits of time or space, we suffer from unprecedented alienation. We have never been more detached from one another, or lonelier. In a world consumed by ever more novel modes of socializing, we have less and less actual society. We live in an accelerating contradiction: the more connected we become, the lonelier we are. We were promised a global village; instead we inhabit the drab cul-de-sacs and endless freeways of a vast suburb of information.” (Marche 2012)

Taken within the context of these new, emergent filtering technologies, Marche’s article seems to support the idea that filtering might be, after all, an attempt to focus our attention and to strip ourselves from the constraints imposed by these lonesome cul-de-sacs. By exposing ourselves to less information we could perhaps be able to focus more closely on each individual piece of data in our lives, ultimately making the act of filtering itself a process of socialization. Through the exclusion of that which is unnecessary we could dedicate ourselves to the core interactions of our routines, devoting more focused attention to those close to us.

Marche is certainly not the first nor the last one to write about the possible relationship between technology and loneliness: in a rather controversial study published in 1998, Kraut et al. suggested that Internet usage might be connected with increasing feelings of loneliness and depression:

“The findings of this research provide a surprisingly consistent picture of the consequences of using the Internet. Greater use of the Internet was associated with small, but statistically significant declines in social involvement as measured by communication within the family and the size of people’s local social networks, and with increases in loneliness, a psychological state associated with social involvement. Greater use of the Internet was also associated with increases in depression. Other effects on the size of the distant social circle, social support, and stress did not reach standard significance levels but were consistently negative.”

Albeit a tempting path, implying that the sole reason for the loneliness of modern life lies in the extraordinarily rich interaction networks we develop is, nevertheless, a rather naive assumption. Successfully absorbing the entirety of the information presented daily to us - be it in the form of updates on the activities of people close to us or the minutiae of the stock market - is, without doubt, a herculean task which few people might indeed be capable of fulfilling. The reasons for our social and cultural behaviors are, however, much more intricate than the superficial exculpations offered by placing the blame exclusively on the technological advancements that have changed, in the past few years, the dynamics of how we relate to each other. Kraut’s study was soon accused of being biased and lacking sufficient scientific evidence capable of proving its point (Caruso 1998). Similarly, Marche’s argument was strongly refuted by Klinenberg, also on the grounds of insufficient evidence capable of backing up its claims:

“(…) many of Marche’s historical claims were as unfounded as its sociological ones.
“When the telephone arrived,” Marche writes, “people stopped knocking on their

neighbors' doors." Fischer, whose *America Calling* is a landmark study of how the telephone affected U.S. social life, found that "When the telephone arrived, people didn't stop knocking on their neighbors' doors; they called and then knocked." Marche argues that "If cars created the suburbs, surely they also created isolation." According to Fischer, "The car did not isolate us; women flocked to driving cars because cars made it easier to get out and see people."

Under Klinenberg's perspective, Marche's claim that technology is making us lonelier sounds much like a repetition of the very same concerns that surround every piece of novel technology. As tempting as it might be to blame social networks and mobile phones for the degree of detachment we have developed towards others, this detachment is much more than a direct cause of the infiltration of certain pieces of technology in our daily lives. The social constructs that inform our collective behaviors, although certainly influenced by the existence of electronic objects, are much too complex to be simply replaced by technology in such short periods of time. Electronic objects, as ideological objects, are reflections of the needs and yearnings of the society that created them; ultimately, devices come into being in order to fulfill sociological needs just as much as technical or commercial ones.

The example of cars and phones mentioned in Klinenberg's text supports, rather clearly, the argument that objects don't seem to be capable of profoundly modifying pre-existent social behaviors in a short time span. Our behaviors towards objects are fluid and ever-changing; for each new object we are capable of creating new sets of behaviors based on our previous experiences. The initial feelings of uncanniness and estrangement awakened by new technologies are usually overcome through this process, where we develop a sense of how to behave in relation to a new device. The long term changes provoked by the introduction of novel technologies seem to be, rather than the erasing of previous social needs, the creation of new ones. Just as much as the telephone did not prevent people from visiting each other and, rather, prompted them to start calling before visiting, mobile phones created the need to be constantly reachable. Every new technology has the power to stimulate the development of new sets of behaviors within society; often, the implications of these new behaviors are what might later provide fertile ground for more profound social changes. Valente (2012) argues:

"19th century laundry was a broodingnagian [sic] task that took all week, involved caustic chemicals that ruined the body over time, and exhausted both the spirit and the back. Only the ultra-rich could avoid taking part in at least some portion of it. Free women from that and you have a strong feminist movement almost instantly and probably a suffrage movement far earlier, you have a force of political action not broken by lye fumes and the crippling lack of time that hobbles any population attempting to manifest change."

The creation of new needs is, fundamentally, the core concept that informs the development of a relationship between human and artifact, providing the sociocultural context within which human and object become co-dependent. This co-dependency expresses itself under several different

shapes; Dunne (2008, p. 30) discusses the idea of *biomorphism* as one of the facets of the dependency we have come to develop towards electronic objects:

"The trend for forms of biomorphic expression, particularly in cameras and other portable devices, can be seen as expressing either an uncritical desire to absorb technologies into the body, a wish to be a cyborg, or, more optimistically, a need to mold technology to the body. But this need for symbiosis does not have to be expressed through the clichéd language of bio-form; after all, the symbiosis yearned is often mental not physical."

The personalization of electronic objects, albeit not necessarily expressed through *biomorphism*, seems to nevertheless explicit a growing need for personified products. As our routines become inextricably linked to the aid of electronic objects, our interactions with them develop perhaps more complex facets. As devices infiltrate all areas of our lives, our need for their guidance and help becomes more profound. Mensvoort (2012b, p. 354) argues that the evolution of technology seems to be affecting not only our relationship to objects, but also our relationships with ourselves, as the line between people and products seems to be growing ever thinner:

"The contemporary social pressure on people to design and produce themselves is difficult to overestimate. Have you put together a personal marketing plan yet? If not, I wouldn't [sic] wait too long. Hairstyles, fashion, body corrections, smart drugs, Botox and Facebook profiles are just a few of the self-cultivating tools people use in the effort to design themselves - often in new, improved versions."

We curate and cultivate ourselves and the image we project to the world; as the digital and the physical merge, the fragments of our online identities might start to slowly bleed into other areas of our lives. Curation is, in this context, an imperative need to maintain the aspects of our own identities we want to reveal and project. We might have, as Mensvoort argues, indeed become products; the idea of the commodification of the individual and of emotions is certainly not an extraneous concept neoliberal western societies. From rules enforced by advertising and propaganda on how our bodies should look like, to devices reinforcing race-and-gender-based stereotypes, our relationships are commodified just as much as any product. Body and identity become political battle grounds, media for propagation of the structures that perpetuate current power structures. Never content, never adequate, we spend our lives trying to conform to ever changing patterns and standards. Mensvoort goes on to argue:

"It is becoming less of a taboo to consider the body as a medium, something that must be shaped, upgraded and produced. Photoshopped models in lifestyle magazines show us how successful people are supposed to look." (Mensvoort 2012b, p. 354)

In a world where our projected images have become so valuable, what would be the new definitions of identity and intimacy - if there would be any definitions at all? From personal websites to social network profiles, we now need to constantly curate our digital selves as much as we need to

curate our physical bodies. There is no escape: even those who refuse to subscribe to the interconnected networks that have come to play such a significant role in the contemporary world cannot prevent parts of their identities from ending up on the web. A very significant part of the population living in western societies can now be “googled” - and we tend to distrust those whose names don’t turn up in any results (Delaney 2007). Having one’s name yielding Google results has, in fact, almost become a confirmation of existence; the more results, the more prestigious (Delaney 2007). Have these digital fragments of our lives become proofs of our identities?

An article recently published by the New York Times examines new behaviors among teenagers involved in romantic relationships. The expressions of trust and intimacy that are commonly part of these relationships have been profoundly affected by how communication has changed in the past years. Much like wearing a lover’s hair in a locket was a proof of faithfulness and devotion in Victorian times (Gitter 1984, p. 942), teenagers now seem to be developing new sets of behaviors in order to express these same feelings. Interestingly, the trend highlighted by the article is the sharing of passwords for private accounts and services among young couples:

“Young couples have long signaled their devotion to each other by various means — the gift of a letterman jacket, or an exchange of class rings or ID bracelets. Best friends share locker combinations. The digital era has given rise to a more intimate custom. It has become fashionable for young people to express their affection for each other by sharing their passwords to e-mail, Facebook and other accounts. Boyfriends and girlfriends sometimes even create identical passwords, and let each other read their private e-mails and texts.” (Richtel 2012)

In an era so deeply characterized by our own attitudes towards the curation of our own digital selves, it makes sense that the strong feelings of devotion to one another experienced by young couples are materialized in the sharing of that which is most intimate and personal: the key to the digital fragments of our own identities. This trend among teenagers seems highly significant in the context of how important the curation of these digital personalities has come to be. The popularization of the Internet has, indeed, brought significant changes in our personal connections: from online infidelity or long-distance relationships to the act of exchanging passwords, the mediation of devices and services has deeply affected the dynamics and social structures that govern how we interact with our significant others. Vetere et al. (2005) write:

“Even though an intimate relationship often requires no mediation, new technologies are regularly manipulated to help us feel connected with those for whom we care. So strong is this desire, that we will spend significant amounts of money on communication technologies, and will be inconvenienced by poor usability so that our personal relationships are nurtured and maintained.”

It is inevitable to ask, in light of these reflections, if we are in fact becoming hopelessly dependent on the mediation of electronic objects in order to experience close relationships. Whereas intimate relationships have indeed always been mediated by objects - letters, tokens, jewelry, keepsakes - the electronic object offers a type of mediation that differs substantially from the one

offered by more traditional media. Through the mediation of modern devices we can see, hear and interact in real time with someone who is miles away, experiencing a feeling of presence that, despite the underlying artificiality of interacting with a screen, still enables us to feel closer to those we love. The long waiting times and uncertainty of delivery that permeated the act of communicating in times past are now unimaginable: with most of the population being constantly reachable through mobile devices and internet access we are able to get the instant gratification of calling or messaging someone as often as we please.

As a consequence to these developments, the pace and the dynamics of personal relationships have evidently been deeply affected; as the number of couples in long distance relationships seems to increase (Jayson 2010), not only do we appropriate already existing technologies in order to include those we care about in our daily routines (Broadbent 2009), but we start creating technology designed with the purpose of satisfying our specific needs for intimacy, like the Iphone app Pair (Kessler 2012):

“It creates a private shared timeline for couples that allows them to easily swap SMS messages, photos, videos and locations. (...) The app includes a feature called “thumb kiss” that vibrates when both parties touch the same spot on the screen. Couples can also co-create drawings, maintain a joint to-do list and send a “thinking of you” message that works like a more thoughtful Facebook poke.”

The app’s interpretation of the act of kissing is particularly interesting in this case, as it explores the use of the remote touching of fingers on the same point of two different screens as a metaphor for the touching of lips. Instead of limiting itself to the creation of a personal, shared space for the couple, the app tries to overcome the physical distance between two lovers by offering a more tangible interpretation of a physical act of affection,. This approach can, perhaps, be seen as closer to that discussed by Gaver:

“Separated lovers may employ letters, the telephone, and even email to maintain their relationships, but it often seems difficult to use symbolic media in creating a shared emotional experience. A variety of proposals have emerged recently for systems that use less precise, non-linguistic displays to evoke or communicate emotions. Most are concerned with creating emotional connections between lovers when they are apart, though some focus on less intimate friendships.” (Gaver 2002)

Aside from more traditional methods of communication offered by Pair, the app’s thumb kiss function seems like a timid nod in the direction of the use of what Gaver calls “symbolic media”. Although still guided by rather utilitarian principles, the translation of physical contact into this particular form of on-screen contact seems to show a willingness to take a step further towards forms of electronically-mediated co-presence. It is inevitable, however, asking whether this type of mediated contact does in fact contribute positively to relationships. Despite being a good starting inquiry, this line of questioning usually implies in finding objective answers to what are, in this case, very subjective issues; moreover, these answers will be usually relegated to the infertile territories of “yes” or “no” results. Remarkably more interesting for the purposes of this study would be asking more

subjective questions, aimed not at quantifying the quality of these interactions, but at understanding how technology has affected them. In this case, the central questions to be explored regard *how* these technological advances have changed our relationship to our significant others, *what* these changes might be and what did they contribute to our perception of intimacy.

As part of these questionings and departing from the first, objective inquiry on the influence of technology in the supposed ‘improvement’ of a relationship, the next logical step would imply in asking if this type of close, technologically-mediated contact bring people together through the constant sharing of an synthetic medium for intimacy. Or, perhaps, does the constant sharing of information pull people apart instead, as a consequence to the numbing effect that an excessive amount of information - even if it regards a loved one - has on our perception? Certainly the balance and dynamics of intimate relationships is indeed deeply affected by the availability of technological means of keeping in touch; from GPS tracking devices, to apps or social networks that offer the possibility of letting people know where you are and what you are doing, we are now more connected than ever to those we care about.

