

POST-DIGITAL ART & PRIVACY

A Critical Exploration of Technology

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(Post)digital Artists and Their Approach to Privacy

In Search of a Sensible Experience of Technology

Post-digital art is characterized by the process of its creative practice, which the results of this research describe in three key ways: exploring technologies, changing the experience and challenging the evolution. The exploration of technologies allies critical research and the imagination of future possibilities, while the changing of experience seeks to create an alternative and sensitive experience of technologies, making them more human and playful. To challenge the evolution means opening the technological tools, opening the power conversation around it and subverting it by creating alternative languages, while playing with the rules and counteracting the status quo. This research shows that it is through this reflexive process, a reinterpretation of technology and the development of a political scope, that post-digital art addresses issues of privacy in the digital age, such as human information, surveillance and hyperconnectivity. As a result, this research describes post-digital art practice as helping to return power to the user and change the audience's relation to technology in response to the tech industries' domination over its evolution and design. Indeed, this research describes digital privacy in dynamics between power and technology, where the digital realm has become nothing more than a place where progress and design are made to benefit a small group: the big tech. In other words, digital has become a place where users are confronted with tech design in which they lose their agency and autonomy, and are led to become addicted, to give away their data and be flooded with ads. Finally, this research argues that post-digital art practice could be interpreted as a new form of digital art activism, as it offers a reflexive approach to the human-technology relationship.

KEYWORDS: Design, Technology, Post-digital Art, Power, Privacy.

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Au vent de Rotterdam et à ses oiseaux.

I. Introduction

The omnipresence of digital technology has become so pervasive in our human experience of the world that it is no longer surprising to speak of it as a culture (Gianni & Bowen, 2018). For many years now, academic research has described the consequences of the digital evolution of our society. The lightning pace of new surveillance technologies, big data, and hyperconnectivity have taken center stage, while the gaps in privacy rights continue to grow (Janssen et al., 2020). Questions abound about the future of such a situation, and concern on the subject is growing among governments, academics, and artists communities (Tene, 2011). In response, since the beginning of the 21st century, a new artistic practice has developed around digital interests: *post-digital art*. One key difference with *digital art* is that it aims to investigate and reflect the social impact of the human-technology relationship through new materialities. Consequently, post-digital art *reflexivity* is a central aspect of the creative practice aesthetics, indeed, such artists are reflecting and engaging with the current trajectories of technologies and their consequences (Paul, 2023). The present research aims to explore the position of (post)digital artists, especially regarding privacy issues within the digital age. Hence the research question:

How do (post)digital artists approach technology and privacy issues in the digital age?

To summarize, this research shows that by playing with different media, (post)digital artists aim to a) explore the possibilities of combining scientific research with new possibilities; b) change the experience of technologies by realigning them with human needs and involving the public; c) challenge the current status quo by opening or subverting the black box that surrounds technology. Results also highlight the importance of design in the creative practice of (post)digital artists and show that their process is more important than the outcome. They aim to create an experience that communicates to the audience the potential impact of technologies in the short and long term and the limits and dangers of such progress. Christiane Paul (2023), a pioneer in the post-digital art field, described their work as the representation of: “the embeddedness of the digital in the objects, images, and structures we encounter daily and the way we understand ourselves about them”. Finally, this research shows that (post)digital artists seek to reveal and reflect the way technology industries influence the way technologies perceive and shape our world, and to propose alternatives. In conclusion, the interpretation of this new creative practice has enabled an understanding of post-digital art as a new form of digital activism.

1.1. Innovative Practices

The present research focuses specifically on their position for two reasons. On the one hand, a growing number of artists continue to take an interest in this technological universe and digital aesthetics through conceptual art. Their creativity leads to the creation of *new materialities* and aesthetics, blurring the boundaries between the physical and the digital, yet without escaping them (Paul, 2023). Post-digital art and *born-digital* creations such as immersions, simulations, and augmented realities represent new creative

ways for artistic digital practices. This aims to transform the audience's experience, which opens the door to new ways of curating and especially dealing with topics that previously could not be represented by other mediums (Langdon, 2014). As a result, cultural institutions are slowly adapting (Zuanni, 2021).

In a few words, post-digital art is associated with greater technological complexity than ever before to describe the increasingly complex interplay between digital and social issues. For example, Langdon's research (2014) has shown that the power of digital media could embody the impact of globalization through an immersive and individual experience.

1.2. Political Scope

On the other hand, as mentioned, their work presents a dominant social and political purpose offering alternatives to the current technological status quo, which could be interpreted as a new form of activism. The roots of post-digital art were in a sense born activists, emerging from the tactical media of the 90s to the movement protest of hacktivism at the beginning of the 21st century (Valvo, 2017). Many artists continue to use the digital medium as a means of activism, adopting a critical stance on the current digital impact. For instance, by exposing new narratives to the public, (post)digital artists actively contribute to giving critical looks at the future trajectory of technologies in the digital age (Langdon, 2014). To assess the societal transformation of post-digital art, the research used the *CreaTures* framework developed by a multidisciplinary team of researchers which "evaluates creative practices, and how they connect to transformative change" (Vervoort & all *CreaTures*, 2023).

Ultimately, issues of privacy such as surveillance, data, and hyperconnectivity in the digital age are often social themes for which the (post)digital artist's creativity attempts to provide a critical perspective. Yet few studies have focused on how they can raise awareness, promote change or provide new narratives. These are the questions that the present research is exploring.

II. Theoretical Framework

In the following literature review, post-digital art is distinguished from digital art in several ways but differs in one key point. Post-digital art offers reflexive aesthetics. Its practice creative is thus exploring new possibilities through a critical approach, between physical and virtual, offering at the same time an alternative experience of technology. Therefore, the present theoretical framework aims to connect post-digital art creative practice to technology and issues of privacy in the digital age.

To sum up, the literature review is divided into two main concepts: the idea of post-digital art and issues of privacy in the digital age. The first step was to introduce the idea of post-digital art. The paper briefly looks at the events that marked the transition from digital technologies to digital medium and then, shows how we move from digital art to post-digital art, describing their artistic differences and aesthetics. To do this, a parallel is also drawn between post-digital art and the social turn in the arts as well as art instrumentalization in the digital age. The second step of this theoretical framework describes how post-digital art relates to privacy dynamics: a triptych between power and technology. To do so, I introduce the concept of informational privacy by describing three issues in the digital age: human information, surveillance and hyperconnectivity. Finally, I describe two aspects in which post-digital art confronts the privacy dynamics: the antidemocratic progress and the role of design. This enables a deeper understanding of how post-digital art and privacy issues are connected: through the digital age's power struggles (government, big tech and the user) and evolution of technology (progress and design).

Therefore, the research aims to understand how post-digital art's creative practice addresses issues of privacy, and where artists situate themselves in this context of technology, power and privacy. In this sense, the literature review leads to two sub-questions: how do post-digital artists position themselves in this situation, and how does it shape their creative practice?

2.1. What is Post-digital Art?

2.1.1. From Digital Medium to Post-digital Art

This section seeks to define post-digital art, even though it is a relatively recent artistic practice. To do so, I differentiate post-digital art from digital art creative practice and situate it within the framework of the social turn in the arts, where I briefly explain what this turn entails, from autonomy to engagement and its instrumentalization. In this way, I describe the differences between digital art and post-digital art creative practice and aesthetics (Bishop, 2006; Paul, 2023). However, it seems important to begin with a brief historical portrait of the roots of post-digital art, by describing the origins of the use of digital technology as an artistic medium.

From digital technologies to digital medium

The use of digital technology goes back to the 1940s, with the development of military computers and digital radar. Digital technology continued to develop during the Cold War, notably with the development of ARPANET, (the first computable communications network known as the “ancestor” of the Internet, created by The United States in 1969, Paul, 2020). Digital art is considered to have originated in the 1960s, with the first transdisciplinary cooperation between engineers, artists, programmers, and scientists in the non-profit service organization *E.A.T. Experiments in Art and Technology* in New York in 1966 (Wands, 2017). During the same period, five international exhibitions of new art forms called *New Tendencies* were held in Zagreb (1961-1973), presenting instruction-based, algorithmic, and generative art.

From the 1960s to the 90s, digital art found its origins in various exploratory fields such as *computer art*, *op art*, *kinetic art*, *net. art*, *multimedia* (hybrid forms: physical and virtual), and *cyber art* (Paul, 2002). The artistic community’s relationship with digital as a technological medium is undoubtedly much broader than the scope of the terminology scattered throughout the scientific literature. One thing is certain, artists have always worked with the immense creative power of the media and continue to break new ground.

Nowadays, the term *new media* is used as well as *born-digital art* (Zuanni, 2021). New media art refers to integrating all types of digital media, from its creation, production, and storage to distribution. While born-digital art refers specifically to artworks whose production and object (the outputs) are digital (Paul, 2023). In addition, digital art developed a strong relationship between political activism that dates to the emergence of *tactical media* and *hacktivism* in the 90s. The Critical Art Ensemble is known for being one of the first artistic activists to use various media forms (Vlavo, 2017). Associated with the rise of the internet, new forms appeared such as *cyberactivism* and *media activism*.

Nonetheless, digital art activism can be broadly defined as any art form that uses digital technologies to explore contemporary issues. Indeed, NGOs, activists and artists are increasingly taking a stand against growing government surveillance and the consequences of big data and hyperconnectivity. At its core, the main concerns seem to be about protecting the right to privacy and revealing the hidden realities behind the *digital curtain* of corporate and government abuses. (Rahnama & Pentland 2022; Tene, 2011; Tufekci, 2014). For example, every year, *Privacy International* presents the *Big Brother Award* (about Orwell’s 1984) to the company that has been the most intrusive in terms of privacy rights. As these issues become increasingly complex and omnipresent, some artists are changing their relationship with the digital medium moving, for example, from digital art to post-digital art. Why, and how does this change their practice? The following section explores these questions in more detail.

From digital art to post-digital art

There is little literature to distinguish these two artistic practices, yet a closer look will show that most research tends to differentiate some practices within digital art, especially in the multimedia realm. Consequently, the term “post-digital” does not seem to be used rigorously in the literature which makes

things more difficult to put a consensus around its definition, especially in the art world. This may be due to the very recent use of this concept in research. However, the paper describes post-digital art, first by distinguishing it from digital art. In this section, one could understand that the term “post” does not refer to a temporal period, but rather to a difference in the very nature of artistic creative practice. The aesthetics of the art experience will then be examined. It is on this last dimension that their creative practice fundamentally differs.

Before moving on to the table below comparing the two creative practices, it’s important to emphasize that the differences described below should be understood as fluid rather than rigid. Further discussion of this spectral aspect between digital art and post-digital art will be found in the section on aesthetics.

	Digital Art	Post-Digital Art
Approach	Technical Research Exploration Experimentation Innovation	Critical Research ~ ~ ~
Experience	Visual Interactive Immersive Engaging Entertaining	Reflexive ~ ~ ~ Participative
Design	Born-digital Art Augmented / Virtual Reality High-Tech / Low-Tech	~ ~ ~ Workshop

Table 1. From digital art to post-digital art

The table above is based on a vast literature review, from the technical use of the digital medium to emerging post-digital performance, as well as the design implications of so-called born-digital art (Causey, 2016). The first thing to mention about the table is the choice to compare digital art to post-digital art on three dimensions of their creative practice: approach, experience and artistic design. The artistic approach represents the approach or “attitude” by which both artistic practices address and deal with technologies in their artistic processes. Artistic experience refers to the “type of experience” that these two practices propose to the audience. Finally, artistic design describes the concrete realization of the experience and its

approach. The second point that should be mentioned is the many common aspects shared by the two artistic practices. Overall, they are very similar, and present many of the same elements except for three major differences: Critical Research approach, Reflexive and Participative experiences. It is also important to note that these three artistic elements (approach, experience and design) are intimately intertwined, in the sense that they are “built together” in the artistic creative practice. However, this distinction makes it easier to compare the two practices. One final point to note: this table is not exhaustive, but rather describes the main characteristics of digital art and post-digital art. In the next subsection, we distinguish digital art from post-digital art, starting with a comparison of the artistic approach.

Differences in the artistic approach

The following sections show the differences between digital art and post-digital art on three levels: approach, experience and design. This section starts with the difference in their respective approach to technology. While both movements explore, experiment and innovate with digital tools for artistic purposes, they differ in the kind of research they pursue.

Digital art approaches digital tools insofar as this is done out of a desire for artistic discovery and mastery of new techniques. This has been called in the table “Technical Research”. In some cases, this can also be done critically and engagingly. I discuss this point in the aesthetics section. However, in post-digital art, this technical research of digital tools is also present but is always subordinated by a critical stance. This has been called in the table “Critical Research”. In post-digital art, research is not carried out in isolation, but in the *non-digital* sphere. In other words, the post-digital approach differs from the digital in that the former anchors or immerses its creative practice fundamentally in the physical, using a process of critical research.

Furthermore, both digital and post-digital art approaches will often lead to the creation of new tools. Those tools can thus contribute to the production, creation or exhibition of their works. They often take the form of hardware and software-based creations, emphasizing participatory and simulative features inherent to the digital realm. Literature has shown that this could have an influence or some consequences on the resulting artistic experience. In the next section, I return to this point and compare the differences between digital art and post-digital art’s artistic experience.

Differences in the artistic experience

There are also several differences in the experience for the audience, even if the two creative practices can offer immersive or interactive experiences. Digital and post-digital art can use similar tools, however, digital art will aim to develop a visual and entertaining experience, while post-digital art will focus on creating a participatory and reflective experience.