What does intimacy mean, then, in such a constantly connected world? We instinctively separate our online lives from the lives we conduct in the physical world, perhaps in a subconscious acknowledgement of the fragmentation of our own identities; the opposition between these two worlds has become so common place, in fact, that the expression “real life” has now become common slang in online discussions. This expression, defined by the Oxford Dictionary (n.d.) as “life as it is lived in reality, involving unwelcome as well as welcome experiences, as distinct from a fictional or idealized world” has been appropriated by internet users to describe situations occurring out of the context of the internet, perhaps unconsciously implying that the web constitutes in fact a different type of space, not entirely real nor imaginary, suspended in its own particular layer of perception. The opposition between the two concepts strikes as particularly interesting: if we do not consider that which happens in this suspended space as real, are the interactions mediated by this space not real as well? The meaning of the expressions of intimacy enabled by technological advances may, in this case, be questioned as to their perceived psychological and social validity. Moss and Schwebel (1993, p.33) try to propose a definition of intimacy as follows:

“Intimacy in enduring romantic relationships is determined by the level of commitment and positive affective, cognitive, and physical closeness one experiences with a partner in a reciprocal (although not necessarily symmetrical) relationship-” (Moss and Schwebel 1993, p. 33)

Presence and physical closeness play a significant role in Moss and Schwebel’s definition of intimacy. Lerner (1990, p. 03 cited in Robson and Robson 1998, p. 35) offers a broader definition of the term:

“An intimate relationship is one in which neither party silences, sacrifices, or betrays the self and each party expresses strength and vulnerability, weakness and competence in a balanced way”

The difference in focus and position between the two definitions is remarkable; it could be argued that none of them are in fact correct, or that none of them offer a profound understanding of the term. The elusiveness of the term lies perhaps within its very nature, as intimacy is, inarguably, a profoundly complex construction, dependent on unstable and unpredictable social, cultural and psychological factors.

“(...) intimate acts are ephemeral and transient yet ubiquitous and crucial to the ongoing life of an intimate relationship. They form the material and background of close personal relationships, yet occur in the doing and then often vanish unremarked.” (Vetere et al. 2005, p. 472)

Vetere et al. touch upon a rather interesting point in his definition of the intimate act: its evanescent, fleeting quality. The intimate act in itself is transient; however, much like a stone thrown into the water, the ripples it causes continue to reverberate and spread long after its end. The intimate act does not rely exclusively on means such as verbal communication; it has its own language, developed over time by the people involved. This language might involve different forms of expression, bodily or otherwise; it is through this intimate and personal language that the people involved interact with each other. Vetere et al. go on to argue:

“Much of what passes between intimates is unsaid and premised on deep knowledge and understanding of one another and occurs in the context of a rich, shared and sometimes idiosyncratic view of the world that may be difficult for others to fathom and comprehend. Intimacy also involves assumptions about commitment and mutuality. It carries nuanced expectations for reciprocity and exchange that are negotiated and arrived at over many years, yet remains fragile and is occasionally misjudged leading to misunderstandings and conflict.” (Vetere et al. 2005, p.472)

In a technologically-mediated world, new expressions of intimacy will continuously arise; concurrently, new definitions of what constitutes intimacy may also emerge. New technology will always be accompanied with the creation of new needs; despite their profound relevance to the daily interactions we experience on a daily basis, these new, manufactured needs seldom supplant those already established in our psyche. In a postmodern world there is space for every type of need and a product to satisfy it; instead of old needs disappearing, we keep adding new ones to the list. What new needs would arise in a situation where we share so much with each other on a daily basis? In a world where our digital personalities are always available and reachable, would people develop new relationship rituals in order to maintain the feeling of being close to one another in the fragmented worlds we live in?

3.3. Digital curation and the fragmented identity

In an essay on anthropomorphism published on the recently released book *Next Nature*, Koert van Mensvoort (2012b) maintains that, as technology evolves, the already fine and blurry line between people and products is becoming progressively weaker. We are constantly curating our images through the consumption and use of objects and services: from clothing to cars, from make up to technological gadgets, we now create, more than ever, complex projected images of ourselves (Mensvoort 2012a, Mensvoort 2012b). The human being in its natural state may in fact be long gone from western societies; we have become dependent on technological advancements in order to look and feel healthier, fitter, thinner or more adequate. Mensvoort (2012a, p. 370) goes on to reflect:

“In contrast to the peacock, which depends on the luck of genes and nutrition for its impressive tail, mankind has developed artificial features that intervene with truthful fitness assessments”

Our perception of reality has, in fact, been stretched and skewed by the elaborate systems we create as we design ourselves and the environments around us. The divide between what is natural and what is fabricated seems to become progressively blurrier as “photoshopped” magazine covers and genetically modified vegetables make their way into our daily routines. Has artificiality become so ubiquitous that the meaning of words like “real” and “natural” might have been forgotten, or at least changed?

“With advances in cosmetic enhancements, beauty has turned into ‘hyper-beauty’, a simulation of physical attractiveness more cutting-edge than anything found in nature.” (Mensvoort 2012a, p. 371)

In this era of *hyper-beauty* we find ourselves between the seemingly opposed axioms of what is natural and what is artificial. We are constantly curating our own, fabricated environments; we modify, reshape and select even nature itself, from the flavor of fruit to natural evolutionary processes (Mensvoort and Grievink 2012, pp. 124-125). In the dynamic and ever-changing artificial realities we create, it seems fitting that the act of curation does not limit itself to the environments we inhabit. The same technological advances that have so deeply affected our environment - from air pollution to superbacteria - have also left a permanent mark on our perception of identity, body and the self. The last 20 to 30 years have seen a significant increase in the amount of electronic products manufactured every day. We have created products capable of catering to almost every need that may arise in life; as we become more dependent on the mediation and assistance of these products in order to perceive and relate to the world around us, we might also have unintentionally become dependent on their validation in order to perceive ourselves, our identities, our own images.

Granted, the definitions of self-image and identity might yield a discussion complex enough to require a study of its own, well beyond the scope of this study; several authors have, however, offered theoretical frames that attempt to define or at least delineate such an elaborate subject:

“Self-concept is the totality of a person’s thoughts and feelings in reference to oneself as an object (Rosenberg, 1986), and identity is that part of the self “by which we are known to others” (Altheide, 2000, p. 2). The construction of an identity is therefore a public process that involves both the “identity announcement” made by the individual claiming an identity and the “identity placement” made by others who endorse the claimed identity, and an identity is established when there is a ‘coincidence of placements and announcements” (Stone, 1981, p. 188).” (Zhao et al. 2008, p. 1817)

The different perspectives presented by Zhao seem to point to a natural division between the essence of what we are and what we present to society. Dunning (1993, p. 133) discusses this fragmentation of personality as a natural human condition in contemporary society:

“Freud split the image of self into multiple facets: the conscious, the unconscious, and so forth. In this century, Derrida expanded on the Saussurean linguistic metaphor to propose a new concept of identity, one which is never fixed or determined, but is forever shifting because it is generated by the individual's perception of the *differance* between herself or himself and others within a particular system.”

“In this age of pluralism and fragmentation, it is the indivisible self that rings anachronistic.” (Dunning 1993, p.133)

The fragmented perspective on the human personality offered by these definitions seems particularly interesting when taken inside the context of contemporary patterns of behavior. As the curation of our own bodies and personalities becomes a necessity for social inclusion, how does this necessity affect our self-concepts and our identities? Mensvoort (2012a, pp. 354-355) goes on to comment on the relationship between various forms self-curation and the desire to fit into desirable standards:

“In general, the cultivation of people appears chiefly to be the consequence of social pressure, implicit or explicit. The young woman with breast implants is trying to measure up to visual culture’s current beauty ideal. The Ritalin-popping ADHD child is calmed down so he or she can function within the artificial environment of the classroom. (...) People cultivate themselves in all kinds of ways in an effort to become successful human beings within the norms of the societies they live in. What those norms are is heavily dependent on time and place.”

While Mensvoort’s argument mentions situations deemed to be part of the so-called ‘real’ world, these same principles and patterns also inform our behaviors in our online lives. The same societal pressures that incite us to somehow fit into standard behaviors or looks also apply to the dynamics of the online world where, despite of its intangibility, we still feel the same need to fit in. However, due to the disembodied nature of the online environment, a new variable comes into the equation under the form of filtering. In spite of the similar value systems present in both online and ‘real’ environments, the former gives us complete power over what we wish to communicate to the

world about ourselves. Our personalities can be polished, split and even changed; the desynchronized and mutant nature of the web allows us to function on a completely different dynamic than the one that governs the tangible world.

Between social networks, personal websites, online portfolios and blogs, the internet has given us unprecedented power over the communication of our identities. We have the possibility to filter out what we don't appreciate, highlight what we enjoy and mold our personalities. We can communicate selectively, filtering social network posts so that only a select group of people is able to see them; we can allow public viewing of our profiles or try to preserve our privacy by only allowing friends to access your information. We can become our own brand - products, like Mensvoort argues. We can block people or conversations we don't appreciate, talk to strangers or friends. Our online personalities are in constant flow, adapting and molding themselves to the environment that surrounds them. We meticulously fraction and compartmentalize; we can go as far as having different online aliases to be used on different occasions, to discuss and communicate different things. The fragmented modern personality expands itself throughout the ether of the web, satisfying our multifaceted desire for self-expression.

“(…) in a fully anonymous online world where accountability is lacking, the masks people wear offline are often thrown away and their “true” selves come out of hiding, along with the tabooed and other suppressed identities. The nonymous⁴ online world, however, emerges as a third type of environment where people may tend to express what has been called the “hoped-for possible selves” (Yurchisin et al., 2005).” (Zhao et al. 2008, p. 1819)

Zhao et al. (2008, p. 1818) define a *nonymous* environment as placing “constraints on the freedom of identity claims.”. They go on to reflect:

“the disembodied and anonymous online environment makes it possible for people to reinvent themselves through the production of new identities.” (Zhao et al. 2008, p. 1818)

The old saying that we can be whoever we want may seem strangely *hyperreal* (cf. Baudrillard 1994) on the elusive territories of the digital. While games of all kinds - from traditional Role-Playing Games (RPG) to video games - have always based much of their appeal on the thrill of assuming, if only for a short while, another identity, computer games seem to have taken the experience a step further. Through the *hyperreality* offered by technology we are able to transport and transform ourselves in way never before imagined. First person shooter games might owe much of their remarkable success to the human need to not only experience facts through the perspective of another person, but to *feel* like another person. Other initiatives, such as the online gaming platform Second Life (or SL for short) offered the literal possibility of a second virtual existence, additional to our physical lives:

⁴ Zhao et al. (2008, p. 1818) define *nonymous* as “the opposite of “anonymous”

“SL is a massively multi- user virtual environment [...] SL is not a game. One begins a second life by creating an avatar, and avatars are not limited to being either male or female; in fact, humanity is not even a requirement as there is an entire community of avatars who call themselves Furrries and walk around in SL as animal-type avatars. Once one has created this avatar, SL is a world to be explored just like our own with areas of entertainment, shopping, living, learning, and more.”

Taken within the context of filtering technologies, these simulations of ourselves seem to point out to a future where we will have more control than ever over how we present ourselves to the world. Will the power we have over our own identities on the virtual world be transferred, in a near future, to the physical world? Will we be able to transport our online behaviors to our tangible environments, gaining full control over how we are perceived?

Although these inquiries certainly seem to lead to other, even more complex questions on the future of identity, they are all focus on how we are perceived by others. How does this type of behavior, then, affect our own psyches? Recent studies on the relationship between internet usage, self-esteem and self-image suggest that the power to filter and highlight what we appreciate about ourselves might be, in fact, a positive influence:

“According to a leading theory from social psychology (objective self-awareness), exposure to mirrors, photos and recordings of one’s voice encourages people to view themselves the way others see them. This, in turn, is thought to promote “pro-social behavior” and diminish one’s self-esteem. However, another prominent theory (the hyperpersonal model) among those who study online communication holds that when people have the opportunity to put their best face forward online – by posting flattering photos and emphasizing certain aspects of their personality – they can give their self-esteem a boost.” (Kaplan 2011)

It is interesting to note here how the author highlights tangible devices as responsible for boosting negative feelings about ourselves. These devices, in fact, are things we do not have control over, for mirrors, photos and recordings depend solely on the laws of physics nature in order to produce an image of what we are. They offer, perhaps, a pure and untamed outlook on ourselves, one we are not accustomed to. In stark contrast to this, Kaplan goes on to claim that the control we have over the way we communicate our own personalities online is indeed capable of boosting our self-esteem levels. One could argue that we are in fact becoming more familiar with the curated versions of our personalities, those we have control over. The crude and untamed reflections provided by analog media may cause discomfort precisely because of their disturbing accuracy. What will, then the future reserve for the perception of the self? Will traditional media have to adapt to the curated versions of ourselves we have become so familiar with?

A few of these analog representations of ourselves already seem on the way of adapting themselves to these new needs. In the years since the release of the first digital cameras, companies have taken a keen interest in offering the possibility of taking the most pleasant, conventionally

beautiful pictures possible. Most digital cameras now have a function developed specifically in order to avoid the dreaded red eye; in the past few years, however, camera manufacturers seem to have taken a step further by incorporating automatic beautifying functions:

“The just-released Lumix FX77 comes with a re-touching function that whitens teeth, removes dark circles around the eye, makes your face look smaller, your eyes larger — and can even add blush and eye shadow.” (Moore 2011)

The Lumix FX77 was a remarkable success, perhaps as an indication of a coming trend in digital cameras and other consumer electronics. Would it be safe to assume, then, that this trend will extend itself to other objects that are part of our everyday activities? Artifacts are always a reflection of the sociological context that surrounds and permeates their creation; while they do not have any political and sociological agendas of their own, they do embody the sets and systems of value that brought them into being. The evolution of technology serves the needs of the society that developed it; as such, the societal pressures that influence our perception of self are thus embodied in the devices that we create. Does the appeal of a digital camera such as the Lumix FX77 suggest, then, that we are becoming detached from certain, unwanted parts of our disjointed identities? Dunning exemplifies:

“Consider for a moment just the visual fragmentation experienced during the time spent driving. [...] Speeding down the road, the driver's visual attention is focused on that narrow band of paving laid flat across the surface of the world. Drivers merely glance in other directions. They snatch quick glances out of the right-side windows [...] Thus, the ever-present automobile, perhaps our most common shared experience, offers a myriad of narrow disjointed and distorted views of the world around us.” (Dunning 1993, p. 136)

Much like in Dunning's example, the fragmented views we have of ourselves are the product of several factors, but the most significant one - the car itself - is society. Technology is merely the messenger; as such, blaming it for the message seems like a naive reaction to a more profound issue. Filtering is as much a social behavior, as it is a feature or a function on artifacts and devices; the consequences of these functions, however, might belong more to a social sphere than to a technological one.

3.4. Research Questions

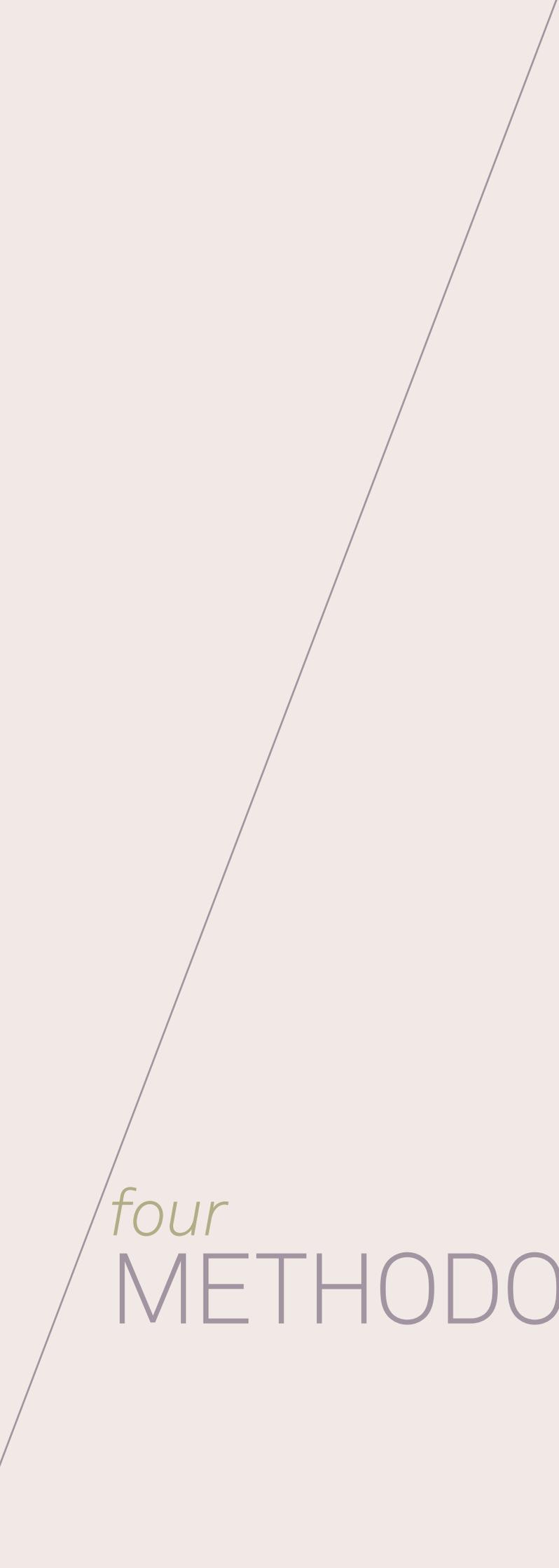
The previous sections of this chapter strived to provide an overview of the effects and affects of filtering technologies on our perception of *reality*, *intimacy* and *identity*. These three concepts form the central points of interest to this study. On a broader level, one could ask how will these technologies affect our perception of reality in the near future. The scope of this inquiry is, however, much too broad for the development of a project within the field of Interaction Design, for its main concern may be addressed by a variety of different disciplines and approaches. As a point of departure, however, the question is indeed effective; by narrowing down its scope to the specific role of Interaction Design and focusing, as previously mentioned, on the effect that these technologies

may have on the relationships that form our perspectives on the world stems the first research question of this study:

How can Interaction Design contribute to an extended understanding of the effect of filtering technologies on our social, cultural and personal relationships?

This first question concerns itself with the theoretical reflection proposed by this study; there are, however, pressing design questions that may also be addressed by this project. In a world where technology is constantly shifting the relationships between people and things, it is necessary to speculate on the possible paradigm shifts that new filtering technologies may bring to our everyday interactions:

How may relationship paradigms change as we become more dependent on the mediation of electronic objects? Which rituals and behaviors might emerge from the coupling of our virtual and physical personalities in an increasingly connected world?



four

METHODOLOGY

This research aims to discuss our understanding of filtering mechanisms and how might we, in a near future, develop methods of coping, embracing or bypassing the *filter bubbles* that seem to be progressively encasing more and more of our everyday life. As the digital and the analog bleed and blend into each other through the mediation of electronic objects ever more present in our everyday lives, the exploration of our behaviors within these two environments might help provide an extended understanding of this process and its implications.

The exploration and research of human behavior mediated by electronic objects does, of course, span the field of knowledge of several disciplines, from Anthropology to Computer Science. This study aims to explore the issue within an Interaction Design perspective and, more specifically, focus itself around the approach proposed by the discipline of Speculative and Critical Design; as such, while a purely theoretical approach could indeed be used for the exploration of the topic, its outcome would most likely fail to provide a deeper understanding of the issues of interest.

Faithful to the practical nature of the Design discipline, this research strives to broaden the perspective offered by the issues presented in its theoretical discourse through the construction and documentation of a small series of artifacts. The creation of artifacts as part of the study, in this case, does not constitute a goal in and by itself, for they do not aim to illustrate or prove a concept or demonstrate one of the ideas approached in the text. Rather, the development of the objects as practical outlets for the research means to incite reflection on the questions raised by the theoretical background, and ultimately to ask more questions of their own. Although obviously connected to the text and to the theoretical background that this text strives to present, the objects are not entirely dependent on the reflections herein presented; rather, they are independent actors capable of raising awareness towards the implications of filtering technologies and object mediation, as well as their influence on the way we perceive *reality*, *intimacy* and *identity*.

4.1. On Design and Research

Daniel Fallman (2007, p. 195) defines the dual process where the development of objects informs theoretical work as “design-oriented research”. He goes on to argue that the object, in the particular case of design-oriented research, is used as means to observe and understand how certain patterns and behaviors emerge:

“In design-oriented research, the knowledge that comes from studying the designed artifact in use or from the process of bringing the product into being should be seen as the main contribution - the ‘result’ - while the artifact that has been developed becomes more of a means than an end.” Fallman (2007, p.195)

It is essential to note, at this point, that neither text nor objects constitute, if taken individually, full representations of the issues touched upon by this research. Each one of the artifacts developed for this investigation focuses on one specific aspect of our relationship with a filtered, curated world. Much akin to Udsen and Jørgensen’s (2005) “experience-based approach” (fig. 02),

	1) Cultural	2) Functionalist	3) Experience-based	4) Techno-futurist
Academic traditions	Humanities New Media	Traditional HCI Usability	Interaction Design	Philosophy
Interfaces	Non- informational spaces	Informational interfaces	Post-optimal objects	Ubiquitous computing environments
Theorists	Laurel Johnson Manovich Bolter & Gromala Walther Pold	Tractinsky Jordan Norman Karvonen Desmet	Blythe et al. Dunne Gaver et al. Löwgren McCarthy & Wright	Dourish Halläs & Redström Ishü & Ullmer

Fig. 02: Udsen and Jørgensen's diagram (2005, p. 206)

this theoretical discourse strives to incite further reflection on its core questions through the use of practical outlets:

“(…) the experience-based approach attempts to illustrate how the aesthetics of the interaction has certain pragmatics, which can be used strategically to create an atmosphere that alters the preparedness of the user and persuades further interaction, communication and reflection” (Udsen and Jørgensen 2005, p. 210)

By combining traditional research methods to the more recent practical approaches proposed by design-oriented research, this study attempts to contextualize and promote a deeper understanding of the complex everyday interactions between humans and objects. Fallman (2007, p. 196) comments on the relationship between traditional research and practical outlets (fig. 03):

“Design-oriented research [...] strives to question the initially recognized limitations of problem description. It is able to do this because the guarantor of the design effort - its ‘client’ in design language - is the research project in which it is situated, it is not a paying third party, nor in fact even one’s end users.”

The practical outlet of this research sees the object much like a prop, whose power to question the ideological values and systems embodied by designed objects lies in the context within which it was created. Blecker (2009, p.06) comments:

“A designed object can connect an idea to its expression as a made, crafted, instantiated object. These are like props or conversation pieces that help speculate, reflect and imagine, even without words. They are things around which discussions happen, even with only one other person, and that help us to imagine other kinds of worlds and experiences. These are material objects that have a form, certainly. But they become real before themselves, because they could never exist outside of an imagined use context, however mundane or vernacular that imagined context of social practices might be. Designed objects tell stories, even by themselves.”

Taken out of their intended contexts, these objects lose much of their power; their validation as means of investigation is intimately connected to the contexts and scenarios within which they were envisioned. Much like stage props in theatrical productions, these objects aim to delineate speculative situations, to help create convincing worlds. They act as prototypes, rather than finished products, their very existence, coupled with the documentation of their functionalities, acting as probe for the study of behaviors and rituals. Their functionalities do not focus on the effective, convenient or desirable; rather, they aim to incite reflection and commentary on the various structures of power and politics that contextualize them.

The processes started by the coming into being of these props are, in fact, the cardinal matter to this field of study. It is through the understanding of these processes and their effects and affects on their accompanying social and cultural contexts that this study bases its findings and observations. More than a rigid method, Design Research could be approached as an attitude

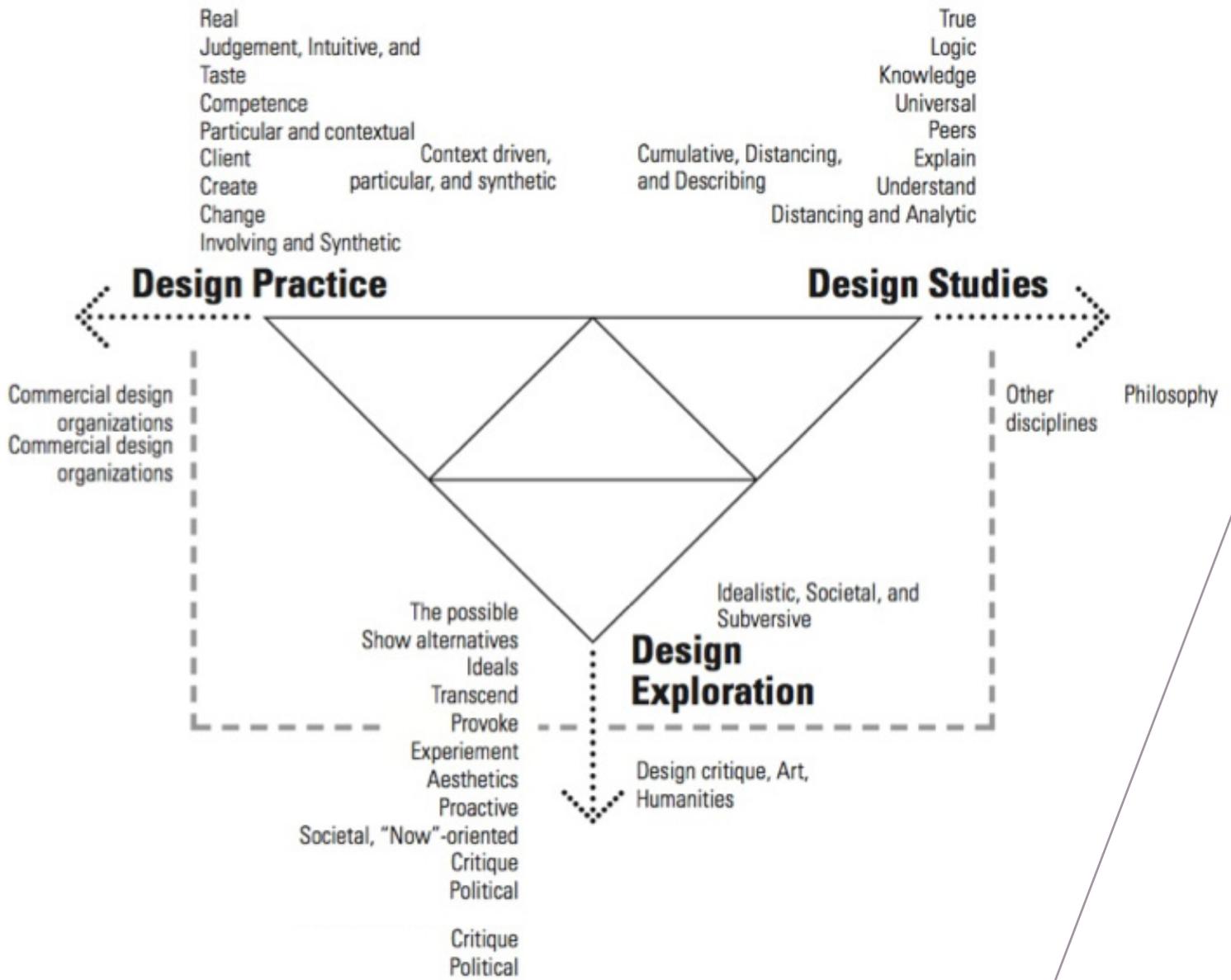


Fig. 03: Fallman's diagram (2008, p. 05)

towards Design, loose enough to let natural patterns of behavior within its subject emerge yet observant enough not to let their subtleties escape. The spontaneous and unexpected social, cultural and political implications of objects in our electronically mediated world constitute, in fact, the core of design-oriented research. British author Douglas Adams, in the last installment of the Hitchhiker's Guide to the Galaxy series, writes:

“It's just a way of thinking about a problem which lets the shape of that problem begin to emerge. (...) It's like throwing a handful of fine graphite dust on a piece of paper to see where the hidden indentations are. It lets you see the words that were written on the piece of paper above it that's now been taken away and hidden. The graphite's not important. It's just the means of revealing the indentations.” (Adams [1992] 1995, p.618)

Despite the fact that Adams' quote was taken from the reflection of a character on the nature of Astrology, these words seem oddly fitting to a discipline as new and, as of yet, uncertain as Design Research. Although the previously quoted authors have already started building theoretical foundations for what is quickly revealing itself as a remarkably relevant field for the future development of technology, the very fact that we are working with such recent developments causes the issues of process and method that this study aims to approach quite uncertain. Stuck between the starkness of scientific fact and the elusive abstraction of art, Design Research seems to constitute, more than a methodology *per se*, a continually evolving process. More than searching for definite answers and truths or providing qualitative or quantitative assessments, the approach utilized in this project was aimed at raising further questions not only on the implications of filtering technologies, its main object of study: more than that, this research hopes to contribute with its own perspective on the process of Design as Research.