These differences are fundamental in the comparison of the two practices. We can also support it by the nature of their approach described above. While digital art research focuses on the technical aspect, the

experiment will tend to expose its results to the audience, often impressively and ostentatiously, but can also prove to be engaging. While the research of post-digital art focuses mainly on alternatives. The approach of technologies turns out to be critical and always engaging. This leads to a so-called critical experience which exposes and proposes the research process and findings to the audience, to make them reflect and participate. It is thanks to this difference in reflexivity that our research wishes to study how post-digital artists approach both technology and privacy issues in the digital age. I return to this point of artistic reflexivity in post-digital art in the last section of this literature review, on post-digital artists and privacy dynamics.

Differences in the artistic design

Numerous articles focus on the relationship between art and design in the digital age. In this research what I seek to show is what composed the creative practice of digital art and post-digital art. As a reminder, the table above (Table 1) shows the main design characteristics that make up the two practices but is not exhaustive.

The first thing to note in the comparison of artistic design is the presence and sharing of the same creative technologies between digital art and post-digital art. Indeed, design is based on similar tools and largely on similar approaches: Born-digital art, Augmented and Virtual Reality, High-Tech and Low-Tech. These main applications of design can be found in the vast literature on digital art. However, the post-digital art experience can take shape in another way: workshops. Here, instead of describing the specificities of each application, the paragraph rather draws up the general outlines. In the design process, on the one hand, both digital art and post-digital art, use technology as a tool to design and create either a physical or a digital object. An object is called *physical* when its characteristics come from a digital medium (input) and the result is physical (output). Whereas an object is called *digital* when its characteristics come from a digital medium (input) and the result is also digital (output). This last process can give rise to what we call born-digital art, which refers to an artistic output whose materiality presents characteristics between physical and digital (interactive art, immersive experience etc.).

Why talk about differences in artistic design? A difference should be made about post-digital art, which once again, uses digital technologies in a reflective manner above all, to form objects that “implicitly comment on their materiality” (Paul, 2023). It is a key element of post-digital artistic design to the extent that this reflexivity has the power to challenge current politics and create alternative narratives. To better understand this point, we need to delve deeper into post-digital aesthetics and the social turn in the arts (Bishop, 2006). In the next section, I describe the aesthetics of post-digital art and what it means for its creative practice. To do this, I first explain what the social turn is and what it implies on the aesthetic level. Then, I discuss the aesthetic difference between digital art and post-digital art by making an analogy with the concept of autonomy, engagement and instrumentalization in the arts.

2.1.2. Post-digital Aesthetics and the Social Turn.

This section develops our understanding of post-digital art by looking at its aesthetics and placing it within the social turn (Bishop, 2006). Before delving into a comparison with the aesthetics of digital art, from autonomy to engagement, it is necessary to describe the origins of the social turn and the instrumentalization of the arts particularly in the digital age.

The Social Turn in the Art

In short, contemporary artists have a particular interest in reaching out to their audiences on ever broader and more complex themes, establishing links between art and *non-art*. As a result, artists' creative practice moves from the autonomy of the arts to non-artistic spheres such as everyday life, economics, and politics (Roose et al., 2018). Furthermore, the social commitment of art has become almost indispensable for artists, who must now justify their practices to cultural policies through the socio-economic repercussions of their work. (Dubois, 2011). Claire Bishop (2006) describes this phenomenon as the "Social Turn" in the arts, which emphasizes the social function of art, in its ethical and critical dimensions above all. In the same way, Nicolas Bourriaud's contemporary aesthetics theory *Relational Aesthetics* (1998) asserts that art itself is a state of encounter, a *form* of relationship between the aesthetics of the medium and human interaction. He suggests that contemporary art is "definitely developing a political project when it endeavours to move into the relational realm by turning it into an issue".

Therefore, social art becomes: "increasingly aware of its social position and context, turning in part to social forms as support and to political and historical content as a source of inspiration, justification, and legitimization" (Roose et al., 2018). Indeed, contemporary creativity uses extra-aesthetic elements to reach the public. This calls into question the *absolute* autonomy of the arts not only in the economic, cultural, and institutional sense (Bourdieu, 1993) but also by asserting itself as a social reflexivity (Roose et al., 2018). In this sense, contemporary art has moved from autonomy to heteronomy, and thus, social, insofar as contemporary creative practice becomes not only inseparable from the context in which it is exercised but also becomes aesthetically engaging with it.

The shift from autonomous to heteronomous practice in the arts is reflected at the aesthetic level. Contemporary art marks the emergence of new art forms, such as participatory art, social art and community art, where social impact occupies a central place in the aesthetic realm (Rancière, 2002). Aesthetics become a means for artists to address social and political issues, but also to take a stand. In other words, for artists, aesthetics becomes a form of social engagement. This is an aspect on which post-digital art relies entirely, and it will be seen that it develops a so-called "reflexive" aesthetic. However, before touching directly on this point, I go into a little more detail about the aesthetic situation in which post-digital art finds itself by describing the concept of instrumentalization.

Instrumentalization in the digital age

The concept of instrumentalization in the arts is part of a much broader flow of sociological work. Why do we need to understand instrumentalization in the digital age in this research on post-digital art and privacy? Well, because post-digital art is confronted with this instrumentalization in its practice it is precisely what its “reflexive” aesthetic is aimed at. But first, it is important to take a quick look at the concept of instrumentalization itself.

What needs to be understood here is that the social function of the arts explained earlier is also subject to instrumentalization by other fields (Coombs, 2014), and this has profound social consequences. Aesthetics is then leveraged to serve political or private interests, becoming tools for prescribing and manipulating the public. Indeed, the heteronomy of contemporary art aesthetics manifests itself in the form of a relationship between the artwork’s ethical scope and its social and political context. What are the concrete consequences for society of the instrumentalization of art? What is instrumentalized in the end? When art is instrumentalized, it loses its critical dimension, and in extreme cases can be a form of propaganda (Taylor, 2016). In this sense, manipulating how the public can develop a critical attitude between art and non-art is akin to manipulating “the one great vehicle of human understanding” (Du Bois, 1926).

A revealing example is design’s aesthetic instrumentalization in the digital age. Digital design becomes an instrumentalization motivated by economic interests rather than ethical reflection. This relies on the determination of companies and governments to transform *human experience* into data behaviour, often without transparency and by any means, even in cases that threaten the right to privacy (Zuboff, 2019). Indeed, design is a fundamental element of our use of technology. These are designed to encourage our consumption and create dependency (Hartzog, 2018). In our daily lives, the impact of digital industrial design is not to be underestimated. Design industries have taken on a predominant role in orienting digital technologies towards profit and therefore, privacy struggles (Papanek, 1971).

For most of us, our experience of technology is designed by the tech industries, and this is problematic given the time and way we are becoming dependent on it. Indeed, instrumentalization is the expression and imposition of asymmetrical power over the population. The work of renowned German sociologists has dealt with various aspects of instrumentalization social consequences since the beginning of the industrial age: Marx’s *alienation*, Weber’s *disenchantment*, and Simmel’s *interaction*. In the digital age, it is the same story, but in a new form. Contemporary sociologists such as Shoshana Zuboff and Hermut Rosa are as concerned about the impact of digital technology on the human condition as were the sociologists of yesteryear. While Zuboff talks about surveillance capitalism, Rosa develops the concept of resonance. In this literature review, we develop the concepts of surveillance capitalism and resonance insofar as they relate to privacy. While the first concept seems linked to privacy as it addresses surveillance issues, the second is connected to it insofar as privacy enables the existence of a space in which we can enter into “resonance” (Rosa, 2021). In other words, we can have another experience with the world around us, outside its instrumentalization, to develop our identity. Zuboff’s theory coincides with Rosa’s on the

importance of privacy: “Privacy can thus create a space between our identities and the patterns and information that others would impose on us.” This gets philosophical, I agree, but I think it is important to see instrumentalization in the digital age as more than just a social issue, but also one of identity. As it always has been. The consequences of modernity, as it is oriented today, affect us not only in our relationship with the world but also in our relationship with ourselves (Rosa, 2021).

Let’s close the parenthesis on the challenges of instrumentalization and come back to the importance of design. These last points, on the importance and the role of design in the experience of technology, could be seen as the main expression of instrumentalization in the digital age. I will discuss this crucial point in detail in the section on post-digital artists and privacy dynamics. Already at this stage of the literature review, it becomes clearer how post-digital artists relate to privacy issues in the digital age.

A step back was needed to describe the broad outlines of the social turn. So far, the literature review highlights the difference between autonomous and heteronomous art. Additionally, the consequences of heteronomy were briefly explained in the context of the instrumentalization of the arts in the digital age. Then finally, that design is a key element for the instrumentalization of tech industries. Now, in the next sections, the paper turns to post-digital art aesthetics by describing its particularities, which would place it within the social turn. To do so, I describe the differences between digital art and post-digital art, from autonomy to reflexivity.

Post-digital Aesthetics: From Digital Autonomy to Reflexivity

The aesthetic dimension of post-digital art cannot be overlooked, even if it remains a recent and recently studied artistic practice (Berry & Dieter, 2015). Numerous works attempt to define this aesthetic, and many concluded that it is not something radically new, but rather the culmination of a long aesthetic history. Post-digital aesthetics is a new form of expression that stems from an aesthetic genealogy derived from works such as those by Bishop and Rancière. Also, founding works on the subject come from Christiane Paul, a specialist in digital and post-digital art, and James Bridle, artist and author of *New Aesthetics*, an essay on digital, networks and the physical world. The aim here is not to go into detail on the “multiple art-historical and theoretical frameworks that converge in the New Aesthetic” (Paul, 2015), but rather to understand why it enables the creative practice to deal with subjects such as privacy.

Instead of examining post-digital aesthetics in isolation, we first describe the differences with digital art. It is also important to state that the differences described above between digital art to post-digital art should be understood as fluid rather than rigid when it comes to aesthetics. Indeed, this graph aims to understand how the aesthetic dimension of both practices is linked.



Table 2. Digital Art & Post-digital Art Aesthetics: from Autonomy to Reflexivity

The graphic above needs to be understood as follows: at the aesthetic level, digital art is a practice situated between autonomy and engagement, while post-digital art practice appears to be situated between engagement and reflexivity. It may be noted that the link, or bridge, between digital art and post-digital art, is created when digital creative practice presents an engaged aesthetic. However, it becomes “post” digital when it is oriented towards “reflexivity”. To better understand what this means, it is important to describe what reflexivity intends for post-digital art. As Christiane Paul (2023) puts it: “post-digital label describes a new aesthetic era in which objects, from art to design, are shaped by digital technologies and implicitly comment on their materiality”. In other words, post-digital describes the reflexive nature of the intersections between digital technologies and physical materiality in three ways (Paul, 2023):

- Using integrated networked technologies, reflecting the human and non-human environment around them.
- Revealing their own coded materiality as part of their form, becoming themselves a residue of digital processes.
- Reflecting the way machines and digital processes perceive us and our world.

In all the three aspects above, the reflexive dimension of the aesthetic can be seen as revealing or reflecting. This reflexivity can be made on the work's digital process, or its interaction with ourselves or our environment. Indeed, post-digital art marks an important stage in the evolution of art, offering digital artists new ways of engaging with individual bodies and senses (Langdon, 2014). The immersive and interactive technologies associated with post-digital art reveal its sensitive, connective, and tactile qualities, creating a more intimate and personal experience for the audience. In this way, post-digital art can be seen as a new art form that aims above all to develop a reflexivity between technology and human senses. Some interpret this phenomenon as contributing to the “humanization of digital technologies” (Edmundson, 2015; Paul, 2023). Post-digital artists explore themes between physical and virtual existence such as identity, sensory, privacy, surveillance, personal information and big data, globalization, and even climate

change. Post-digital aesthetics can be understood as the development of a human approach to digital technologies as an inseparable part of the physical world (Paul, 2023). Therefore, post-digital aesthetics is a *new* aesthetic experience in the sense that it offers a new approach to technology which has the potential to generate political discourse in our digital society.

Several studies have already been carried out, such as Langdon (2014), which explores how post-digital art enables individuals to experience and comprehend globalization on an individual level. Nevertheless, new post-digital creations and born-digital arts such as immersions, simulations and augmented realities represent new challenges for established cultural institutions as well as for the public, as the individual's experience is transformed (Zuanni, 2021). This opens the door to new ways of curating and especially dealing with topics that previously could not be represented by other mediums (Langdon, 2014). In a few words, the characteristics of post-digital art are associated with greater technological complexity than ever before to represent an increasingly complex social impact. For example, Langdon's research has shown that the power of the digital medium could embody at an individual level the impact of globalization through an immersive and individual experience.

Thus, post-digital art aims to reflect the way digital processes perceive and shape our world, by revealing the potential effect of technology's impact on our daily lives. Also, the limits and dangers of such progress are at the heart of the artworks of post-digital artists. Christiane Paul described this evolution as the representation of "the embeddedness of the digital in the objects, images, and structures we encounter daily and the way we understand ourselves in relation to them". All this work led to the concept of *neo-materialities*, described as the capacity to "reflect the data of humans and the environment, to reveal its own coded materiality and how digital processes perceive and shape our world" (Paul, 2020). What we need to understand about this concept of neo-materialities is the ability of post-digital works to reflect how the physical and the virtual co-exist and influence each other on every level (social, political, environmental, identity, etc.).

Overall, post-digital art can be seen as an engaged position, due to the nature of its reflexive aesthetic, in the context of rapid technological advances in the digital age. Post-digital artists attempt to reflect the blurred boundaries between the virtual and the physical, the natural and the cultural, in an increasingly digital society. Post-digital art's ability to connect with individuals on a personal level and transcend boundaries makes it a powerful tool for fostering challenging established narratives and contributing to the broader discourse on social and political issues (Berry & Dieter 2015; Giannini & Bowen, 2019). In our case, the research wishes to explore how it can provide a critical and reflexive experience about issues of privacy in the digital age.

2.2. Connecting Post-digital Art to Privacy in the Digital Age

How does post-digital art relate to privacy in the digital? Several points have already been outlined where a link can be made between the two (instrumentalization, design, reflexivity, etc.). In this part of the research, this connection is explored in greater depth. Here we will see that artists are confronted with the current technological evolution insofar as their artistic practice is challenged by those who have power over access to technologies and dominate the very nature of progress. This, in turn, undermines the main purpose of their art - to offer a reflective experience of the societal costs of technological progress. To better understand the dynamics of this situation, a step back is needed to describe the big picture behind the digital curtain.

2.2.1. What is Privacy in the Digital Age?

This research aims to understand and evaluate how post-digital artists approach privacy issues in the context of the digital age. So far, the literature review describes what post-digital art consists of, differentiating it from digital art and describing the reflexive characteristics of its aesthetic. However, as mentioned, to be able to answer the research question, we still need to understand what privacy means and looks like in the digital age. This section of the literature begins by doing just that. While doing this, it will allow me to understand how privacy connects with the creative practice of post-digital art.

Let's clear up a few things before getting into this section. First, it should be noted that most of the literature on this subject refers to Western culture. So, let's start by tracing its history. Then, we'll set out a framework for defining privacy, even though a wide range of different approaches and vocabularies are used to deal with privacy issues.

A brief history of Privacy in Western culture

The summary of the history of privacy in Western culture in this section is not exhaustive but rather serves to introduce the context in which privacy issues are emerging today in the digital age. According to Keulen and Kroeze (2018), the first historical evolution of the concept of privacy was found during the Ancient Times. Home, family, and economic responsibilities “oikos” were separated from the collectivity that included the public, social, and political life “polis”. In this first approach, the concept of privacy is addressed indirectly, with the important distinction of a public “polis” and a private “oikos” sphere.

The second major social shift identified corresponds to the Renaissance and Enlightenment, a revolution in premodern scientific knowledge. The authors note the emergence of personal autonomy and individuality as key aspects of privacy during this period. The development of a “middle group” of individuals, including merchants, scholars, and clergy, led to increased individualism and the formation of a distinct civil life critical of the state. The concept of privacy progressively evolved into a personal right and became essential to individual identity. The perception of privacy slowly shifted from something

viewed with suspicion by public and institutional entities to something considered precious for the individual.

The third great social change mentioned is the modern urbanization and the demographic growth of the 19th century. Democratic revolutions and mass communication, particularly the advent of newspapers, shaped a new social ideal. The era was marked by the first notable technological influence on privacy. The development of communication means and bureaucratic improvements, like the post office, brought the state closer to citizens but also enabled increased surveillance. Governments began collecting and managing citizen information for security. The liberalism of the time introduced a 'paradox of the liberal state,' where individual rights and private space were legally guaranteed, yet privacy was conditioned and limited by the expanding state.

The fourth period, spanning the early 20th century to the advent of computers, is characterized by international conflicts and the rise of the welfare state. During this time, states began to acknowledge and safeguard the rights of women, children, and the elderly, and universal suffrage was established in many countries. According to the authors, this development responded to the atrocities and privacy violations during World Wars. However, it also marked the rise of the surveillance state. The development of national security and control shifted from local communities to state and welfare organizations, fostering police, security, and intelligence services, and increased data collection. In addition, innovations such as the telephone, radio, and television transformed communication, introducing new dimensions of communicational privacy. The focus during this period was on finding a balance between the government's function and individual rights in a society transformed by rights, and communication advancements.

The final period, spanning from 1970 to the present, explores the impact of the digital on privacy. The authors describe a shift in the perception of privacy as a new challenge emerges balancing the threat to privacy with the mobility of personal information and data. The advent of the computer, the Internet, the World Wide Web, and the Internet of Things (IoT) in the last few decades has brought technological change and its implications for privacy to the forefront of public debate. While social progress since the 1970s has reinforced privacy as an individual and legal right, it has also challenged traditional Western values, expanding options for how individuals live their lives and seek privacy. Therefore, the digitalization of privacy is seen both as a threat -the need for security- and a democratization -the need for freedom-.

To summarize, the recognition of privacy as a right led to a complex interplay of power, technology, surveillance, liberty, identity, and autonomy between the state and individuals that is still ongoing in the digital age. In this sense, the focus always was on finding an equilibrium between government and individuals in a society transformed by technologies. This point of privacy between power and technology will be discussed in the next section. History has shown that the application of this right in both the public and private spheres has been constantly challenged by state intrusion and opportunities in the law for corporations to override it. The situation is the same in the digital age. Debates about privacy seem

essential to safeguard not only privacy but also democracy, as governments and corporations use technology to collect personal data and use it for surveillance purposes. This summary also shows that it is the informational dimension of privacy that seems most at risk today. In the next section, we define what informational privacy means in the digital age, enabling me to link and discuss three issues: human information, intrusive surveillance and hyperconnectivity.

Informational privacy in the digital age

In this section, I define privacy as informational above all, even if many different models exist in the literature, this research focuses on the informational aspect of it. Indeed, the literature distinguishes three main levels: *spatial*, *decisional* and *informational* (Richards, 2022). *Spatial privacy* can be defined as the ability of a person to withdraw from society, for personal intimacy and freedom. This dimension represents the capacity to be unobserved and uncontrolled as a vital condition for protecting a person's freedom and identity. *Decision privacy* refers to "the ability of a person to make important decisions about their lives and their bodies" (Richard, 2022). This dimension could be seen as the protection of the right to decide against government interests. And finally, *informational privacy* refers to the ability of a person to have rights over their information. This dimension refers to the laws and policies that should govern human information, especially in the digital realm. For many scholars, the information dimension has become the most important in the digital age (Solove, 2004). Some even call it the information age, in which human information is the new fuel of our economy: "Data as fuel suggests human information as a power source, providing the necessary raw material for the technologies that are making the future" (Richards, 2022).

In addition, informational privacy issues could be defined through three different aspects: the *level of sensibility* (medical or financial information, criminal record etc.), the *volume* referring to how big the collection of data is, and finally, the *cybernation*, which consists of controlling and carrying out operations through computer and digital technologies. For instance, a high volume of a high level of sensible information represents a higher risk of privacy breach than only one piece of low sensible information. The third aspect concerns the notion of *cybernation* representing how governments manipulate, share, and combine data, as well as surveillance techniques. These three aspects represent different *degrees of intrusiveness* and potential threat to privacy. The thing to understand here is that privacy is a matter of the *degree of information* and how, and by whom, *it is known or manipulated* (Richard, 2023). I admit, that talking about privacy becomes technical and somehow heavy. However, I do believe that it is important to add some technical dimensions to privacy to clarify the concept. In the next section, we distinguish three main issues linked to privacy in the digital age which will allow me to understand a little better how this relates to post-digital artists.

Surveillance, Human information, and Hyperconnectivity

Where to start when we want to situate the issues related to privacy in the informational age? Recent public research, both survey and experimental, has shown that privacy issues are highly contextual in general, and this, is even when it comes to digital (Nissenbaum, 2004). Contextual, in the sense that it suggests that the norms of specific contexts *intimately* require that the collection and dissemination of information be adapted to that context and obey the distribution norms that govern it. Nissenbaum called it « context-relative informational norms » (2004). This may seem a little complex, but to help clarify things, some scholars think of privacy in the light of social network theory. For the individual, each social circle, or each context, is associated with a degree of privacy (Strahilevitz, 2005). In this sense, in the information age, the way of managing the flow of information is highly sensitive to social context: “the idea that our decision to share information in one context doesn’t mean that we should share it in all contexts” (Richards, 2022).

This contextual privacy approach can also be understood in terms of the characteristics of the threats it faces. In the information age, one finds in the literature three main privacy issues that attract the attention of the academic community: how *human information* is handled, how *intrusive surveillance* of our intimacy and autonomy is pursued, and what the consequences of our *hyperconnectivity* are and what it means for our society in the digital age. These three privacy realms seem to concern a lot of studies, why? These are precisely three aspects that destroy this notion of contextual privacy in the digital age. A huge number of academic works have been written on these topics in various fields such as Law, Informatic, Politics, Social sciences, as well as science-fiction novels. For this research, they have been defined as follows:

- *Human information*, also known as personal data, or simply data refers to the use of personal information, from collection to erasure and everything in between such as transformation, encryption, deletion, disclosure and so on (Solove, 2006; Richards, 2022).
- *Intrusive surveillance* refers to all surveillance and control techniques (secret services, mass surveillance, CCTV, etc.) concerning governments and corporations, but also between individuals in some cases (Zuboff, 2019).
- *Hyperconnectivity* refers to digital connections between humans everywhere, all the time. Any social interactions or concerns, such as self-presentation and belonging in digital network societies are also at stake (Quan-Haase & Wellman, 2005; Cohen, 2012).

Here too, the definitions above are not intended to be exhaustive insofar as they were posed to differentiate three levels of privacy issues in the digital age. In the rest of this section, I discuss the three issues and introduce the link with post-digital art.

First, in terms of human information issues, various strategies are currently being developed to describe and mobilize our knowledge to protect our right to privacy when confronted with the precious market of personal data. Indeed, our age, sex, professional and sentimental situation, gender, political opinions, musical, sporting, literary, and clothing preferences, browsing history, location data, photos, and so on - all this information constitutes a goldmine both for state governance and for the big tech sector, but at the same time, often an ethical pitfall (Nyst & Falchetta, 2017). Furthermore, data mining and digital privacy measures commodify human experience into influenceable and manipulable behaviour (Zuboff, 2019) For Zuboff, as things stand, the digital world is a capitalist realm where all means are good for companies to harvest data in the name of economic development, to predict future behaviour and thus increase their capital. This refers precisely to corporate efforts to implement technologies to predict human behaviour to serve better ads, and to develop so-called “behavioural-targeting advertising algorithms”. Governments and corporations have thus taken advantage of both the potential of digital technologies and the gaps in legal frameworks. These dynamics have also led to the development of intrusive surveillance techniques. As Shoshana Zuboff puts it well: « Surveillance capitalism’s unique economic imperative are the puppets master’s that hide behind the curtain orienting the machines and summoning them to action”. Here again, we find the idea of the digital curtain. I come back to the idea of “puppet masters” in the next section.

Finally, when it comes to our hyperconnectivity, this is perhaps the most visible privacy issue in our daily lives. Whereas data mining and intrusive surveillance are more often invisible issues, insofar as they are designed to remain in the background for the user, behind the curtain, hyperconnectivity is noticeable in our everyday behaviour. This concept of hyperconnectivity and how technological products are made and designed to influence our behaviour is a central issue in the way we interact in today’s digital society.

So far, privacy has been defined as informational and contextual, and I also identified three main privacy issues: human information, intrusive surveillance and hyperconnectivity. Yet to stop there would be a mistake in understanding privacy in the digital age. Indeed, defining privacy in terms of its issues would be reductive, because as I began to show, these three issues are correlated by the actors behind their development. In the next section, I defined privacy as a question of power that is threatened by technology insofar as it is increasing the risks of manipulating human information, developing intrusive surveillance techniques and shaping a profitable hyperconnectivity. I called this the *privacy dynamics*. By defining privacy this way, we can more easily draw a connection with post-digital art. In the next section, we will see that post-digital artists are confronted and try to free themselves from the constraints of the privacy dynamics, and that their creative practice aims to address the “often-invisible” threats to privacy in the digital age.

As we have seen, the technological context in which artists operate is far more asymmetrical than is necessary to impede their practice. In the following section, I develop this point by describing privacy in a dynamic of power and technological evolution, to examine how it relates to the creative practice of post-digital art.

2.2.2. Post-digital Art and the Privacy Dynamics

At this point in the literature review, it becomes clearer how the concept of privacy spills over from all sides, making it a subject as hard to grasp as it is crucial to our society in the digital age. The concept of post-digital art is not self-evident either. It remains very recent and open to study. And yet, many multimedia exhibitions are taking place around the world, exploring issues of privacy in the digital age. But, why? Well, on the one hand, post-digital art offers the audience an alternative experience through its reflexive aesthetic. It also offers other alternatives in our approach to technology, exploring the virtual and the physical. But also, in response to this abuse of data and lack of transparency in surveillance, post-digital art has developed strongly as a means of exposing what is often overlooked. Indeed, it offers a space and a time to question conventions and take a political stance against the current digital trajectory in which we are immersed everywhere and every day. In this final section, I address two aspects that seem to come into conflict with post-digital art: antidemocratic progress as well as the design of technology. But first, let's explain a little more what I mean by the privacy *dynamics*.

Privacy, Power, and Technology

How does this situation relate to post-digital artists? In reality, artists are confronted with the current technological evolution as their artistic practice is challenged by those who have power over access to technologies and dominate the very nature of progress. This, in turn, undermines the main purpose of their art - to offer a reflective experience of technological progress. To better understand the dynamics of this situation, we need to step back and describe the big picture.

The position of the post-digital artist is caught in a ballet between three parts: privacy, power, and technology. While privacy and power struggle over how one frames the other, the evolution of technology shapes and pushes the frame into uncharted territory (Acemoglu & Johnson, 2023). Thus, the constant development of technologies continually raises the question: what are its consequences for the right to privacy: threat or protection? Furthermore, as I have attempted to introduce, the development of technologies is not neutral, in the democratic and open sense of the term. It is mainly those who develop them, governments, and big tech, who control the trajectory of technological progress and design. In this sense, they contribute to the development of technologies which, in turn, reinforce their power. The question then arises again: does this progress threaten or protect the right to privacy?