4.2. Fictions and process

The concept of devices, systems or machines capable of predicting human behavior and reacting accordingly is certainly not new. The complex relationship between man and technology has long been the subject of extensive discourse in literature, art and film, with abundant material proposing, imagining and exploring the most varied perspectives on the matter. The Science Fiction genre in particular has taken, since its inception, an exceptionally keen interest to these issues. Although a notoriously difficult genre to define due to the plethora of sub-themes and perspectives it covers, Science Fiction's narrative power is deeply associated with its ability to present uncanny, unexpected worlds. This uncanniness stems from what Roberts (2000) calls the “points of difference”:

“[T]he thing or things that differentiate the world portrayed in science fiction from the world we recognise around us. [...] The critic Darko Suvin has usefully coined the term ‘novum’, the Latin for ‘new’ or ‘new thing’, to refer to this ‘point of difference’ (the plural is ‘nova’).”

It is interesting to note that, despite the initial estrangement caused by the use of these nova within their plots, Science Fiction narratives tend to show a deep concern in presenting a world that, despite its speculative nature, still seems plausible. Granted, the frequently absurd situations that drive Science Fiction narratives can seldom be sufficiently explained by the scientific knowledge and technical advancements of their time. Nevertheless this lack of solid scientific foundations is, usually, substituted by the context in which these narratives take place. It is through this context, through the development of worlds where such absurd situations would fit, that Science Fiction takes its cue to reflect upon the consequences of speculative situations. While there are no *possible* explanations for these hypothetical realities, *plausible* explanations create a situation where, despite the uncanniness of these projected realities, one can still relate to the context within which they are presented. Roberts (2000) argues:

“[T]hese nova are grounded in a discourse of possibility, which is usually science or technology, and which renders the difference a material rather than just a conceptual or imaginative one. The emphasis is on difference, and the systematic working out of the consequences of a difference or differences, of a novum or nova, becomes the strength of the mode.”

The initial estrangement the uncanny worlds and alien gadgets described by Science Fiction is, thus, eventually superseded by the core questions it presents: the social, cultural and political implications of the *novas* that fuel their narratives. There is, in fact, an undeniably intimate connection between the narratives of Science Fiction and the speculative technologies that punctuate the interactions within these imaginary worlds. From enhancements of the human body through futuristic medical procedures to the emergent sociocultural tensions in worlds ruled by highly intelligent machines, the genre has dedicated a significant part of its discourse to reflections on the influence technology might have on our social and cultural value systems.

Contextualization is, within this framework, an essential tool for the creation of a scenario where the implications of the *novas* present in the narrative will take center stage. By contextualizing, the Science fiction author is capable of immersing the reader in a world that is believable, yet fantastic enough to incite questions about our own world. Science Fiction’s rationalist attitude towards the structure of its own narrative might what in fact sets it apart from other fiction genres. While authors such as Garcia Márquez (c.f. Márquez 2007) or Borges (c.f. Borges 2004) do not bother to rationalize the situations described in their narratives, as by rationalizing these facts they would escape the purpose of the narrative, Science Fiction places special focus on the context and tangibility of its claims. Roberts (2000, p.04) compares:

“Kafka isn’t interested in the change as such, which is why he does not feel any need to explain how it has come about. (...) Watson’s metamorphosis of man into whale, on the other hand, is placed in a context of scientific research and is given a particular rationalisation, an explanation for how it has come about.”

Poet Samuel T. Coleridge (1834, p.174) might have been one of the first writers to discuss the significance of context within narrative, as he argued for what he called a *suspension of disbelief*:

“[...] a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith” (Coleridge, p.174)

Although Coleridge’s reflection was published in 1834, making it much older than any discussion on the roots of Science Fiction, its illustration of a *suspension of disbelief* is still relevant to the idea of narrative, particularly in cases such as Science Fiction’s, where the author creates environments that do not necessarily comply with established notions of reality. For a brief moment the hypothetical realities contained in the narrative become plausible, enabling them to become objects of speculation and reflection. The *suspension of disbelief* becomes, thus, an essential point in the negotiation process occurring between author and reader or viewer: by presenting a plausible context for narrative the author is capable of creating a situation where the the absurd becomes momentarily a concrete possibility and the worlds of fiction and reality may reach a temporary compromise.

Coleridge’s idea has, unsurprisingly, been highly influential to a few designers working within the field of Speculative technologies. The idea of a *suspension of disbelief* provides the conceptual canvas into which the perspectives on Design Fictions offered by Julian Bleecker’s idea of the designed object as a prop (2009), or Ludwig Zeller’s *Trojan Horse* design strategy (fig. 04) (2011, pp. 334-335) might be applied. By bridging the gap between the traditional and the unconventional, Zeller’s approach to Speculative Design seems to work under the same principles that guide Science Fiction and its use of the *nova*:

“The design outcome keeps the same high quality standard that its according discipline is used to in order to maintain its believability and seriousness. But this familiarity to the audience is then used to open up a subtle channel of believe for reporting a set of unconventional ideas and implications. This strategy follows Samuel T. Coleridge’s idea of the “suspension of disbelief” that he originally put forth as a writing technique for fictional literature.”

Although perhaps conceptually closer to the idea of narrative structure proposed by Science Fiction, Zeller’s approach represents only one of the possible perspectives in the ongoing discussion on the methodologies under whose guise Speculative Design projects can come into being. Zeller’s argument centers itself around the believability of the final object or result of the process; contrastingly, Gaver et al. (1999, p.22, my emphasis), in presenting their experiments with what they call *cultural probes*, seem to be more interested in the peripheral observations that might be able to inform the development of the process:

“The cultural probes [...] were designed to provoke inspirational responses from elderly people in diverse communities. Like astronomic or surgical probes, we left them behind when we had gone and *waited for them to return fragmentary data*

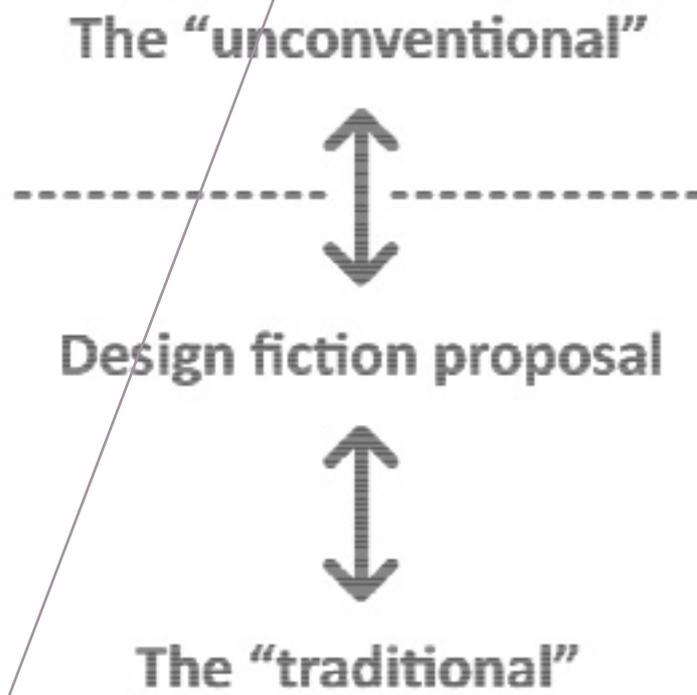


Fig. 04: *Trojan Horse* design strategy proposed by Ludwig Zeller (2011, p. 335)

over time. The probes were part of a strategy of pursuing experimental design in a responsive way. They address a common dilemma in developing projects for unfamiliar groups.”

Essentially, the *cultural probes* do not constitute goals by themselves; rather, Gaver et al. seem to approach their use more as means to an end. The fragmentary data returned by the probes constitutes the cellular component of the design process, for it is through the subjective observations triggered by the use of the probes that the process enriches itself. Ultimately, these observations serve as the main guidelines for the design process by informing the development of new objects:

“The probes were not designed to be analyzed, nor did we summarize what they revealed about the sites as an explicit stage in the process. Rather, the design proposals we produced reflected what we learned from the materials.” (Gaver et al. 1999, p. 27)

Speculative Design is, as of yet, still a very new field; as such, there is still very little consensus on the ideal methodological approach to these projects. Although Gaver et al., as well as Zeller and the previously mentioned researches of Udsen and Jørgensen, Bleecker and Fallman do provide a wide background for experimentation within the field, each one of these proposals focuses on one possible aspect of this process. As much as Fallman or Udsen and Jørgensen strive to provide a theoretical framework for research, Zeller and Gaver offer more practice-based perspectives. Design’s traditional role as a practice-based discipline means that the ongoing discussion on these methods might be, more than a search for clear answers, a conversation and a process:

“Critical Design uses speculative design proposals to challenge narrow assumptions, preconceptions and givens about the role products play in everyday life. It is more of an attitude than anything else, a position rather than a method. (...) Some relatives are: activism, cautionary tales, conceptual design, contestable futures, design fictions, interrogative design, radical design, satire, social fiction, speculative design.” (Dunne and Raby 2008, p.265)

By challenging assumptions and pre-established concepts, Critical and Speculative Design works in the unstable, murky territory that is the intersection of politics, culture and psychology. In such an unpredictable environment perhaps the establishment of precise and untouchable methodological paths may be detrimental to the evolution of the field. In stark contrast with scientific disciplines, where established methodologies are indeed essential for the construction of knowledge, perhaps this newfound theoretical approach to Design might need not confine itself to the cold starkness of science. Perhaps under the guise of their conversational nature, research-based Design disciplines might act more like fluid bodies, capable of reshaping and rearranging themselves.

4.3. *Fashion, body and technology*

The exploration of a *hands-on*, practical approach on the development of tangible, speculative objects has been, since the inception of this study, determinant for its reflections. The balance between theoretical background and practical outlets may be challenging to precisely assess; while the development of the objects was the first thing to be initiated in the process, the theoretical background informed the subjects and the perspectives they offered. The main goal throughout the development of this research was to challenge the notion of technology as a separate, alien concept in relation to our bodies and identities.

Through its theoretical discourse and practical outlets, this study aims instead to present the idea of technology as an actuating influence not only on the world around us, but on our own perceptions. The profound influence of technology on all levels of our perception of the world has indeed brought it closer to us than we may imagine; by mediating the way we experience the environment that surrounds us, our relationships to others and the way we picture ourselves, the electronic object infiltrates all aspects of modern life. Through the exploration of three main subjects - *reality*, *intimacy* and *identity* - this study hopes to incite reflection upon the issues raised by the advent of tailoring and filtering technologies and devices as basic necessities to contemporary life, and to speculate on the possible implications this may bring in the near future.

The affinity of this research with issues related to the perception of the body, the self and its effects and affects on our relationships has guided its perspective away from an approach centered on Product Design. Instead, this study takes keen interest in the approach offered by the discipline that, within the broad scope of design, seems to concern itself primarily and mainly with the human body and its sociocultural implications: Fashion Design. Welters and Lillethun (2011, p. xxvii) discuss the definition of fashion as such:

“The journal *Fashion Theory* uses the definition “the cultural construction of the embodied identity” as its starting point. Jennifer Craik (2009:21) broadens fashion’s embrace by claiming that “clothing behavior of many cultures and societies exhibits fashion in how clothes become part of social performance.””

Dorothea Mink elaborates further on the meaning of Fashion in the contemporary world, defending what may sound like a rather postmodern take on the subject:

“Ever since Roland Barthes formulated the term ‘fashion language’ in 1985 we have known that fashion is comprised of readable signs, that it creates signs and transports them. Today the principle is the same, but everything else is different. Barthes was still concerned with clothing and style, whereas now every expression of every desire figures as fashion, yes, even the body itself becomes a fashion formula, an accessory.” (Mink 2007, p. 267)

Departing from the definitions offered by Welters and Lillethun, and Mink, the relevance of the field of Fashion to the study of speculative technologies becomes quite evident. As our needs change in a fast-paced world, our bodies and the multifaceted ways we relate to them must change too; within this context, Fashion disciplines find themselves in extraordinarily privileged positions for the exploration of new perspectives in what it means to be human and in how technology mediates our relationship with the world. Historically, however, Fashion - save for few practitioners - has maintained itself curiously distant from the study of how technology affects our everyday lives, confining the influence of technology to its marginal areas:

“Since the industrial revolution, fashion and technology have been linked through the textile and manufacturing industries, a relationship that has propelled technical innovation and aesthetic and social change. Today, a new alliance is emerging through the integration of electronic technology and smart materials on the body.” (Stead et al. 2004)

Perhaps due to the notion of technology as an entirely separate entity from the human body with little to no influence on how we perceive ourselves, Fashion - both in its theoretical and practical guises - has seldom taken interest on the exploration of technology within its field. As stated by Stead et al., however, this situation is now changing at a fast pace. During the late 80s and early 90s, as technological advances made electronic components progressively smaller and cheaper, the Computer Science community started to demonstrate a keen interest in the exploration of wearable computing.