Three players stand out in terms of power in the digital and informational age: the users, corporations and governments. In the end, the users are the ones I talk least about, though they are the ones who use the final product, the ones who give out their information, and to whom the corporations make “invisible”

profits. Users like you and me. The one who is always connected, who receives notifications and is monitored in its use. It is also the humans behind the data they provide. A human being with a private life, before being transformed into a “consenting” user-supplier of his data. Because yes, we users will have clicked on “I accept”. Many don’t feel guilty anymore. Indeed, digital users are thus driven to resign themselves and accept incomprehensible and obscure cookies and privacy policies - which even legal professionals can’t understand (Cohen, 2012). Some researchers have coined the term “privacy fatigue” to describe the popular discourse about the right to privacy as no longer meaningful. The way digital cultural interactions are conceived makes privacy futile, crushed for too long and therefore no longer relevant. As we have seen, researchers point out that this situation is very problematic as governments continue to develop new intrusive surveillance technologies and tech industries continue to collect and sell more data. Or should I say now, human information?

The other power players are these two, the government and the big tech, or tech industries, who ultimately have far more power than the users. From this asymmetry stems the technological stakes and the current path of “progress” and design. Also, it is interesting to mention that users are neither consumers nor producers of technology, but the driving force behind the operation of digital tools, of which they are completely ignorant and manipulated for the benefit of their developers (Hartzog, 2018). We see this with AI, and companies like OpenAI, Meta or Google DeepMind, or should I say “the puppet masters”. As we saw earlier, data mining and digital privacy measures tend to commodify human experience into influenceable and manipulable behaviour (Zuboff, 2019). This is what is currently happening with AI. I return to this “AI illusion” in the next section (Acemoglu & Johnson, 2023).

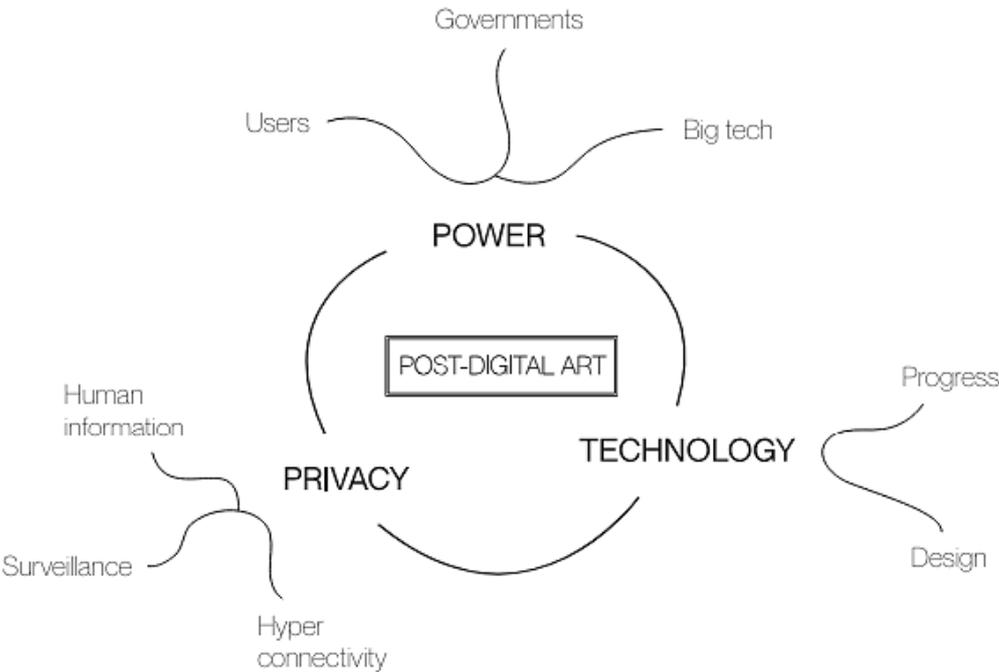


Table. 3 The triptych dynamic: privacy, power and technology.

The diagram above illustrates the dynamics of the three-way situation and shows the connection between what concepts it entails. Post-digital Art has been put in the middle because, as mentioned, so far, they seem to be caught in the privacy dynamics. Plus, I have already discussed the three challenges of privacy in the digital age: human information, surveillance and hyperconnectivity. I have also described the main players at stake: users, governments and the tech industries. What remains to be seen is the last aspect of the triptych, the technology side. Nonetheless, I have already discussed quite a few points on the technology, but now I wish to connect it to post-digital art. It is important to understand that each element of the triptych influences, shapes, motivates or restricts the privacy dynamics. In the next sections, we describe more in detail that point by explaining what privacy dynamics means for post-digital art in terms of technological progress and design. From there, two sub-questions emerge: how do post-digital artists position themselves in relation to the trajectory of technological progress – which can then threaten privacy –, and how does this shape their creative practice?

Antidemocratic progress and the role of Design

Post-digital artists who work with technology see their practice and creativity confronted with the rigidity and opacity of current technological progress and design. Two reasons stand out for this situation: governments and big tech's asymmetry of power over both progress and technological design. Dominated by a capitalist vision, techno-optimists argue in favour of the “productivity bandwagon”, which sees technological progress as always helping labour, and that everybody will ultimately be the beneficiary of these advances in the long term - despite the short-term disruptions (Acemoglu & Johnson, 2023). I have shown that what is happening, looks more as the development of technology that benefits them more and more, with ethically dubious practices regarding their relentless pursuit of human information, more commonly known as data, the new fuel of capitalist growth, and to predict and influence user behaviour (Richards, 2022).

It is a situation that scholars present as antidemocratic: “The profit motive is not the only factor that has pushed the tech industry in this antidemocratic direction. These companies' founding vision, which we dubbed the AI illusion, has played an equally important role.” (Acemoglu & Johnson, 2023). In fact, the illusion of AI holds the same promise as the early open webs, creating “a new public sphere,” democratic and open, increasing people's sociopolitical agency. However, as we have seen, the tech industries are driving and projecting the trajectory of technology – and the AI “revolution- through a different lens: making profit, once again. “Open” AI, really? On this basis, my research aims to examine how post-digital artists position themselves vis-à-vis this situation, and which aspects they consider important to address. This is one of the fundamental sub-questions of my research into how post-digital artists approach technology and issues of privacy in the digital age.

A second aspect that seems important to mention is the role and meaning given to design in the digital age. Because technological progress is not independent of design. Indeed, in the literature, many researchers have examined the importance of design in the digital age and how it influences user

behaviour (Hartzog, 2018). For example, tech industries shape the design of a platform to gain access to more data or increase user activity, which in turn enables them to make a profit by selling this information to other companies or placing targeted ads on the platform (Richards, 2022). In this example, common to the digital age, one can easily see how a design decision influences the user experience. However, recent years have seen the development of designs that back the autonomy to the users i.e. control of their data and the use that a third party can make of it. The important role played by design doesn't seem to go unnoticed in post-digital art. Also, as mentioned in the method section, almost all of the respondents have a background in design. But why? Well, for the same reasons mentioned below, design is fundamental to the experience of a technology.

Here, the research wants to know how post-digital artists shape their design, and what experiences are aimed when they approach technology and privacy issues. As the section comparing digital art and post-digital art described, one of the main differences is that design, for the latter, is done in such a way as to offer a reflexive and participatory experience. The research aim here is to understand which aspects of design are becoming important, how post-digital artists approach design to offer a reflexive experience, and how this contributes to their approach to technology and privacy in the digital age. In other words, what are their goals and how do they design them? This is what this research aims to explore and understand.

In conclusion, this literature review has provided several valuable insights. First, I have described post-digital art, both, in terms of the characteristics of its creative practice, by comparing it to digital art, and aesthetically, by drawing a parallel with the social turn. Two, I introduced the concept of privacy in the digital age. To this end, I have clarified the informational privacy dimension in addition to three main issues: human information, surveillance and hyperconnectivity. With this in hand, I drew a link between privacy and post-digital art, describing the concept of privacy as being in a three-way dynamic with power and technology. This link was further clarified by describing two aspects of technology that concern post-digital art: antidemocratic progress and the role of design. Finally, this set up two sub-questions for the research: how do post-digital artists position themselves in this situation, and how does it shape their creative practice?

The next section, on the methodology and choices made in the research design, describes how I went about assessing and answering my research questions and sub-questions. To do so, the method section will show that I used a research framework: the *Creatures* tools (2023), which enabled me to assess how creative practice can drive transformative change and adapt it for my research design. Finally, approaching post-digital creative practice through the *CreaTure* framework enabled me a deeper understanding of how these artists aim to reflect on the digital age and approach political topics such as privacy. Also, in that section we look at the different types of artists I have interviewed and the reasons why they were chosen.

III. Method

In this section, choices were made in the research design to answer and give a practical framework to the research question: *How do (post)digital artists approach privacy and technology in the digital age?* In-depth interviews were chosen and were conducted to provide insights into respondent goals and the desired impact they wish to have on the audience as well as the characteristics and meanings of their creative practice. Also, interviews were based on an interview topic guide (Magnusson & Marecek, 2015). A choice was made to use thematic analysis to aggregate and understand post-digital artists' positions and creative practices.

As shown in the literature review, two sub-questions were raised: how do post-digital artists position themselves in the situation and how does it shape their creative practice? Therefore, the research design was oriented on these two sub-questions to answer the research question. First, to understand their position, I focused on their goals and the desired impact on their audience. Then, to assess how this shapes their creative practice, I based my research design on the *CreaTures* framework (2023), which I discuss in more detail in the operationalization section. In addition, it should be mentioned that while I had to find post-digital artists, the selected criteria were above all oriented to make sure that the respondent's creative practice characteristics matched with the reflexivity aspect highlighted in the literature review. Nuances were to be made when moving from theory to practice in terms of the artistic profiles selected, as only one respondent presented the term "post-digital" on the web. I return to this point in the sampling and unit of analysis sections.

However, before going to the next section, I would like to point out that the research design is divided into four parts: sampling, unit of analysis, operationalization and data analysis. In the first and second sections, I discuss the choices made regarding sampling and respondent profiles, as introduced above. In the third section, I discuss in detail how I operationalized the two sub-questions, and how I drew inspiration from the *CreaTures* framework. Finally, the last section discusses the thematic analysis i.e. how I organized and categorized the data and conducted the selective coding.

3.1. Sampling

I chose to use the purposive sampling method for the research design because I wanted to know especially about post-digital artists' positions and creative practices: "Sampling subjects are selected based on study purpose with the expectation that each participant will provide unique and rich information of value to the study" (Etikan, et al., 2016). As mentioned previously, the main criteria for the selection of respondent were that their profile corresponded with the theoretical framework. More specifically, the respondents must work with digital media, that they define themselves as socially engaged, and offer at least one reflexive experience of privacy issues in the digital age.

Indeed, the respondents needed to have at least one work about privacy issues (surveillance, data, or hyperconnectivity) on their web profiles. It would have been easy to select artists who describe themselves

as post-digital. Unfortunately, my research of those artists led to the observation that the term “post-digital” is not commonly used by the artistic community. As mentioned, only one of the respondents selected presented the term on their website. The selected artists present themselves in other ways, such as multimedia artists or graphic designers. I discuss these findings further in the results. In the next section, I describe the selected respondents’ backgrounds and discuss the choices made for the selection of their profiles.

3.2 Unit of Analysis

Furthermore, in this research design, respondents are the unit of analysis. Having opted for purposive sampling, I had to find these post-digital artists. However, there was a difference between theory and practice: we have seen the characteristics of post-digital art, but not much about post-digital artists. There are reasons for this, and I explain in detail why in the result. Nevertheless, three criteria were chosen to select the respondents. First, the self-description of selected artists and creative practices on their web needed to correspond with the description of post-digital art, insofar as they presented at least one reflexive work on privacy issues in the digital age on their web. Second, they *had* to be from Europe, and thirdly, they had to have had at least one residency or exhibition in the Netherlands, or elsewhere in Europe. The table below shows the 10 selected respondents’ backgrounds.

Respondent*	Labels (found on their web)	International Background	Residencies or Exhibitions (Name and location)
1	Creative Technologist	Italy	V_2, Rotterdam, NL
2	Techno-critical artist	Russia	IMPAKT, Utrecht, NL
3	Independent artist, designer and performer	Germany	Nieuwinstitut, Rotterdam, NL
4	Interactive Multimedia Artist	South-Africa	V_2, Rotterdam, NL
5	Post-digital and Interdisciplinary artist	Czech Republic	IMPAKT, Utrecht, NL
6	Playful media artist	Netherlands	V_2, Rotterdam, IMPAKT, Utrecht, NL

7	Creative designer	Spain	Digital Impact, Barcelona, SP
8	Graphic Designer, and critical artist	France	IMPAKT, Utrecht, NL
9	Multi-disciplinary designer and researcher	India	IMPAKT, Utrecht, NL
10	Writer and multimedia artist	Belgium	Privacy Salon, Belgium

*The name of the respondent was not mentioned and was replaced by a number for privacy reasons. An overview of the (anonymous) respondents is available in the appendix (A1).

The table above describes the three criteria of the selected respondents: their artist description found on the web, their country of origin and the residencies or exhibitions in which they have participated. For the first criterion, apart from one artist who describes herself as post-digital, all the others describe themselves differently, in a vast lexical field, even if several characteristics appear to be designer, media or multimedia. However, as mentioned above, they were selected because they all presented work that reflected issues of privacy in the digital age. I discuss this first observation, the gap between theory and practice regarding how artists self-described in more detail at the beginning of the results section.

Furthermore, selected respondents present two main fields of study: design and media. 9 out of 10 respondents studied design or went to an art school. Among those who studied some form of design, there were two main types of programs, Interactive Media Design (3) and Graphic Design (4), as well as Game Design and Industrial Design. On the other hand, 5 studied media. These include programs related to Interactive Media Design (3), New Media Studies, Media Design and Arts, Media, and Technology. Plus, respondents define themselves in a spectrum ranging from post-digital artists to “Techno-critical”.

The second criterion concerns the origin of the respondents, which I wanted to make as homogeneous as possible to facilitate interpretation and improve data analysis. The majority of respondents are indeed European, except for two (from India and South Africa). The third criterion concerns the place of residence or exhibition attended by the selected artists. We note that all have exhibited in Europe, and the vast majority (8/10) in the Netherlands. It is interesting to note that most of the artists I selected did a residency at IMPAKT, a Centre for Media Culture, which: « presents critical and creative views on contemporary media culture and explores issues at the intersection of society, digital culture, technology and media from different perspectives and disciplines, such as art, science and politics. » As one can see, the description is very much in line with what I have been saying up to now about post-digital art i.e. creative practice as a critical exploration of digital technology and society. Thus, by having this third

criterion, I was able to understand that the selected respondent fit well into those I wanted to study creative practice. It also gave my research a more homogeneous purposive sampling.

Additionally, it is important to mention that a minimum of 10 hours of content was achieved since I was doing a qualitative analysis of in-depth interviews: “Qualitative inquiry typically focuses in depth on relatively small samples” (Patton, 2002). I interviewed 10 artists, physically or online. For half of the respondent, I was invited to their studio, and they allowed me to observe their current work and talk about it. This was fruitful in understanding their creative practice. Also, respondents received an informed consent form before being interviewed. In the beginning, they were invited to present themselves as well as their first interest in the media. Then, I looked at two aspects in-depth: their goals and the means to achieve them.

3.2. Operationalization

Here, I discuss in detail how I operationalized the general research question and related it to the sub-questions. In this sense, I provide a “concise description of its relationship with the perspectives and insights discussed in the theoretical framework” (Janssen & Verboord, 2024). As mentioned, the assessment of how post-digital artists approach technology and privacy issues in the digital age developed into two sub-questions: how they position themselves and how it orients or shapes their creative practices. I thus contrasted their goals with the characteristics of the design through which they achieve them. In the first instance, I was interested in their position because they offer an engaged and reflexive experience. I wanted to know how they positioned themselves between art and politics. They surely had issues that concern them (human information, surveillance, hyperconnectivity), as well as personal values and motivations that have pushed them in this direction. This is what this first sub-question aimed to explore. In this way, I was able to better understand the goals behind their approach, and learn how it works, as well as orient and connect them to the privacy issues of the digital age.

In the second stage, research design was oriented towards understanding how this orients and shapes their creative practice. Whereas the first sub-question focused on the respondents’ objectives, this sub-question focused on their creative practice, and specifically on how post-digital artists manage to make their experience reflexive. The choice was made to use the *CreaTures* tools partly to assess how transformative a creative practice can be that the choice. The *CreaTures* framework is a “nine-dimension tool” that offers a holistic understanding of the *change potential* of creative practices, integrating aesthetics in three types of change: *Changing meanings*, *Connections*, and *Power dynamics*. The interdisciplinary design of the tool aims to understand the impact of creative practices by going beyond narrow definitions and offering a nuanced perspective on societal transformation. The latter allowed me to have an initial framework to explore post-digital creative practice, which assesses: “how art and creative practice stimulate societal transformations”.

Additionally, the link with my research was that in this second section, I was looking precisely at the characteristics and techniques of their creative practice. So, if they want to change meanings or our

relationship to technology, how do they go about it? If their experience is political, is it to change power dynamics? If so, then I was interested in how this shapes their creative practice. In this way, *CreaTures* frameworks provide me with a framework for bridging the gap between the artist's position and their creative practice. However, I show in detail in the results how this framework was adapted or rather modified to answer specifically the research question.

Before moving on to the data analysis, here I give a small note on the topic guide. The questionnaire was divided into 4 main parts: *Introduction questions*, *Artist's position*, *Digital ambition*, and *Ending questions*. The *Introduction questions* focus on the relationship of the artist with the digital media: they were asked what their first interest in the media was and to define themselves as an artist. In many cases, this led to a discussion of their work and its aesthetic dimension, whether it is political or not, which then served as a bridge to their political position. Therefore, the second part on *Artists' Position* aims specifically to understand the nature of the artist's relationship with politics: whether it exists, and whether it corresponds to a position dominated by social and ethical concerns. In this section, I also look at the various aspects of their positions: their main concerns and goals, their impact on the audience, and the aesthetic dimension. It is in these discussions that I mainly touched on the three issues of privacy (human information, surveillance and hyperconnectivity). Then, based on the understanding of their general positions, the third topic of the discussion on their *Digital Ambition* seeks to highlight specifically how their creative practice contributes to achieving these ends. This discussion delved deeper into the role of digital media, and using the *CreaTures* tool, I was able to understand in what ways they approach the media to achieve their goals and what it adds to the audience's experience. For more details, see the interview topic list in the annex.

3.3. Data Analysis

As mentioned above, the research design used thematic analysis and direct content to analyze the data and find common patterns or themes regarding both the goals and the design of post-digital artists' creative practice. I chose thematic analysis because it aims to develop themes, through the coding process, that "provide a framework for organizing and reporting the researcher's analytical observations" (Clarke & Braun, 2017). Plus, I did a direct content approach to start the coding process because as mentioned, I used the theoretical research on the subject as well as the *CreaTures* tool, (Hsieh & Shannon, 2005). Thus, thematic analysis and direct content approach enabled me to obtain qualitative and significant results from interviews.

Data analysis was completed systematically, using a code tree that grew to its final form (shown in Appendix 2.). According to the research design, my code tree was divided initially into two sides: goals and design. Then, I finally combined the two sections to address more directly the research question. The code tree included 3 levels of coding: main themes (a), subthemes (b) and key insights (c). However, I show in the results that this distinction is not so black and white, in the sense that the artists' goals and creative practice are part of a global research process. This is why, I also did a fourth level of analysis (d), which gives two important insights about the process itself: *The reinterpretation of technology*, and *Political scope*. I

developed this more in detail in the conclusion, suggesting that this process could represent a new form of digital activism.

To sum up, building the code tree was a very open process. Since the interviews were conducted in-depth, this enabled me to better understand the goals behind their approach to technology and topics such as privacy issues. As a result, the approach was progressively divided into three main themes (a): *Exploring technologies*, *Changing the Experience* and *Challenging the Evolution*. Before arriving at these three objectives, I had to organize the data by aggregating them according to their characteristics. I progressively coded the data into goals and designs. Then, I decided to aggregate the two levels (goals and design) in these three categories insofar as, ultimately, they represent one process of exploration, change and challenge of technology. Indeed, their creative practice's design, whether for the playfulness or the humanness aspects of it, enabled (post)digital artists to develop experiences that are aligned with their goals. As I show in the conclusion, it is through this reflexive process that they approach issues of privacy in the digital age.

IV. Results

4.1. (Post)digital Artists' Approach

The research led to the identification of three ways in which (post)digital artists approach technology and privacy issues: *Exploring Technologies*, *Changing the Experience*, and *Challenging Evolution*. Before moving on to the structure of the results, it is important to explain what I have already touched on in the method section, why only one respondent self-described as a (post)digital artist.

Definition of Artists

Overall, most respondents admitted that it was difficult for them to simply define themselves in general. As one respondent explained: “I never really fitted in any direction, artist or designer”. Findings show that the main reason for this is that they define themselves more by the *process* of creating their art than by the result. However, half of them do use the term *digital artist* in more official instances, as it is the most common appellation in popular culture. As one respondent puts it, call it themselves digital artists seem to reduce the scope of their work: “In fact, I think there is a perception of something that is not superficial but doesn't have much content, purely visual (...) whereas what I do isn't that at all”. Artists adapt, of course, but this gap already highlights a certain distance between their pioneering practices and today's art world. This is the reason why I chose to label them somewhere in between (post)digital artists. In addition, for 4 respondents, this gap can also be felt in the « non-existent » art market for their work. According to them, cultural institutions such as museums are gradually beginning to welcome this kind of artistic practice and installation, but for the moment they can't rely on them to exhibit their art and make a living. Alternatively, 7 of the artists interviewed have taken up residencies within organizations such as interdisciplinary centers for art and technology (such as *IMPAKT* or *V_2*). Plus, half of the selected artists are also actively involved in research into technologies (design and media), either by giving conferences or lecturing (see appendix A1. for more detail). There are other reasons for (post)digital artists to get involved outside their art, which will be discussed more in detail in another section. Finally, three of them define themselves as activists, and 8 out of 10 know how to code.

Another important point to mention before plunging into the analysis is that most artists describe their position as more holistic than merely a critique of tech industries or the fight for privacy in the digital age. One respondent described this in these terms: “I'm done with making only critical works towards tech [industries]. How would I like the world than to be, you know, how should we continue?” The findings will show that they aim not only to reflect the current evolution of technology in the digital age but also to imagine future trajectories. Their creative practice, between reflexivity and imagination, is also strongly focused on sharing and participatory art. All the artists interviewed stated that their goals and desired impacts were in fact at a “higher” level, by exploring, changing, and challenging the human-technology relationship.

The introduction highlighted the difficulty and variety with which artists identify themselves and define their practices. In the next section, I describe the first way (post)digital artists approach technology and privacy issues in the digital age.

4.1.1. Exploring Technologies.

This first approach can be described as the respondents' exploratory attitude toward technology. Two main drivers for technological exploration stood out among the respondents: *Research Process* and *Imagining*. These two subthemes were inspired by the *Creatures* framework (2023). While the former provides the development of a rigorous and meaningful research framework around technologies, the latter offers the freedom to explore and imagine alternatives in future trajectories for technologies. This aspect serves as a crucial starting point for the analysis, as the position of all the artists interviewed has above all developed around a relationship of curiosity, play and research around technologies. Artists consider technologies foremost as *tools* in the artistic creation process. As one artist puts it: « Digital technology, I would say is not good or bad in itself. It is a matter of use. But I do think you should be sort of critical of how you advise it in your life and society.» » Although they approach technology as a “neutral” tool, they are all aware of the possible consequences of its use on our society.

To sum up, while the research process provides the development of a rigorous and meaningful research framework around technologies, imagining new futures offers the freedom to explore and imagine alternatives for future trajectories to technologies.

A. Research Process

For the respondents, the motivation to explore technologies manifests itself in two forms. Many artists mentioned the aspect of research projects and critical learning about technologies as the first step in their work. However, all mentioned that their interest in technology was motivated by all the things they could imagine doing with it.

Interdisciplinary Approach

As mentioned, most respondents have a background in research and take part in conferences on the digital society. This enables them to keep abreast of the latest topics and scientific advances in design, media, politics, and the environment. One of the respondents explained how she went from a graphic design background to an open source design collective: “I started from a desire to experiment graphically with new tools and also questions about digital ethics, (...) now I contribute to this shift towards research projects.” This is one of many examples of respondents' willingness to explore technology critically.

Also, a project around technology is a research process that for most of the artists is carried out by collaborating with people of different backgrounds. As one respondent said: « We are [a team] of very varied disciplines from data scientists, designers, cultural producers, sound designers, technologists, psychologists. » Most artists develop projects in collaboration with academics, computer scientists,

designers and others. Their creative practice contributes to changing the way designers and scientists interact. For the most part, co-creation between respondents and researchers plays a key role in the development of exchange during the research process. While the former is informed and inspired by scientific advances on complex subjects, the latter can keep in touch with the latest advances in artistic creative achievements. In addition, technology and media labs are important for bringing communities together, as well as providing a space for experimentation.

Exploring technologies and their potential is not something artists do in isolation. Nowadays, they seem to be part of the driving force behind the development of an interdisciplinary and critical approach to technology. One respondent described it as follows: “It is also about collective organization, creating a space together. It gives rise to discussions with people from my studio or my collective.” Indeed, the majority of the artists interviewed are working on collaborative projects. Respondents’ enthusiasm for working together is motivated on the one hand by the complexity of digital technologies, and on the other by the importance of community. Helping each other is at the heart of their research process. One of the reasons is that everyone is willing to confront the same mystery.

Demystifying the Tools

In 5 of 10 interviews, respondents expressed a desire among artists to “demystify” technologies i.e. to open up and understand what is inside the “black box”. For them, knowing how to code is essential to achieving this, as one puts it: “Learning how to code, learning also machine language, you start demystifying technology. Knowing how to code helps you understand computer languages and the usefulness of data.” Another respondent explained in his words that this aims to: « reclaim the understanding of how that works.” For many artists, coding allowed them to see the other side of digital tools, although that is often difficult and not accessible. One artist expressed this idea in these words: « It was giving me like a lot of resistance, not working. ». However, demystifying the tools means most of the time learning how to code, and by that, she added: “It is not a black box anymore. It is not something that you don’t control, you can’t shape or customize anymore”. Plus, another respondent explained that: “Avoiding licensed programs (...) I started using either open source or just learning how to code, learning the technique rather than the tool.” Artists attempt to deconstruct these walls to break the distance between themselves and technology as well as to motivate others to learn alternative languages. However, there is still a confrontation between the research process and the desire to demystify tools. We return to this idea of confronting technologies in the artists’ third approach.

To sum up the *Research process* subtheme, the results show two aspects when artists are exploring technologies. On the one hand, there is a level of scientific research that commonly involves multidisciplinary collaborations. This helps to understand and give meaning and direction to new insights. On the other hand, there is a desire to demystify technologies, notably through the learning and mastery of code. Coding remains a complex process that could be compared to learning a new language. The *Challenging the Evolution* section describes in detail how artists use alternative languages to participate in the

development of open tools and consequently subvert the status quo. However, analysis shows that there is another aspect that is important for respondents while exploring technology: imagining new possibilities, narratives and futures.

B. Imagining

This section contrasts with the research process, where artists allow themselves greater freedom in their approach to technological tools. The artists take the liberty of imagining new narratives, more humanly rooted and often contrasting with the *rigidity* of the research process on technology.