The development of the field started, however, on a fairly slow pace: electronic components, although substantially smaller and cheaper than the ones available only a few years earlier, were still rather expensive for most people; as a consequence, most of the projects in wearable computing at the time were developed within the boundaries of academic research. Coupled with the technical difficulties and the significant amount of knowledge that was required to undertake wearable computing projects, this lag between the willingness to explore the technology and the necessary financial resources without doubt was determinant for the slow development of the discipline. Prototypes were bulky, uncomfortable and, more often than not, their appearance was closer to that of industrial equipment than to something adapted to the human body. Circuits were hard to develop and programming languages were cryptic; anyone willing to work with wearable technologies needed extensive and profound knowledge of electronics and programming.

By the mid to late 90s, however, the situation in the two fronts - Fashion and Computer Science - seemed to experience a few, significant changes. While designers such as Hussein Chalayan and Rei Kawakubo championed more intellectualized, performative and artistic approaches to Fashion, (including, in the case of Chalayan, a use of electronic components in clothing that predates modern wearable technologies), the growing perception of all areas of Design as multifaceted and interdisciplinary practices might have contributed to promote a timid but definite approximation between the fields of Fashion and Computer Science. In the early 2000s, the initial estrangement between what had always been an area so firmly rooted in handiwork and craftsmanship and another that seemed to focus only on the exploration of technical possibilities seemed to wane.

The first decade of the 21st century brought about the definite and absolute popularization of the World Wide Web. One of the most immediate consequences of the new, free space that the web represented was a dramatic shift in how content is created, developed and shared. More people than ever were able to access, retrieve, upload and share information. This provided the perfect environment for online communities of makers, designers and artists to thrive around the release of novel, open-source technologies. among the effervescent environment of the first decade of the century, two projects had particular impact on how technology and the creation of tangible prototypes was approached by the design community. The first one was the Processing¹ programming language, developed by Casey Reas and Ben Fry while studying under John Maeda at the MIT Media Lab. The language was created under the premise of raising awareness towards programming literacy within the visual arts community; its uncomplicated interface, flexibility and suitability for the exploration interactive and generative digital environments made it a remarkable success, inciting more designers and artists to investigate a field previously relegated exclusively to Computer Sciences. The Arduino² *microcontroller*, in turn, is a physical computing platform specifically devised to allow the development of tangible projects with no need for a profound knowledge of the complex mechanics of Computer Sciences. Its ease of use and the fact that its programming language was based on Processing made it an unprecedentedly approachable, enabling and encouraging its use for the most varied applications.

This growing interest on the possibilities of tangible interfaces inevitably raised interest in the field of Wearable Computing. In 2006 the LilyPad Arduino was released (Buechley et al. 2008); devised and developed by MIT Media Lab professor Leah Buechley, this version of the *microcontroller* was specifically designed for use in Wearable Computing projects. The field of wearables, which had slowly been garnering growing attention in the previous years, received an unprecedented boost with the release of the LilyPad. The *microcontroller*, along with several accompanying electronic components and soft sensors released in its trail, allowed for the development of interactive pieces of clothing with reasonable ease. The presence of online communities contributed to the popularity of Wearables, and finally the intersection between the fields of Fashion and Computer Science began to be widely and avidly explored.

In spite of the thriving and rich research currently being conducted in the field of Wearables, most projects still focus themselves solely on technology-centric approaches. Speculative or critical designs are still rather rare in Fashion in general, and in wearables in particular. While a few young fashion designers such as Anastasia Radevich³, Iris van Herpen⁴ or Andreia Chaves⁵ have indeed come to show a keen interest on the influence of technology in the creative process as well as

1 <http://processing.org/> (accessed April 29th 2012)

2 <http://arduino.cc/> (accessed April 29th 3rd 2012)

3 <http://www.anastasiaradevich.com/> (accessed April 7th 2012)

4 <http://www.irisvanherpen.com/> (accessed April 7th 2012)

5 <http://andreiachaves.com/> (accessed April 7th 2012)

in the way we perceive ourselves and others, this subjective approach is still largely ignored by the wearable community, where projects tend to focus on the more utilitarian aspects of technology, rather than on its poetic and metaphysical possibilities. Mink (2007, p.280) expresses a particular concern with the necessity of acknowledging the fluid boundaries of modern design disciplines:

“It seems urgently necessary to me for the entire further development of clothing design that it reinforces its communication with other design disciplines and their socio-cultural contexts”

In parallel to the concerns expressed by Mink’s, Dunne (2005, p.09) states:

“(…) generally, designers have not exploited the aesthetic dimension of new materials with the same energy that engineers have exploited their functional possibilities (to backlight LCD screens in laptop computers reducing their bulk and weight, e.g., or to illuminate escape routes in aircraft so they can be seen through smoke)”

Granted, this project aims to act in the gap between the concerns expressed by Mink and Dunne; its flexible approach strives to work with the materials and techniques typical of Fashion disciplines, while still maintaining the critical perspective offered by Speculative Design and Design Research theory. The coupling of these two disciplines, so different yet so closely related in their current concerns informed the design process of the objects described in the next section. By combining traditional craftsmanship techniques with the technological advances that have come to define our age, this study hopes to explore the aesthetic dimensions of the electronic object as a metaphor for our own fragmented and displaced perceptions.

five

A PROTECTOR LIFE

Credits

Lucas Odahara: modelling, photo editing
Conrad Schulzer: modelling

The third section of this study was dedicated to a more detailed discussion of the questions raised by the recent emergence of new filtering technologies and devices. The section was divided into three sub-chapters; each one tried to approach the matter through a different perspective. The first sub-chapter addressed filtering and tailoring through their possible political and ideological implications within our society, taking a more generalist approach in its analysis of how our daily social interactions could be affected by the increasing availability of such devices. The second sub-chapter discussed the possible consequences of the filtering behavior in our more intimate relationships, as issues of privacy, trust and intimacy are brought into question by the creation of technologies aimed at emulating certain behaviors, as well as the spontaneous emergence of new intimacy rituals around the new technologies we have at hand. Finally, the third sub-chapter commented on the implications of tailoring and filtering on our identities and self-image.

This section discusses the development of the three objects that constitute the practical outlets for this research. Each one of these objects was developed as an exploration of the questions and reflections expressed in each one of those sub-sections. The first object touches upon our perception of reality and social interactions in the face of new filtering technologies. The second object aims to explore how these same technologies have affected our notion of intimacy and the way we validate intimacy in close relationships. Finally, the last object in the series questions the fragmentation of identity and the necessity for curation in the perception of the self.

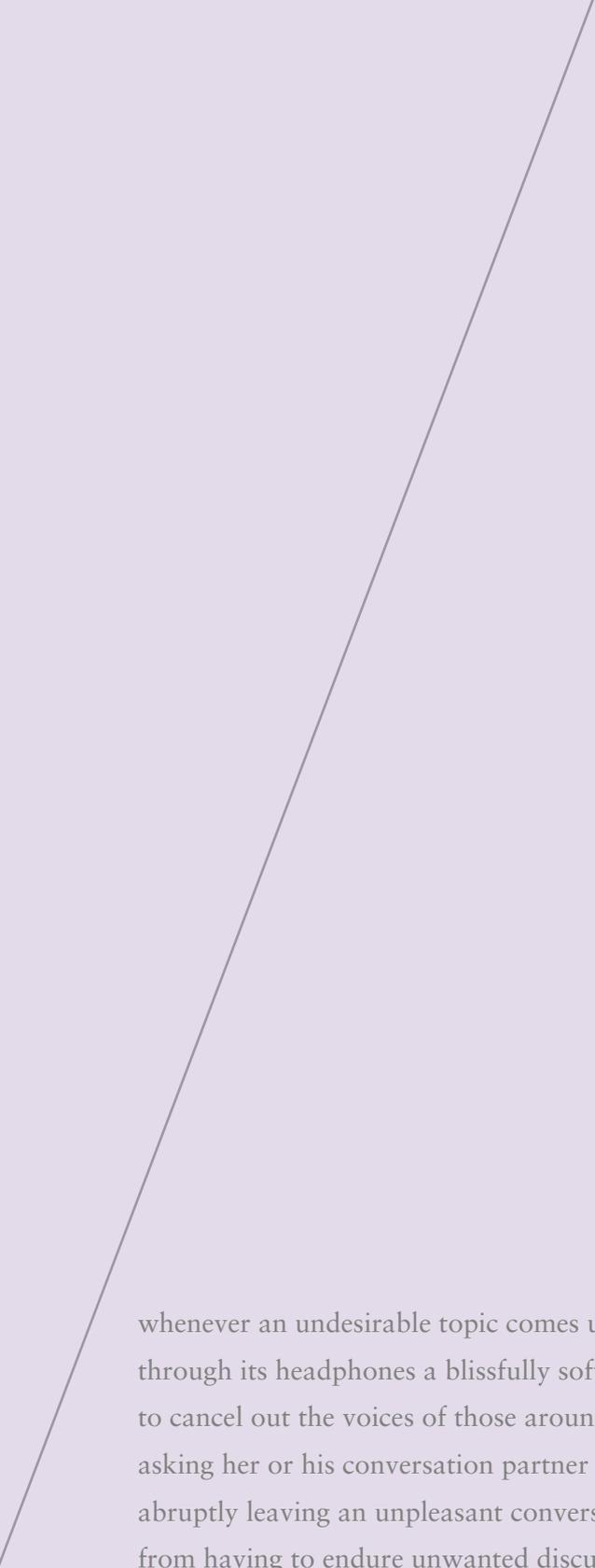
Device for Civilized Socialization

Stemming from the previous reflections on how filtering devices and services have deeply affected the dynamics and the semantics that inform and involve our relationship with others humans in the context of society, this device attempts to translate behaviors that are traditionally associated with our digital personalities into the physical world.

The continuous stream of shared content we are subjected to - or, rather, subject ourselves to - conveys much more information than what we are equipped to understand and absorb. In the process of creating and sharing information we are both senders and receivers, creators and observers, poets and muses. As a reaction to this continuous stream of content, filtering technologies now allow us to be exposed only to the what we deem interesting or appropriate. Within the context of social networks this possibility may be seen as both comforting and disturbing; at the same time as we are spared the noise of data, we may also be turning less forgiving and tolerant.

By activating the unsubscribe function on Facebook or by clicking on the unfollow button on Twitter one can stop receiving updates from a specific person in their social circle. The function doesn't let the "unfollowed" person know that he or she has been, essentially, muted; the social faux-pas is avoided, offering a guilt-free pass to ignore whoever you may wish to without any consequences to the friendship or to anyone's online social position.

This headpiece was developed as a speculative prototype on the extension of this online behavior into the physical realm. Fitted with a small microphone and two headphones embedded in its lining, the headpiece would be pre-programmed by its owner in order to recognize subjects of conversation or even certain people;



whenever an undesirable topic comes up, the headpiece would emit through its headphones a blissfully soft cloud of pink noise in order to cancel out the voices of those around the wearer. Instead of asking her or his conversation partner to change topic or, worse, abruptly leaving an unpleasant conversation, the wearer is spared from having to endure unwanted discussions, whilst still maintaining an appearance of pleasant sociability.

As part of the development process for this object, a small voice recognition Processing script was developed. The program analyses ambient sound in search of specific words; when any of the words are mentioned the program emits a few seconds of pink noise. The full script is available in Appendix I.