The Fun of Experimenting

Imagination appears to play a central role in respondents' exploration of technology. Unlike the rigour of the research process, imagining allows artists greater freedom when exploring technologies. As one respondent expressed: "Sometimes this box does not offer me enough freedom where I am happy to move to the artistic sense where I let go of things. ». The artist refers to "the box" as the academic framework which sometimes is too narrow while exploring the possibilities. In this sense, a key element of their creative practice is the fun of experimenting.

Indeed, several artists said their imagination was first and foremost motivated by the excitement and fun that technologies can represent. One respondent explained: "Having more technologies all around us, we found it interesting, and we sort of played with this." For most of the respondents, the importance of playing with technology is central to their exploration. Indeed, most of them used the word *playfulness* to describe their work with tools, as another stated: "There is a lot of playfulness for sure, as in playing, failing with the tools." Artists allow themselves a free and playful relationship with tools, enabling them to explore further and discuss their limits more speculatively. This freedom is fun and is most often reflected in the design of their work.

Imagining New Futures

The other finding was that respondents mainly took this freedom to imagine new futures and experiment with virtual and physical boundaries. As one noted: "I think that instead of creating another layer on top of this physical reality, that [technology] acts as an accessory to the physical reality". Artists imagine technologies by putting humanness and ethics at the forefront. Furthermore, all the artists expressed doubts or were highly critical of current techno-optimism. Hence, several artists imagined and created near-future scenarios to explore and reflect our relationship with technology. As one respondent puts it: « Imagining pessimistic futures, making it tangible or helping people imagine a future where things could go bad, that is how you can get them thinking about what is wrong with the society right now. » Therefore, the aim is not to imagine and propose new narratives and futures that are purely fanciful, but rather to offer a valid reflection on the trajectory of technologies. "Valid" since it is also based on a research process.

To summarize, artists' exploration of technologies as a tool contributes to their demystification with which they can then both, learn to "speak" alternative languages, and subsequently use to imagine other possibilities: « I realized it is a kind of Pandora's box. Once you open it, you are just like, wow, there is like this whole world here ». Artists' combination of scientific rigour and artistic freedom while addressing technologies can be seen as the cornerstone of their position. This will thus influence and shape how artists approach technology and privacy issues such as *Changing the experience* and *Challenging the evolution* of technologies.

Here, it can be added that this is consistent with the theory: the approach is based above all on critical research. However, the results add that it is motivated by several other factors: interdisciplinary research, demystifying the tools, freedom and play, and imagining new futures. Findings show that these are key insights into the artists' attitudes toward their exploration of technology.

4.1.2. Changing the Experience

After describing how respondents explore technologies, this second section describes two main changes offered by artists to the way we experience technology in our daily lives. The first subtheme describes how (post)digital artists aim to shape a different experience that reconnects the digital with the physical needs: *Realigning*. The second subthemes describe that they aim to spread a new relationship to technology by organizing and inspiring outside their field: *Organizing and Inspiring*. In this sense, both themes aim to change our experience of technology by making it less isolated, both, inside by realigning it and outside by sharing it.

A. Realigning

The first change mentioned by respondents is to integrate technologies in a manner that realigns their trajectories to current social and environmental needs. One respondent points out that her work has two main objectives: to connect the participants and to reconnect them with their environment. These are two shifts in the experience of technology that have emerged as fundamental to the work of many. One artist suggested: « Instead of creating new things as another layer on top of our physical reality, it acts as an accessory to it. »

Breaking the Distance

This idea of a "layer" appeared in almost half the interviews, which described technology as a tool that subsumes rather than adds to our human experience. One respondent illustrates this idea by comparing it with a play: « There is an element of theatrics that is always very important in our work and we think of it also in terms of layers. » The idea is to join the virtual to the physical, the screen to the tangible, to connect the two worlds and thus reconnect our society and its individuals to the same ground. It is a goal that most artists share, and one respondent expressed it as follows: "When we work on digital projects, we try to nudge them in a direction that always links to the physical." As she added, the aim for

most artists turns out to reconnect the different layers and thus, to break the distance that digital has created:

Digitalness is a double-edged sword that can potentially bring us closer together in ways that we never were, but it also contrasts with a huge distance. We are distant from the people we talk to. We can be more strangers to the strangers that exist next to us.

This artist explains that digital is a tool that brings those who are far apart closer together, breaking the distance, but at the same time paradoxically creates a gap between those who are close. Here, we can refer to the notion of hyperconnectivity, as the user is ultimately impacted by digital technology in his ability to be present in the immediate world around him. This “hybrid” approach contributes to changing the audience’s perspective on the consequences of the current use of digital tools.

Instead of approaching technologies through the other side of a screen, artists aim to change the experience by integrating it into the physical. As one respondent added: « [There is] too much focus on data, on representation, rather than embodied knowledge or situated knowledge. Everything digital in terms of anything on a screen, it is all representations.” In this sense, for (post)digital artists, embodying the experience helps to make the digital tangible, and appears to be a way to make the experience not only tangible but more human and communicative.

Communicative

For artists, another goal is to transform the technological experience into something more understandable and communicative. As one artist expressed, the aim is to make experiences more human and sensitive, often through sensors: “Everything is a bit about sensing and then making sense out of it. As if you play with this world, making a possibility to sense, to understand the meaning of it”. Respondents are well aware of just how incomprehensible technology can be, having gone through the research process themselves. The artists once again propose an experience that moves away from the mystery of the black box behind the screen to one that communicates technology through feelings. Another shared the same perspective: “I wanted them to feel that connectedness between what is happening inside their body, between people and also to the space”. The perspective here moves away from the idea that data and technology are isolated, where our only interaction and consequences with them are behind a screen. To remedy this, artists seek to make technology tangible and situate the digital realm to the physical. One artist mentioned:

I still enjoy working with design but my goal is to make things tangible. You can make websites and screens but I am a very big proponent of the fact that when you make something tangible or physical or when somebody can hold on to something, it is more impactful and there is more value to it.

Making the digital complexity tangible and therefore communicative is undoubtedly one of the main objectives of their work. Part of this involves abandoning tools such as websites and the screen, which

don't allow artists to go as deep in communicating their research. For one respondent, this means: "You have to translate a very complex reality to certain measurable metrics. Otherwise, you can't make a comparison. It is too complex". In a way, the complexity of technologies forces artists to focus heavily on the process of translation, between virtual technology and its physical impact, enabling them to communicate the workings and thus what is behind technologies.

In addition, another aspect of this goal is to make the experience more communicative by focusing on the user. One respondent has adopted this attitude to climate change issues: "I use climate models and data combined in something very interactive and very user friendly." In a few words, artists get away from raw coding and being overwhelmed by data and plunge into a more interactive and user-friendly experience. For a respondent, his digital approach involves reintegrating data into the physical world. He gives voice to data by attaching to it a story, a person, a place. It also gives voice to the people to whom the data belongs: "Nowadays [big tech] are mining your data, it is all digital. I am working in the offline world, in the streets." Using a storytelling process, he builds a bridge between the digital and the physical. It turns the anonymous user experience into something more user-focused. As a result, it creates an experience that is more communicative for the audience and at the same time reflective.

Designing Humanness

For many artists, making the experience more human means making it imperfect, uncomfortable and unpredictable, as one artist said: "with friction". As previously mentioned, most of the respondents agreed on the fact that design influences human behaviour. Artists have understood this and are developing a more human design by integrating more friction, flaws, choices and, by extension, autonomy into their experience of technology.

With technologies becoming increasingly "intelligent" and autonomous, one respondent explained that the idea of designing humanness and friction is crucial: "The friction idea came from the conversation about the smart home, where everything should go by itself". For them, the consequences of technology autonomy led to a design that is far from ethical: "If you have a smart home where everything already knows what you want, where to go, where things are captured (...) where everything is seen, controlled, proposed, and made utterly comfortable." For many, the evolution of technology as it is oriented by tech industries today, is designed to take all autonomy away from the user. This autonomy is taken away insofar as it is replaced by the autonomy of algorithm, and therefore, by the economic interests of these tech designers. For another respondent, this idea of creating a human experience restores the individual's agency: "Then you have the agency on how this technology enters your life." Giving users back their agency also means making them aware of the choices made without their knowledge in the famous privacy and default settings, as well as how these enter and influence their everyday lives.

Designing humanness is about giving agency and autonomy back to the user. It is about deliberately designating a space and a moment in our use of technology where the user is led to reflect autonomously

on the ability to manage what is normally beyond its control. As another artist explained, it is a solution that provides an opportunity to step back and regain autonomy: “We don’t have a lot of these moments for reflection anymore, and I think having more friction helps with having more of these moments.” For almost all respondents, designing humanness means stopping, observing, reflecting and opening a space for a decision. One of the participants explains without friction, the design of today’s technologies closes the reflexivity of our use:

How do I want agency and autonomy and how do I want it in my routine? And if there is no friction at all, then there is no way of reflecting on how it is situated in my routine.

This respondent added that many applications already offer friction, but it is not what tech industries spread: “If we know that such design can bring back agency and autonomy to the user on technology, why are they not integrated into applications that most people use?” For half of the respondents, current technology design continually seeks to predict and influence user behaviour, for economic reasons. As an alternative, a key aspect of their design is not to control everything, but to leave the door wide open to unpredictability. Another respondent speaks of “randomness”, which he describes as integrating the unpredictable aspect of the human into the technological design.

Therefore, designing humanness means deliberately not seeking technological perfection, but rather placing the emphasis on the needs and the consequences of its use for the user. As one respondent puts it: “It is a lot more friction that way. So, it is a lot harder. But then you don’t fall into this default way of using it.” In addition, designing friction is central to (post)digital artist design, as it is the opposite of default settings. I discuss this last point more in detail in the third section.

This section describes three main ways through which (post)digital artists aim to change the experience of technology: Breaking the Distance, making it more Communicative and Designing Humanness. Therefore, realigning the experience of technology is to consider the human-technology co-relationship. These three approaches enable them to offer an alternative experience of technology which allows the audience to grasp the “abstract” scope of technology that is usually left behind the curtain. Here, many a parallel can be drawn with the theory section. First, all three approaches are linked to the aesthetic of post-digital art insofar as they contribute to make the experience reflexive. Also, this section shows that (post)digital artists are indeed confronted with big tech design. They aim to change the experience of the user, who is used to a design that responds only to efficiency and profits rather than its needs. This seems also true for hyperconnectivity: (post)digital artists aim to counteract this overflow of information, whose design removes control and agency from its use. In this sense, we can see where (post)digital art creative practice affects the privacy dynamics: by changing the experience of technology in a way that increases users’ autonomy and agency. But this is not all: in the next section, I discuss how they also contribute to creating a participative experience, which increases the audience's involvement in the privacy dynamics.

B. Participative

This section follows on from the first, in that it describes the artist's desire to create a participatory artistic experience. On the one hand, artists are making a "hybrid" experience of the abstract scope of technology by mixing digital media, what one respondent called "embodied knowledge", and participatory art. On the other hand, artists contribute to sharing their creative approach and practice of technology in other contexts, through what was called dimensions of scales (inspired by the *Creatures* tools).

Hybrid Touch

For artists, one aim is to create participatory installations. Two means of changing the experience stood out in the interviews: an interactive experience or a workshop. Interactive experiences often involve a design which returns to the physical, as workshops, for many respondents, can be completely done without digital tools in many cases.

So far, the findings show that on the one hand, working with digital and virtual allows artists to explore dimensions that are not otherwise possible. One mentioned: "It is fun to explore the sensations that this virtual reality gives to the body, how to trick the body." On the other hand, the physical world allows the artist to offer participants an impactful sensory and collective experience, while another added: "I wanted them to have an experience of listening and feeling other people, a shared experience". For artists, the choice of one or the other in terms of proportion depends on the work's aim and the audience itself. One respondent sought to experiment with "remoteness" around a VR dinner organized simultaneously at both The Hague and Gent: "It was about the experience of how a virtual world, how being immersed into a different world can influence the simple act of eating something or tasting something." For the artist, the aim was to put the audience right in the middle of the experience and see what happens.

In addition, the hybrid touch links human behaviour to technological processes. This can be done through the use of technology -interactive installations- or without -workshops-. Whereas the interactive installation takes the virtual world as its starting point and then bridges the gap with the physical, the workshop does the opposite. Starting from the physical world, the workshop approaches the virtual from the tangible. In both cases, once again, the aim is to bring technologies back to the body and the senses, the virtual to the tangible. Furthermore, the aspect of conviviality is central to the artists' search for a hybrid experience. One respondent explained: "There is a convivial part to it. A lot of feedback was about the way that we interact with each other for dinner." This appears to be one of the reasons why artists do participatory art, after researching, imagining and seeking to create a more human experience of technologies.

The willingness to organize workshops is also motivated by the goal of accessibility. For instance, working with children on the impact of AI has led one respondent to do a workshop: « By addressing children, you realize that even a lot of adults have difficulty typing on a keyboard. I find that [doing a workshop] also

opens up your project to the outside world.” For many respondents, workshops have the advantage of involving and reflecting the participants as well as sharing their experiences. As one put it: “It is a way of sharing my research with the public and also inviting them into my research, my practice as well as into the discussion.” Indeed, findings show that all respondents have a real desire to share their work and designs, to avoid yet another technological black box.

As this section described, the *Hybrid touch* consists of bridging the physical aspect of the world and digital technologies. Consequently, artists can present to the audience a more accessible experience that “puts the body in different experiences so that they can absorb, understand, or interact with information in a way that is different”. In the next section, I discuss the notion of *Embodied knowledge*, which is both, a means to develop a participative and a reflexive experience of technology.

Embodied knowledge

Making the experience tangible is a concrete way for (post)digital artists to transform complex information into a lived experience, i.e. to experience technologies through the senses, and participate in a tangible exchange between the digital and its environment. It is somehow part of the post-digital “hybrid touch”, but here, the key aspect for (post)digital artists is to place the body at the center of the experience. Indeed, most of the respondents integrate this aspect of the experience into an interactive installation or a workshop. In this sense, one respondent’s interactive installation was to communicate a body-based message. She explained it as follows: “To embody something and for it to become knowledge and not information, it needs to be lived.” To ensure that her message isn’t just another piece of digital information, she uses tools to create an experience that puts participants in touch with their sensibility and intuition: “It is the embodied knowledge that is your intuition and your sensitivity”. Placing the body in the middle of the experience is what most artists have described as “embodied knowledge”. As mentioned above, one of the key aspects in reflecting the way we use technology every day, essentially from behind a screen, is to create an experience that puts the body in the middle of it. One of the respondents explains that this is one of the elements most reflected on in her collective:

It is not through a screen. It is not through your phone. It is not through text. It is not through notification. So how can we put the body in different experiences so that they can absorb, understand, or interact with information in a way that is different?

Developing an experience that puts the body at the center of the experience achieves two things: it breaks the distance with digital technologies, and it brings to life the boundaries between the virtual and the physical. Anchoring the body in the experience means transforming external information into a lived experience. This is a key element in the way artists try to change the experience of technology and approach topics such as privacy issues.

Furthermore, anchoring design in the body helps to develop a certain intimacy between the participants and the intended subjects. One respondent confessed: “Ideally, I dream that strangers just sit together. But

it can feel very intimate.” Above all, this type of approach changes the experience of technology by realigning it as first and foremost a means of connecting to oneself, to others and one’s environment. It also enables the participants to come into contact with complex subjects and with others, bringing information to life and transforming it into embodied knowledge.

Here, theory can be linked to embodied knowledge, to the extent that it is another way for post-digital artists to change the digital experience into something more participatory, and at the same time to develop a reflexive aesthetics. In the following section, I discuss the notion of *Scales*, which is based on the *CreaTures* framework. This is another of the respondents’ goals, to extend their creative practice to other environments. This is an important result, which was mentioned by the majority of respondents.

Scales (out, up, across and through)

In the previous section, changing the experience of technology into a hybrid and embodied knowledge experience was motivated by two things: to make it more accessible, and to play with *materialities* in a way that emphasizes human-technology interaction. Here, I take another angle, with the social change brought by artists outside their studios or exhibitions. Inspiring and organizing change are goals that have proved important to all artists. As mentioned, the use of the concept of scales (out, up and across) was adapted from the *CreaTures* framework. (2023).

I have already mentioned that all the respondents interviewed undertake research in the process of exploring technologies. I also mentioned in the background section that many artists give lectures (scale across) and that museums are starting to adapt, but are not a way for artists to showcase their art or get support (lack of upward scaling at the moment). In practice, media and technology labs are mainly the only institutions in which they can take up residencies and exhibit their work. According to the *CreaTures* tools: *Scale-out* refers to when creative practices are “repeated in some (adapted) form elsewhere”, while *Scale-across* means “that their methods and approaches are applied in other contexts (...) for instance be used in the development of concrete policy ideas.”

Meanwhile, some artists are organizing their summer schools, where you can learn to code, learn about algorithms, expand your knowledge and handle technology critically. One artist describes her involvement outside her practice as follows: “We invite artists to teach workshops, give talks, and we give studio time to work on a project. Lots of encounters. And then at the end, we have a three-day festival that is open to the public.” This summer school has been open for two weeks every year for the past 5 years. For the artists, it is a way of sharing their research in another space, in another context. This creates an opportunity to exchange with the public and make an impact outside their creative practice: *scale-out*. Another respondent also took part in a workshop given by a collective, which led her to realize the depth of digital tools: “They were doing workshops on open-source tools. It made me realize that a lot is going on behind these tools.” Once again, for (post)digital artists, having open tools is a key element while exploring and understanding the technological black box.

As most artists say, more and more NPOs are calling on them, especially to get their opinions on issues of surveillance, data and privacy and propose alternative experiences. Thus, artists' creative practices *scale-across* when they lecture their work. In addition, the scientific enthusiasm in their research process is also one of the search engines for artists who don't always have a project on hand (that is suitable for open calls) and need to immerse themselves in new subjects. For example, one of our respondents was invited to take part in an exhibition on the Olympic Games and was asked if she had a project on the subject: "I didn't have a project on that at all. I had to do a new project, a project around the new algorithmic video surveillance."

Furthermore, according to the *CreaTures* tool, *scale-through* means that "the skills, capabilities and lessons developed through the creative practice spread and are used to engage with other issues." This dimension is key to the respondents' creative practice. As the research has shown, their goals are essentially about learning and mastering the tools, as well as sharing technologies' meanings and tangible aspects with the audience through participative art, either interactive installations or workshops. All this research, skills and capabilities developed upstream by the artists would make it possible to rigorously challenge the evolution of technologies. *Scaling-through* is therefore what ultimately empowers artists' creative practices to challenge the evolution of technology.

To sum up, (post)digital artist approach to technology and privacy issues was described in two ways: Exploring Technologies and Changing the experience. Findings show that respondents approach technology through critical research and by imagining new trajectories as well as by changing the experience of technology from the inside (hybrid touch, embodied knowledge) and the outside (scales). In this last section, two parallels can be made with the theory. First, the findings of "hybrid touch" and "embodied knowledge" could be interpreted as an exploration of *new materialities* (Paul, 2023). In this sense, realigning the experience of technology echoes post-digital art aesthetics, which aims to reflect "the human and non-human environment around them." (Paul, 2023). Furthermore, respondents' motivation to extend their creative practice to other spheres - *Scales (out, up, across and through)* - draws a connection to the heteronomy and the engaged dimension of post-digital art described in the theory section. The next section shows another fundamental aspect of (post)digital artists' approach to technology: challenging the evolution of technology. I discussed two ways where they aim to do so: opening or subverting the privacy dynamics.

4.1.3. Challenging the Evolution

The two previous sections, *Exploring Technology* and *Changing the Experience* describe (post)digital artists' approach to technology and privacy issues as guided by: a research process, a desire to imagine new possibilities, a realignment of technology, a more reflexive creative practice (interactive installation and workshop) and an exchange between artist and audience through participatory experiences. Indeed, results have also shown that for (post)digital artists, involving the public is a way of enabling them to experience for themselves the critical and interactive exploration between humans and technology. In other words,

through the two first approaches, (post)digital artists seek to change and propose an alternative approach to the audience's experience of technology. Results have shown that exploring and changing the experience allows (post)digital artists to approach privacy issues. The third section delves deeper into this process which leads them to challenging the privacy dynamic in two ways. On one hand, they contribute to creating a more open technological space by creating open tools and by opening conversations on the black box. On the other hand, artists are subverting the evolution of technology by creating alternative languages and raising awareness about the *status quo* around privacy dynamics.

A. Opening

After having demystified the black box of technology, 8 of the 10 respondents said that making the tools and their content accessible could also be considered as one of their goals. Indeed, it is not only to make the tools open and accessible but also to open up critical conversations about the way they influence our behaviour. Findings show that opening up technology also means for the artists to explore more possibilities as well as raising awareness of what is going on behind the *curtains*. However, opening them up is no easy task and artists are often confronted with it. One artist describes why he turned to open-source tools: "As an artist, you can't customize it because it is very closed source. It's not open access. There is also a limit to what you can do with it, which I confronted with a lot." For him, this stood in the way of the exploration and excitement that motivated him in the first place. Now, he turned against it.

Open tools

As we have already mentioned many times, having access to open-source digital tools is essential for artists in their explorations to push their boundaries and understand them. Artists are quickly confronted with closed technologies, which impact both their fun and their creative practice. One artist explained: "I confronted with a lot. And then in general, working with the tool, the excitement for the new technology went away. » Another respondent explained that in the early days of the internet, she explored the technological advances that tech was making without hindrance. However, she added that this access to tools was quietly closed and obscured: "We used a lot of the tools that tech gave us to do these experimental works 10 years ago. But the last five years sort of got darker." For many, opening up access to digital tools should take on the form of political regulation. As one respondent puts it: "I also think it is going to happen with regulations. Big tech and the monopoly that things must be split up, more open source, all this kind of political tinted." Nevertheless, some artists remain skeptical about the regulations. One respondent expressed his doubt in these words:

I don't have a lot of belief that regulations will be our answer to defining those boundaries for the use of technology. I think regulations will help but regulations can also just be swayed by money personal interest or power.

Indeed, open-source technologies have enabled them to move away from a rigid vision of digital tools influenced by tech industries. In their view, capitalists' relentless pursuit of efficiency, the extraction of personal data and the integration of ad-targeting and addictive design are driving the obscure "frontiers" of exploration. Tools are thus designed to meet these needs, keeping the user needs in secondary focus. Confronted with this situation, many artists are pessimistic about regulations and the real power they can wield. For them, this contributes to engendering a vision that isolates and implements technologies more top-down than bottom-up. This dominant vision of technology magnified their evolution and distanced the conversations on the trajectory of digital tools. As one mentioned: "We don't know who owns it. We don't know the impact. Everything is magnified by the distance." Here, one can see how the aim of making an experience which is breaking down distance is part of the objective of opening tools and conversations around their uses.

Therefore, open source represents an approach to tools that "counteracts" a vision that isolates and implements top-down rather than bottom-up technology within society. The creation of open tools for artists means first and foremost considering the impacts and consequences this may have for our society. As one artist puts it: "We can revisit culture through new tools. That is also critical to what, where the technology comes from. What is the cost of the technology to society?" Many artists develop low-tech tools or hold workshops, conscious of the environmental impact of their practice. Indeed, 8 out of 10 respondents also set themselves the task of opening the "power" conversations that lie behind the current evolution of technology.

Opening Conversations

Opening conversation means first removing the magnified aspect of technologies. It also means opening the conversation on the solutions to its current isolation and top-down implementation and looking at its social costs. One artist describes the current situation as follows: "We dematerialize the impact of what is digital." Artists question the link between the use and the material implications of complex technologies in our lives and thus look at the cost for society. For one artist, the social "promise" of the digital is echoed today in conversations about AI: "It is a society that believes in a promise that doesn't exist anymore. This promise of closeness, of autoregulation, of sovereignty, but also exists with great distances." For half the respondents, opening conversations about such a situation, where the promise means, where it comes from, what it engenders and what its biases are, is once again a way of breaking down distance and stopping the magnification of technology.

As mentioned, one of the artists' goals is to collectively share their experience of technologies, often through an interactive experience or a workshop. Now we see that their aim of breaking the physical/virtual distance is also to break the distance on subjects and conversations they consider important. Opening the collective conversation on the black box is essential for artists as a means of empowering participants on complex subjects. For a respondent, it is the starting point for becoming aware of the current state of technological evolution: "These misunderstandings or these conversations

that are not happening, all of a sudden seems that it cannot even be manipulated or controlled because it is a black box.” This artist explains her concerns about the “black box status quo”. Among artists, there is a real sense of empowerment in the face of tech’s magnification of technology.

The two first findings show that opening technology means for (post)digital artists to open the tools and the “power” conversations. The next section takes another approach which was common to the majority of the respondents: the notion of play. I already talk about play in how (post)digital artists experiment with tools when exploring the technology. However, here the section describes another key aspect of play: accessibility.

Play as Accessibility

What do we mean by play as accessibility? Interestingly, all respondents share this aspect in their approach. Findings show that play has two roles. On the one hand, it is a way of making a complex experience accessible and on the other hand, it allows artists to “guide” the experience, by influencing and modifying the rules. In this section I discuss plays as *accessibility* as it is a means for (post)digital artists to make technology more accessible and thus open it. However, I discuss *Play as rules* in the next section, on how they contribute to subvert technological evolution.

Most of the respondents described “play” as a means of dealing with complex subjects. As one respondent suggests: “Games are very approachable. People want to try it out.” For him, games are something that attracts, that is often collective, fun and flexible. For another artist, this often means thinking about “metaphors that anyone and everyone could potentially relate to”. The place of metaphors in the design is an aspect that most artists also share, and so is humour. Artists are looking for funny ways to make complex and often abstract subjects such as privacy issues accessible. It is a compromise they make to keep the audience engaged and ready to participate. One respondent tells us that teaching technology by play is a process they find interesting for its accessible side: “I will add that there is also this accessible playfulness that is important and will be part of the experience.”

Indeed, playfulness is a way of putting the body at the center of the conversation. In other words, playing turns information into a pedagogical process that enables embodied knowledge. One artist explains that when she worked with children, playing was the trigger for them to understand how A.I. works. This artist developed a workshop to teach children about algorithms. The whole process of creating this game was based on collective decision-making: “We painted mobile chairs, and then they played it. And playing it, I think that is where it clicked, really understanding what it means.” The artist guided the children to reflect together on various aspects of algorithms. She set up a space in the school garden as a social network. Then, to enter the space and before playing, the children had to think about how they wanted to design it: “Is it a forum, does everyone have to identify themselves to enter, can you earn money, is it anonymous, are there comments or not, does it stay there forever?” Play is therefore useful for understanding how

technology works. It is a way of making technologies accessible through metaphors and humour. But games are also rules with which participants play and develop engaged relationships.

In this section, findings show that (post)digital artists challenge the evolution of technology by contributing to open access to tools (open source), open conversations, avoiding another black box, and creating a playful experience which can give meaning to abstract dynamics between the digital and the physical, such as the privacy one. The next section describes how their creative practices are subverting the evolution of technology.