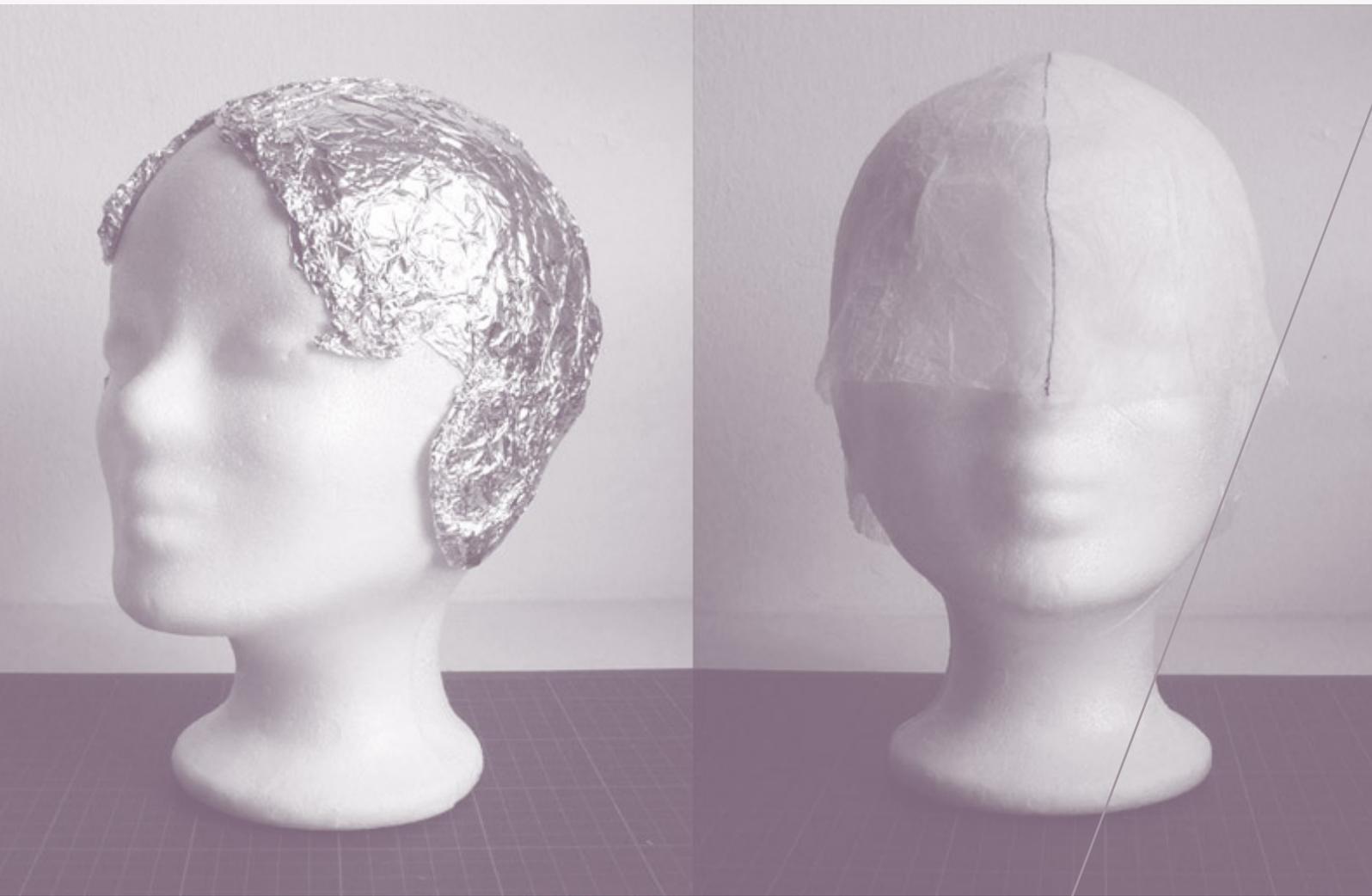
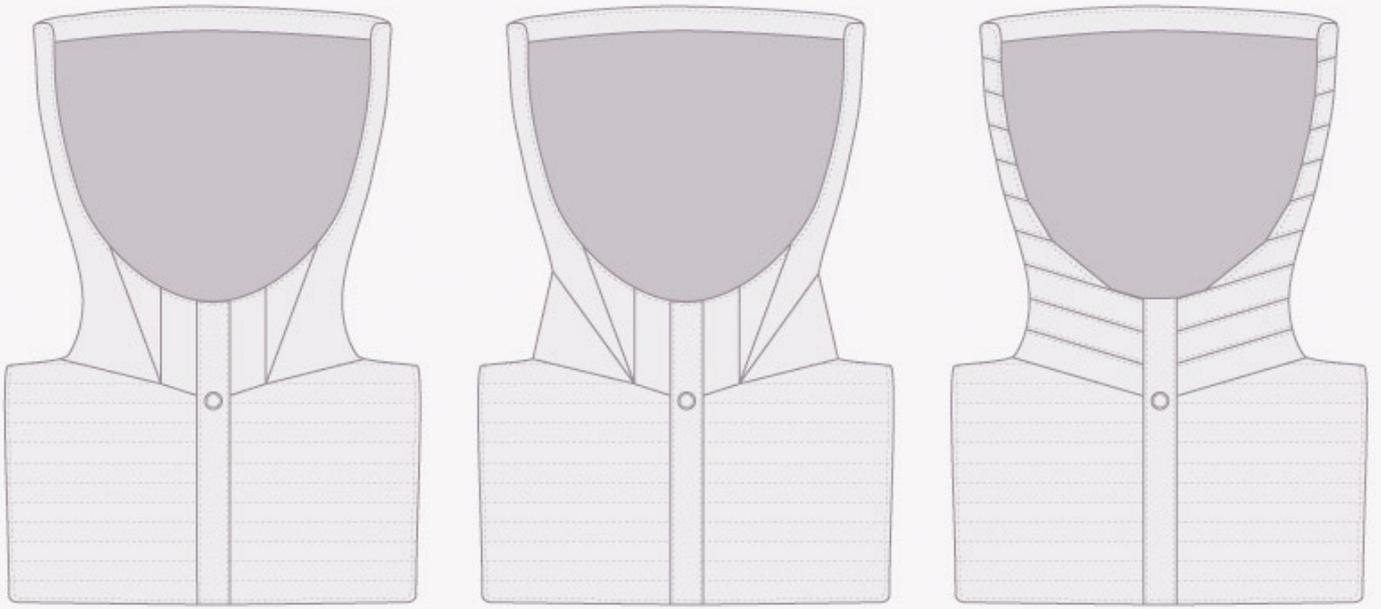


Fig. 05, 06 & 07: first sketches and prototypes



Fig. 08: Muslin prototype



Fig. 09 & 10: First leather prototype



Fig. 11: Final Device for Civilized Socialization



Fig. 12: Device for Civilized Socialization



Fig. 13: Device for Civilized Socialization

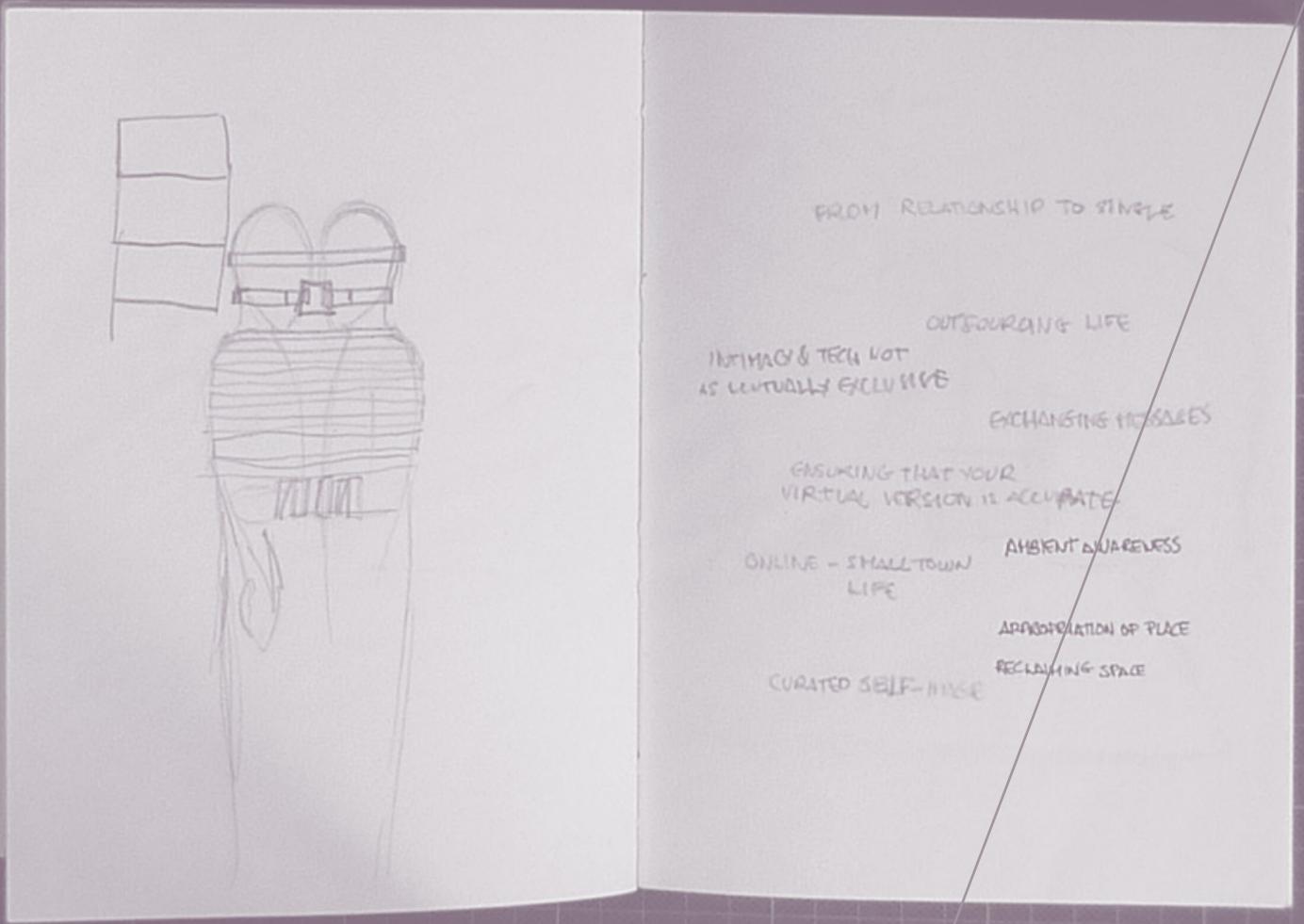
Artificial Intimacy Device

This device is an experiment in intimacy and the appropriation of place. Sharing something has always been a token of intimacy between couples. Be it a small locket containing a loved one's hair lock (Gitter 1984, p. 942), commitment rings or passwords for accounts on social networks or email providers (Richtel 2012), having a tangible representation of commitment is an ancient practice that appears under a wide range of guises throughout history.

Concurrently, the dynamics of relationships have also changed profoundly. As traditional notions of gender roles, reproductive rights, gender identity and sexuality begin to be challenged and discussed in western societies, the traditional paradigms of close romantic relationships begin to shift accordingly, slowly creating space for a more diverse perception of human intimacy.

This object was designed as somewhat a ritualistic tool, aimed at creating a physical, tangible connection between partners. The object keeps two people closely bound together, as equals, while sharing a breathing device covered in a thin layer of organza fabric. While the fabric is too thin to accumulate enough CO₂ for a damaging effect, it does promote an uncomfortable feeling of proximity, close enough to offer a (perhaps too) intense moment of intimacy.

In an era of instant communications, where couples can send each other emails and SMS messages throughout the day, will an object like this become a way of reconnecting within what is perceived as the 'real' world, creating a personal space inhabited only by two?



FROM RELATIONSHIP TO SINGLE

INTIMACY & TECH NOT
AS VENTURALLY EXCLUSIVE

OUTSOURCING LIFE

EXCHANGING MESSAGES

ENSURING THAT YOUR
VIRTUAL VERSION IS ACCURATE

ONLINE - SMALL TOWN
LIFE

ABSENT AWARENESS

APPROPRIATION OF PLACE

CURATED SELF-IMAGE

RECLAIMING SPACE

Fig. 14: First sketches



Fig. 15: First prototype



Fig. 16: Second prototype



Fig. 17: Artificial Intimacy Device



Fig. 18: Artificial Intimacy Device



Fig. 19: Artificial Intimacy Device

Mirror Device

This device stems from reflections on the fragmented nature of our identities, scattered between different mediums in ever-changing shapes. While we have complete control over how we present ourselves to the world in online environments, we are still not fully capable of curating our physical existence. These disjointed identities have become, perhaps, one of the most prominent features of modern life, as the web gives us the opportunity to craft, curate and tailor how we communicate ourselves to the world.

The control we exercise over our appearances in online environments has, perhaps, caused a divide with the physicality of our existence. As we become more and more accustomed to how we perceive and present ourselves in the digital world, our 'real' selves seem to have progressively become unfamiliar and uncanny. Granted, when confronted with candid, non-edited pictures or recordings of themselves, most people react with a mixture of unfamiliarity, discomfort and even horror that can sometimes seem borderline pathological. How and why did we become so detached from the non-curated versions of ourselves? Will future analog objects be influenced by our digital identities, complying with their set standards on what is desirable?

This object aims to explore these complex issues of identity through what is, perhaps, a more playful perspective. It consists of a small kit containing a mirror and a laser-cut tab fitted with several magnifying lenses. Pressure buttons allow the wearer to open and close the leather straps that hold the tab. The wearer can thus observe him or herself in the mirror through the magnifying and fragmenting lenses of the object.

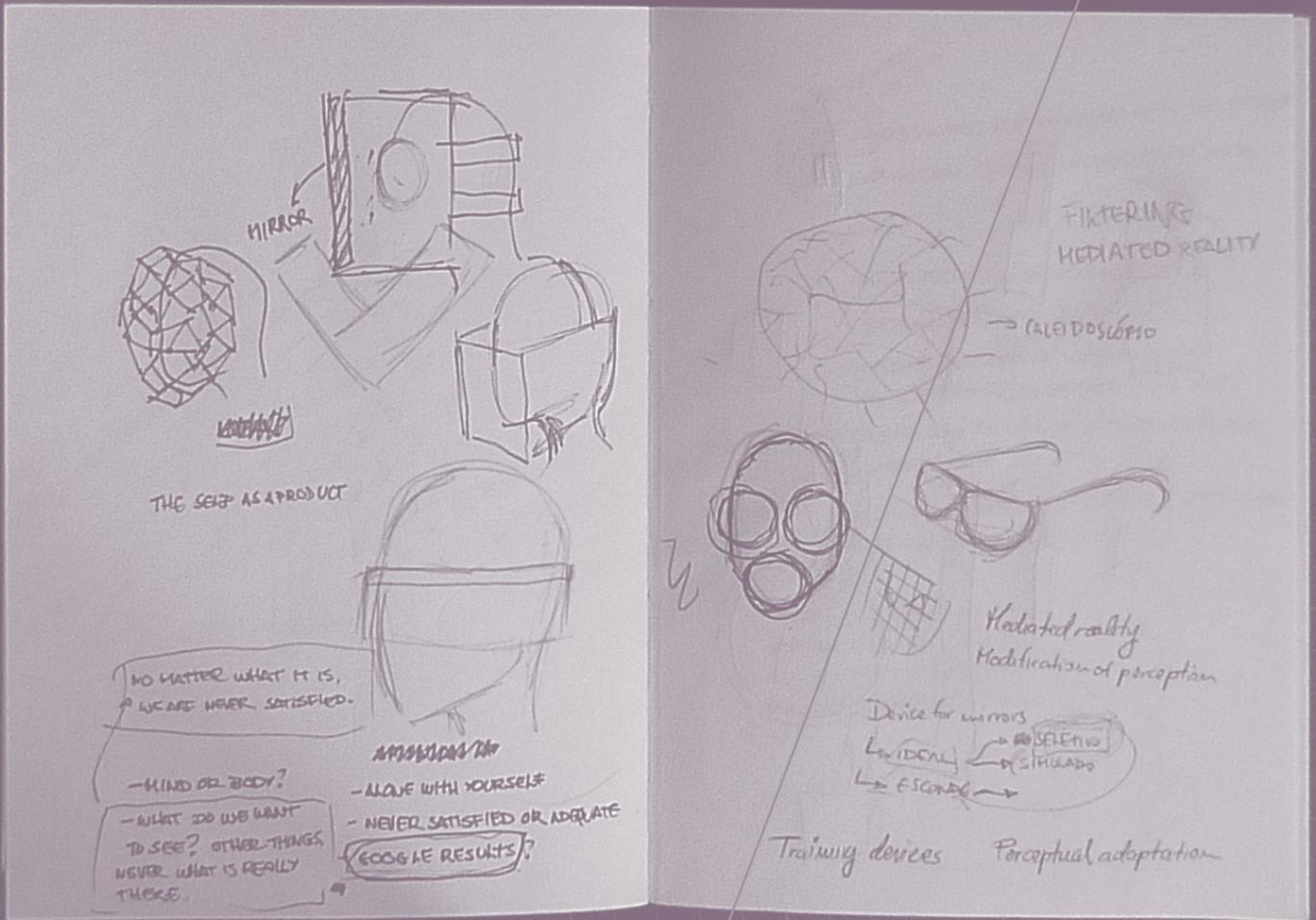


Fig. 20: First sketches

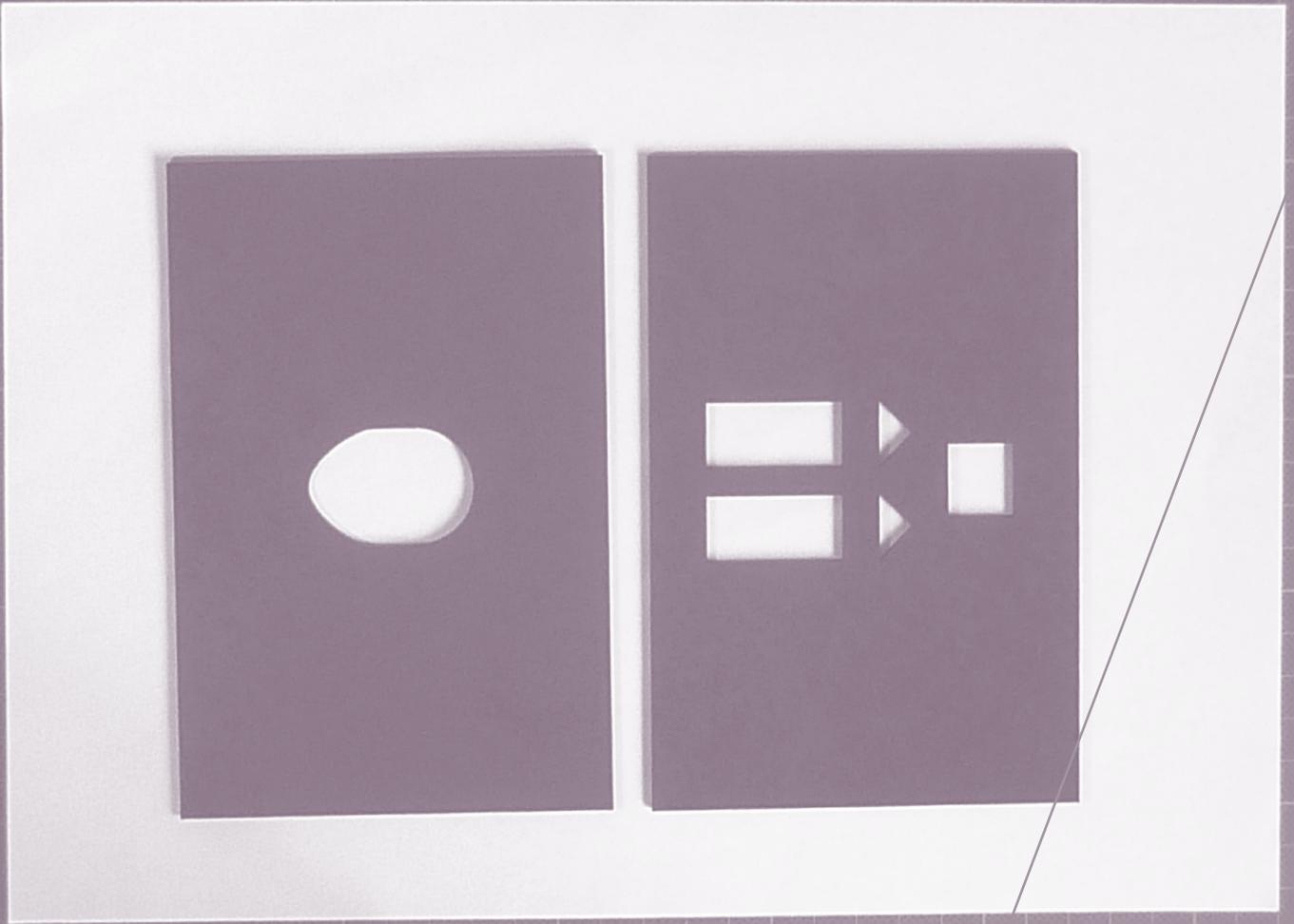


Fig. 21: First prototypes

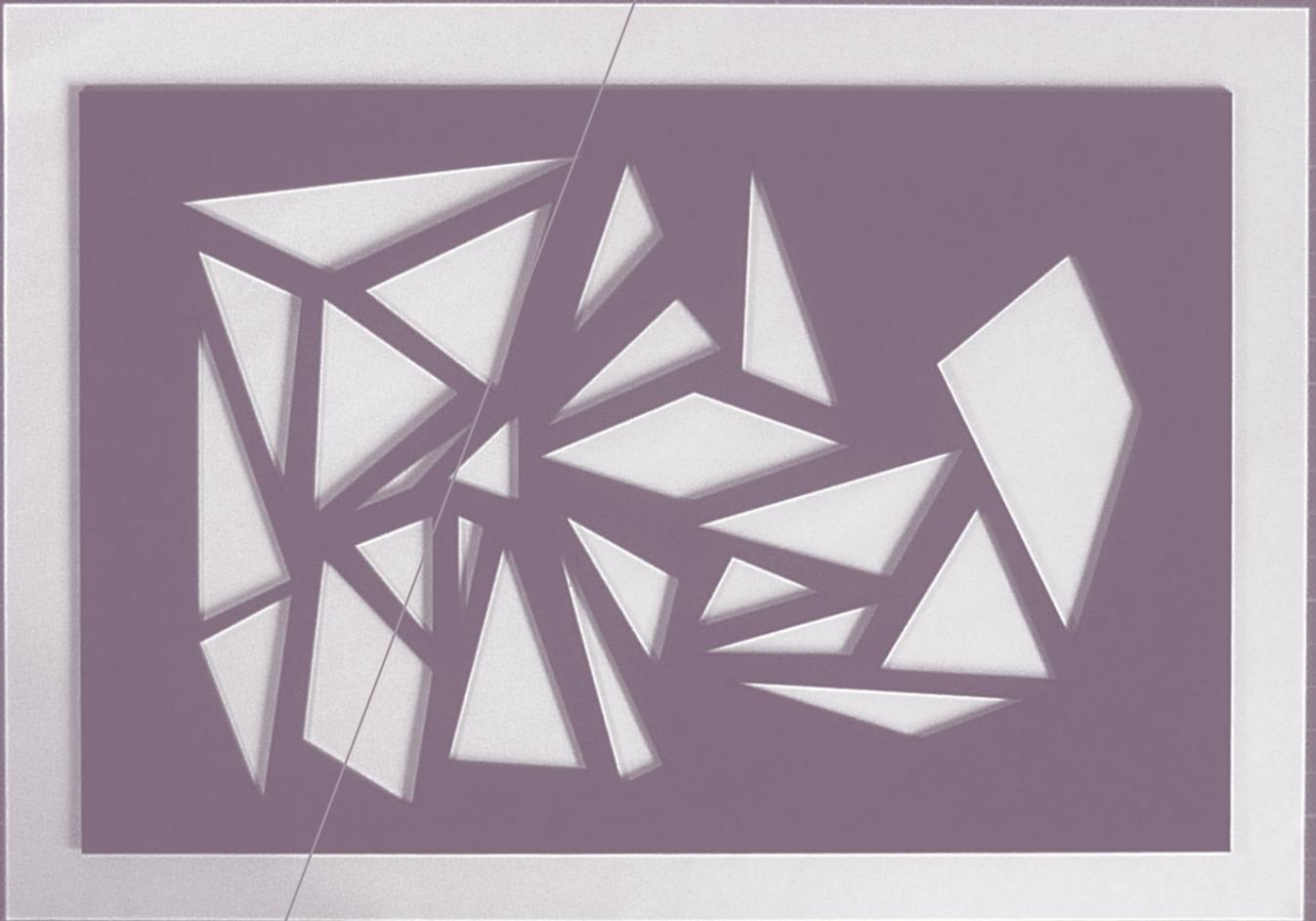


Fig. 22: First prototypes

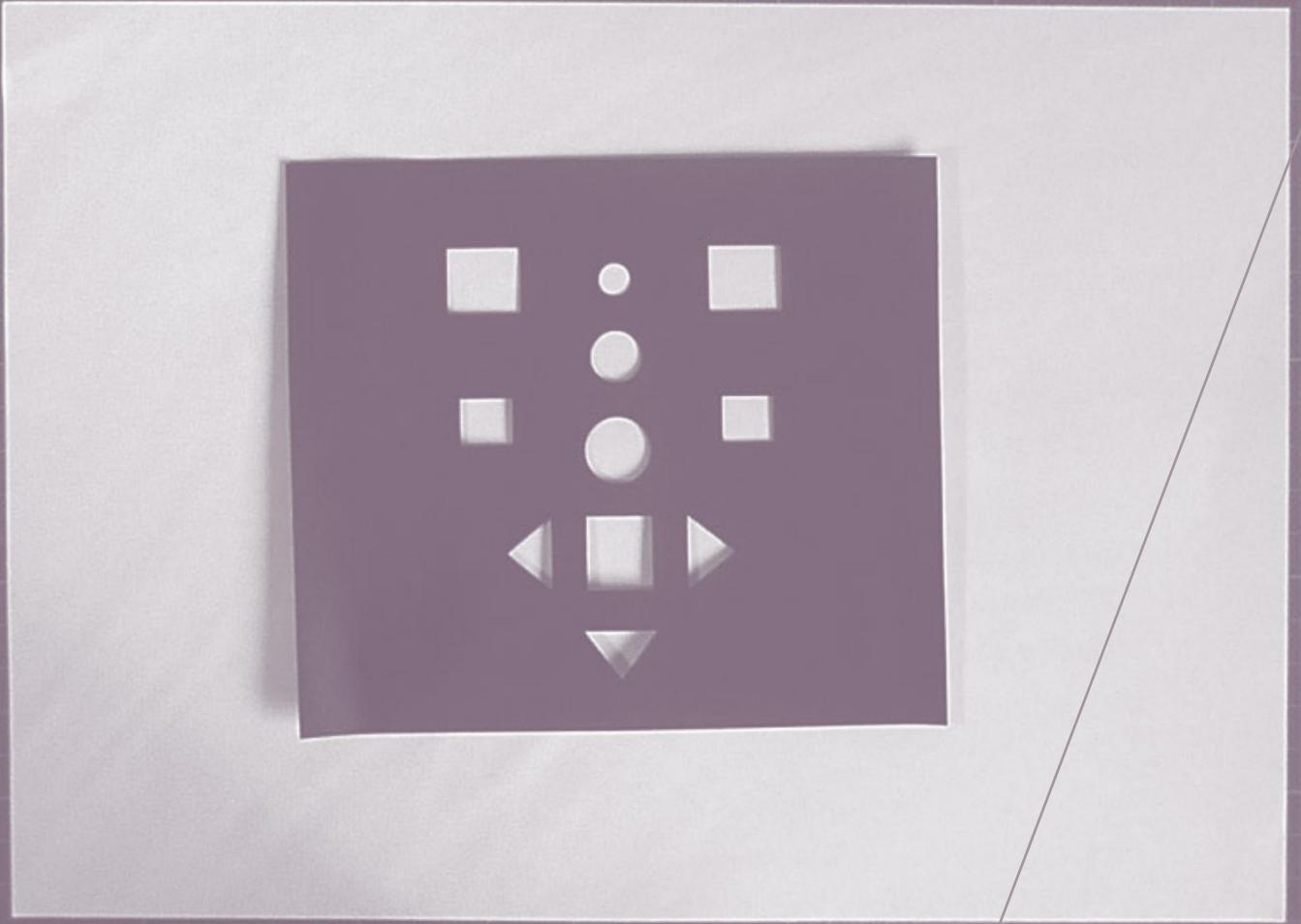


Fig. 23: First prototypes



Fig. 24: Mirror Device



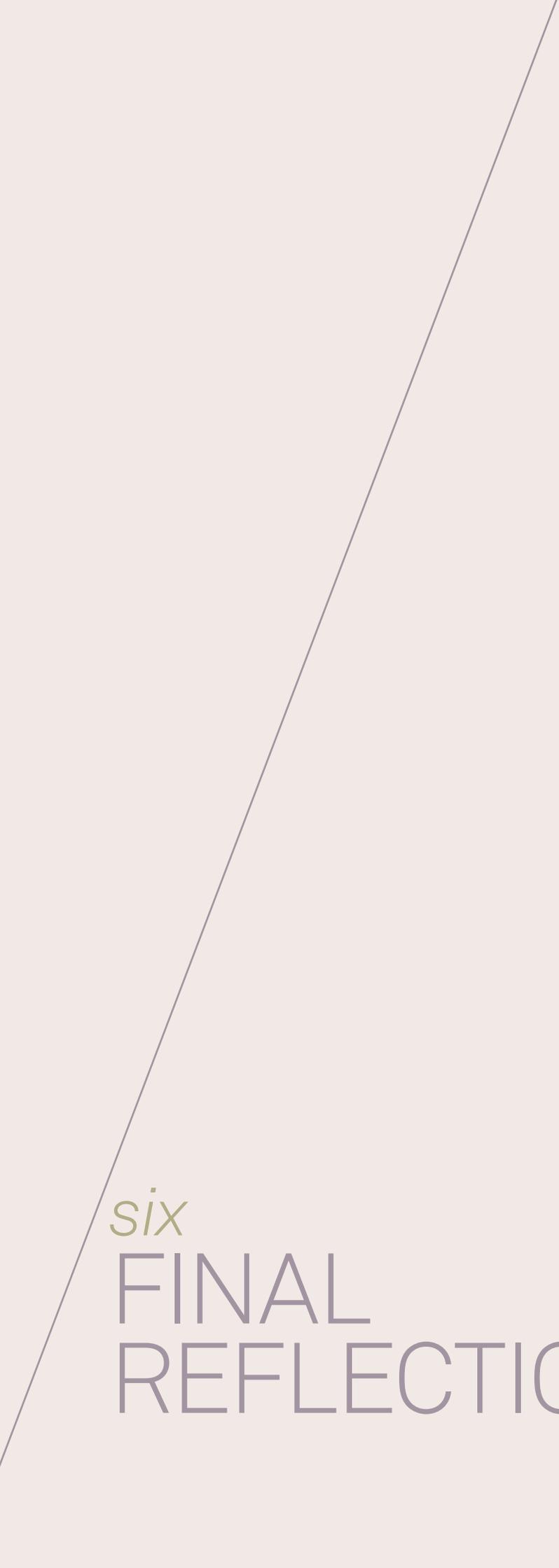
Fig. 25: Mirror Device



Fig. 26: Mirror Device



Fig. 27: Mirror Device



six

FINAL
REFLECTIONS

The contemporary world is a fragmented, disjointed place. Making sense of the tiered layers of reality that surround us might be, at times, rather difficult; we must continuously adapt, reboot and reinvent ourselves. Luckily, we have developed electronic objects capable of assisting us in the complex jungle of modern society; devices capable of satisfying every need and craving we might have, no matter how frivolous. We are constantly surrounded by these helpers and assistants: from the machines that wash our clothes to the ones that take us from one place to the other, we have become dependent on the mediation of technology for most of the tasks we perform each day.

Back in its introduction chapter this study stated as one of its aims the discussion on the relevance and the possible implications of filtering technologies in our daily lives, as well as the possible implications these technologies may bring to society in the near future. In fact, their current influence on diverse aspects of our lives are undeniable. Although curation and filtering are natural human behaviors, the *outsourcing* of these instinctive behaviors into devices and machines is indeed quite interesting. Instead of bypassing information we can simply set up a machine to do it for us. However, not all forms of filtering are conscious; we are constantly living under the influence of *filter bubbles*, unaware that some data is highlighted while other data is concealed from our perception.

This research strived to touch upon some of the aspects that the culture of filtering may bring to our perspectives on three main subjects: *reality*, *intimacy* and *identity*. Unknowingly, our behaviors - from formal social spheres to our most intimate moments - are already under heavy influence from these technologies. One of the main interests of this study was to explore Interaction Design and Design Research as tools for the discussion of issues of social and political relevance. The interdisciplinary nature of Design provides it with a particularly privileged position for the discussion of these issues, and it is my personal belief that designers could and should take advantage of that position in order to promote discussions that may contribute to the construction of a more humane and sustainable society in the future.

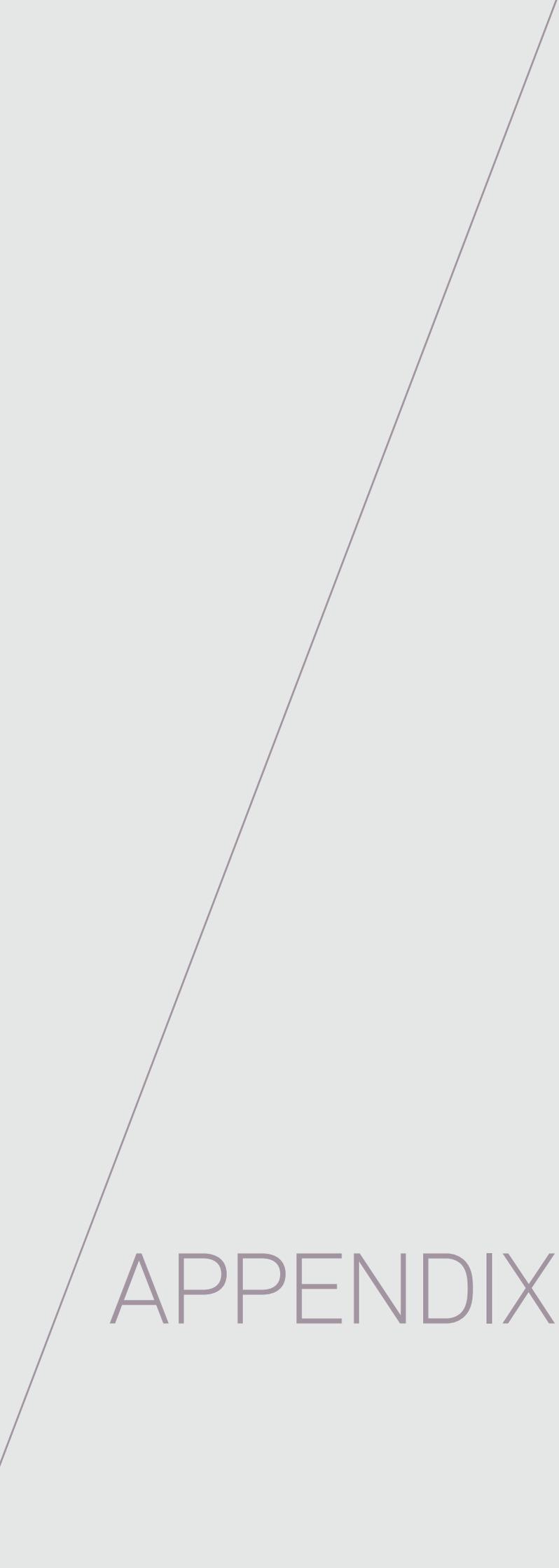
The discussion on filtering finds itself, under this perspective, in a remarkably relevant position. The political implications of its use are undeniable, as is their potential for both beneficial and harmful uses. The relevance of Interaction Design here lies precisely in its potential to incite curiosity by asking the right questions, for it is through these questions that an enriching discussion may be sparked. Author, feminist and social activist bell hooks (1989, p. 21) writes:

“It is necessary to remember, as we think critically about domination, that we all have the capacity to act in ways that oppress, dominate, wound (whether or not that power is institutionalized). It is necessary to remember that it is first the potential oppressor within that we must resist – the potential victim within that we must rescue – otherwise we cannot hope for an end to domination, for liberation”

Social change never comes easily. Breaking out of the domination structures ingrained within Design disciplines is, in fact, an arduous and complex task. This research strives to question the relationships of oppression and domination present in Design practices through the creation of its three objects. Although the objects themselves do not provide final answers to these questions, they

do incite reflection and, hopefully, a more critical stance in relation to the mechanisms that govern the dynamics of filtering.

This study is, of course, not alone in its intention. Several authors mentioned in this text have taken immensely significant steps towards a new perception of the discipline; the rising interest in Speculative futures and Critical Design suggests that we may be witnessing a radical shift in our attitude towards design. This shift in perspective is, perhaps, the most important part of the process: as we start questioning the political, cultural or social motives behind what we design, we start to understand the profound impact that Design has on society. By taking a step back to analyze our own processes we might, after all, gain a better, broader and deeper understanding of our practices and their implications.



APPENDIX I

```

/*
##### HEADPIECE TEST #####

Based on the example by Florian Schulz (www.getflourish.com). This
program generates pink noise each time it recognizes certain words.

Luiza Prado
www.doisedois.net

*/

// ##### LIBRARIES #####
import com.getflourish.stt.*;
import krister.Ess.*;

// ##### STT VARIABLES #####
STT stt;
String result;

// ##### NOISE VARIABLES #####
AudioChannel myChannel;
PinkNoise myNoise;

// ##### OTHER VARIABLES #####
float newVolume;
String [] words = { "pirate", "download", "torrent", "whatever" };

void setup ()
{
  size(600, 200);

  // ##### STT #####
  stt = new STT(this);
  stt.enableDebug();
  stt.setLanguage("en");

  // Some text to display the result
  textFont(createFont("Garamond", 24));
  result = "Say something!";

```

```

// ##### NOISE #####
Ess.start(this);
// new AudioChannel
myChannel=new AudioChannel();
myChannel.initChannel(myChannel.frames(25000));
myNoise=new PinkNoise(0.9);

}

void draw ()
{
background(0);
text(result, mouseX, mouseY);

myNoise.generate(myChannel,0,myChannel.frames(10000));

}

// Method is called if transcription was successful
void transcribe (String utterance, float confidence)
{
println(utterance);
result = utterance;

for (int i = 0; i < words.length; i++) {
    if(words[i].equals(result) == true) {
        myChannel.play();
    }
}

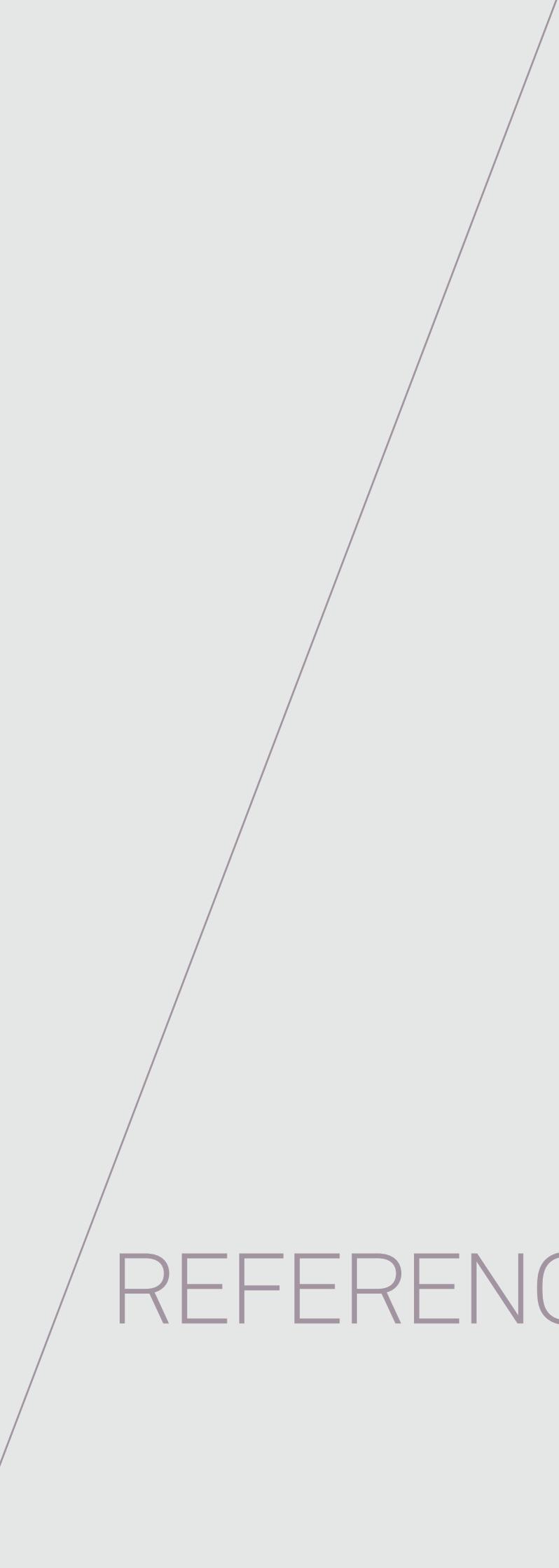
/*for (float a = 0; a < 2; a = a + 0.1) {
    newVolume = a;
}
myChannel.fadeTo(newVolume,500,Ess.FAST);
println("VOLUME: " + newVolume );*/

}

```

```
// Use any key to begin and end a record
public void keyPressed () {
    stt.begin();
}
public void keyReleased () {
    stt.end();
}

public void stop() {
    Ess.stop();
    super.stop();
}
```



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