B. Subverting

Results in this section discuss three ways in which artists subvert: by creating rules, and alternative languages and by challenging the status quo. Also, artists underline the paradox for the public to support this current techno-optimist evolution of technology as well as their default settings. This situation is what some respondents describe as the *status quo*. As one respondent described: “There was no insistence because the project was monetized and capitalized and censored and manipulated and altered in a way that promoted certain people’s interests”. Driven by purely economic interests, the design of technologies not only puts users on the back foot but forces them to resign themselves to the opacity of the situation. For artists, subverting represents a crucial point to regain empowerment and stop letting ourselves be manipulated and dictated to by tech industries’ interests. The *Subverting* theme is inspired by the *CredTures* framework (2023), which defined it as: « fundamentally involving power shifts ». This section shows that for some artists, challenging the evolution of technology often implies subversion.

Alternative languages

The previous section showed that the digital space has become so opaque that artists are constantly confronted with it. One respondent also mentioned that this has an influence on our behaviour: “The space, the online space, the digital public space, that is not public at all. That changed our behaviour, that got darker too.” In this sense, (post)digital artists wish to escape and contribute to form alternative digital spaces.

One way of subverting this top-down pressure is to develop alternative tools and languages. There is not a clear definition of alternative languages, but in general, respondents described alternative technology as a technology that is not created and spread in society through top-down means of power (either by big tech or by government). It is most often open source and can take the form of software, mobile applications, social media, games, or interactive experiences.

As one of the respondents points out, technologies influence not only our behaviour but also our language: “Suddenly our language itself is sort of shaped by the tools we use because otherwise, the AI can’t understand it.” He tells us that the design of a tool influences who uses it and when. He compares it to a hammer, with the difference that digital is a virtual tool that represents important considerations:

“When a [digital] system is perfect, works perfectly, it ceases to exist. At least for a user, right?”. One of the things he adds is that the design of a digital tool is developed in such a way that the user forgets that it even exists, and what it contains: “You don’t think there is a system anymore, even though the system is designed and has inherent biases.” These inherent biases are at the heart of data mining policies and economic profit for tech industries developers. One respondent puts it in these words: “The web is a big shop. It’s not open. The open web is dead.”

Additionally, one respondent expressed the feeling of being surpassed by large language models (LLM), which undergo the same process. One respondent puts it as follows: “All these large language models, all these things, it is so complex. You don’t get it. You don’t exactly understand the algorithm you are confronted with”. Another respondent remained highly critical: “Big question mark about AI. We get emotionally dependent on AI. We are talking with sort of mirrors of ourselves”. Indeed, for this respondent, as things stand, technological advances tend to develop a design that makes us forget the latter. And, by the same token, forget that this mirror is nothing more than a tinted window serving as a tool for economic profit and surveillance that threatens our privacy and democracy. Furthermore, our self-image, and even self-esteem, are increasingly dependent on and are made through this mirror. As one respondent added: “We are intimately susceptible to its updates.” For (post)digital artists, working with alternative languages means asking what happens to us if we alter the design and parameters of this digital *mirror*.

Finally, these individual issues become social as the changes may favour certain visions and values (magnification) and diminish others (narrowing). Developers are incentivized to develop the economic potential of the tool, often through data and targeted advertising. The problem arises when they do so without the user’s authorization or knowledge. Moreover, Richards (2022) notes that if they were to warn users, they wouldn’t be able to get their agreement, as their practice would be often considered “creepy”. Hence the importance for (post)digital artists to develop an alternative language that can steer us to ourselves and the world around us in a direction other than the current technological status quo. In the next section, we describe this very status quo, which artists are trying to bring to the surface.

Status quo

As already explained, one of the aims is to open conversations and propose a new language. Instead of the techno-optimism propagated by those who hold the power and the keys to technology progress, (post)digital artists have a perspective on the status quo that links social impact to conceptual choices. Social impact in the sense that the status quo has direct consequences on the way we engage with technology every day, and conceptual, insofar as the technical aspects, especially the design of the “default settings” are at stake.

Indeed, for many respondents, the status quo in technology is embedded in the “default” parameters. As one artist expressed: “Somehow your behaviour is influenced by the way a product is designed”. A

respondent approached the status quo as he compared addiction to digital tools with addiction to games. With his background in game design, he points out that game design is often tailored to make the user dependent on it: “There are no obstacles between you and your goal that you want to achieve. But that also means that there is a lot of defaults [settings]”. For the respondent, it is problematic because developers benefit economically from the addictive behaviour of the default settings. As Hartzog (2018) would put it: “Default settings are the blueprint of the design.” In a gaming context, players are encouraged to return to the platform. They progressively lose their agency by adopting the technology default settings, which are put in place to increase their profits (Hartzog, 2018).

Another respondent remains highly critical of this status quo: “In a capitalistic system, you see as well that the incentives are in the wrong places.” The status quo is mostly founded on these default settings that are designed to increase users’ willingness to share their data, to expose themselves to targeted advertising, and above all to influence their behaviour and autonomy. Instead, the respondent proposes to develop incentives that are aligned with our human needs. Therefore, for most artists, the status quo can be described as the perpetuation of the asymmetry of information and power between users and what big tech's “black box” design does. However, the findings show that (post)digital artists propose many ways to counteract this status quo and become aware of default settings. Another way to do so is to play with the rules.

Play as Rules

What do we mean by play as rules? For respondents, rules are about transforming the experience from an economically efficient one. Above all, a respondent explained that the rules are put in place to help change the participant’s experience and facilitate the integration of the meaning of complex subjects. Here, one can see how the two dimensions of play -accessibility and rules- are strongly linked. As one respondent explained, (post)digital artists design the rules to guide the experience: “This is a way of guiding a person through a complicated topic and letting them experience it.” The respondent added that: “then [the audience] can reflect on their own choices of behaviour that were, of course, influenced by me.” Rules are thus a way of guiding the reflexivity of the experience. This makes it clear that this is not another top-down approach to the experience of technology, but rather a set of rules designed to make the participant reflect on their interaction with the technology. Another aspect of play is its spatial dimension. As one respondent puts it: “Play is, for me, a lot about a safe environment to experiment.” Indeed, play is an experimental space, a kind of safe laboratory for both artists and participants. Another respondent acknowledges that play influences the audience to: “feel more open to experiment, to try things that they wouldn't otherwise do.”

To sum up, the relation between play and (post)digital artists creates a playful, accessible context based on metaphors and humour to encourage the participant to experiment and reflect in a free and safe way. The more immersive the game, the stronger the reflection. The participant is embodying the rules and thus the knowledge to know how to subvert the rules in return. One respondent explained that changing the rules

changes the participant's relationship to the experience: "If you give the person another goal, then they interpret the rules in a very different way. And then some rules become more important than others." As a result, participants integrate and reject the rules in a way that puts their interests first. It is a way of giving, agency and autonomy to the audience. What's more, play designs the experience as a safe environment for participants in the sense that everyone has access to all the rules, so there should not be asymmetries of information or hidden goals. The experience is a caring one, insofar as the artists are motivated to share and create a participative experience of technology.

So far, placing participants in a gaming situation enables them to acquire autonomy through play and to understand these limits by confronting the rules. But play is also a way of designing a user-focused and user-friendly experience, which puts the user's interests first, often in a context they're not used to. As an example, one of the respondents created a "funny" date application, where the participant could know all the data of the fictitious person displayed. The participant could then decide whether to send an application by comparing it with the profile information. Here, the respondent transforms a dating application into a game where, exceptionally, you have access to all the other person's data. He creates a game with an asymmetry of power in favour of the participant, putting them somehow, in the place of tech industries. Therefore, it creates a reflective experience and makes participants realize the privacy dynamics: all the data they collect while participants are using the technology in everyday life.

In this sense, play can be seen from an interesting "privacy" perspective. Play transforms the space into a safe place to the extent that participation in the experience is assured of privacy by the trust developed between artist and participant. As previously mentioned, artists create an experience that allows them to subvert the status quo. In other words, by drawing parallels between the situation and the development of metaphors in a game, (post)digital artists set up a playful experience outside the status quo to challenge technology evolution. For participants to step outside the status quo and take part in the game, they must trust the context presented by the artist. The experience hides a promise: its consequences will remain within these four walls. If this is not the case, the participant is less inclined to join in, not knowing what might happen beyond. Furthermore, the tacit artistic context (installation, workshop, exhibition etc.) helps to develop the bond of trust between artist and participant quickly, enabling the experience to take place. It is in this context, and only in this context, that the participant is ready to use the technologies made available or to take part in a workshop, and then participate in (post)digital artists' experience.

In this third section, I have described that (post)digital artists are challenging the evolution of technology, by opening and subverting the privacy dynamics. They contribute to giving the power back to the participants and hope it can be transformative in their use of technology. Therefore, results show that post-digital art addresses the privacy dynamics on many levels, thus by exploring, changing and challenging the experience of technology. In conclusion, I come back to these findings and then connect them more in-depth with the privacy dynamics. Finally, I provide some limits and future avenues for further research.

V. Conclusion

In this research, on *how (post)digital artists approach technology and privacy in the digital age*, results show that (post)digital artists position themselves in a three-way process: exploring, changing and challenging the evolution of technology. In this sense, the research showed that their approach to technology and privacy consists of a critical exploration, especially, in search of a sensitive experience in the digital age. This three-way process could be described as reinterpreting technology and then developing a political scope. Indeed, results also highlight the importance of designing a human and playful experience, that aims to bridge the gaps between digital issues and the audience. Also, design appears to be a cornerstone element in the process of their creative practice. Indeed, by involving participants and making technology more human and playful, (post)digital artists aim to develop an alternative experience, which enables the audience to reflect on issues such as privacy in the digital age.

Furthermore, this research has shown that none of the artists identified as (post)digital artists. Most identify themselves more by the process of their creative practice than by the result. This situation is curious insofar as, even if they don't define themselves as such, the characteristics of their creative practices described above are in line with the very recent literature on (post)digital art. This research thus contributes not to categorizing them purely academically by the result of their art, but rather to acknowledging the existence of these artists and highlighting the particularities of their creative practice. Nonetheless, this paper offers a description of what (post)digital artists do or aim to achieve – a reinterpretation of technology and a development of a political scope. Finally, this research contributes to academic study insofar as it describes in depth (post)digital artists' creative practice and process while approaching technology and privacy issues in the digital age.

5.1. Connecting (Post)digital Artists' Creative Practice to Privacy Dynamics

I started by showing that, in their explorations, artists see technology primarily as a tool. On the one hand, these (post)digital artists research these tools, often collectively and interdisciplinary. Then, from this critical approach, they imagined new narratives for the future, where their creativity combined with critical research work to help create new experiences. Exploration is thus both a critical (research) and creative (imaginary) process. In this way, they can create a new experience that looks at the human-technology relationship in a different way than in the everyday life status quo. This leads artists to change the way we experience technology, both individually and collectively.

In the second instance, their exploration is aimed at changing the audience's experience of technology. Changes are made in such ways to offer a reflective experience by intersecting two levels: a) the relationship with technologies by proposing another experience; and b) the current use of technologies and the consequences of its evolution as it currently stands for humanity. In this way, artists change the experience of technology by linking their exploration of technology to the desire to challenge its evolution. It is in this sense - first exploring possibilities, then challenging evolution - that the creative process takes

shape. Even if for most of them, this exploration is motivated by the objective of challenging the evolution. Thus, for the post-digital artist, changing the experience makes it possible to connect, to create bridges where our current and daily use separates.

Finally, as mentioned above, this change of experience aims to create bridges. In other words, it enables links to be made between the virtual and the physical, i.e. the consequences and costs of technology on society. In this way, (post)digital artists can reflect and challenge the socio-political issues of the digital age. Their aims are twofold: on the one hand, to open the black box of technology by opening up conversations about the current status quo, and on the other, to subvert it. It is at this stage that they propose a political dimension to the audience. Research has shown that artists think about issues of privacy within the broader picture of our relationship with technology. Indeed, first, they help to open up access to technology. In doing so, they help to reduce the asymmetry of power between the user and the technology designed by the tech industries. They open up the status quo, first by opening up conversations and then by proposing alternatives. These alternatives are intended to offer choices in the face of the opaque technological default settings imposed, which essentially meet economic efficiency objectives. Privacy settings are also part of this approach. In this sense, artists contribute to changing these settings, designing new ones or reporting on the consequences of those in place, both on an individual and collective scale.

Findings have also shown the importance of design. Playfulness and humanness are not to be underestimated in the design of their creative practice, especially when it comes to challenging and subverting. On the one hand, by being confronted with the rules of a game, the participant becomes creative in pushing them to achieve their goals. For artists, play is especially important as a means for the audience to experiment freely (freedom) amid adversity, and as a safe space (protection) that encourages them to surpass themselves, opening up the possibility of looking inward (identity). We recognize here the three human These are three values fundamental to privacy (Richards, 2022).

In this sense, the research shows that games are becoming a means for artists to give audiences greater agentivity in the face of technology, where experimentation and confrontation with the rules enable participants to go through an autonomous process of reflection. This challenges their relationship with technology, both in terms of behaviour and identity. Play becomes a crucial aspect of our relationship with privacy dynamics, in the sense that it allows us to question the influence of the initial status quo on the latter. On the other hand, making the experience more human for artists means developing a design that allows two things: to take a step back from our use (friction) and thus increase the user's autonomy.

Therefore, it is through this three-way approach that (post)digital artists develop the political dimension of their creative practice. In this way, they can address issues of privacy, such as algorithmic surveillance, what lies behind the use of our human information, or the addiction that develops in users' hyperconnectivity. A whole range of design work is thus put in place, proposing alternatives to the design

of the tech industry, developed to influence and manipulate for economic ends. Artists can thus address the consequences of technology on society, as some have argued: its social cost. For example, while today's technological tools allow us to connect with someone virtually, i.e. who isn't physically here, we nevertheless are losing our ability to interact with those immediately around us. It is a gap, the digital hyperconnectivity, that (post)digital artists are addressing and proposing alternatives through their creative practice.

5.2. The Importance of Process: A New Form of Activism for Privacy in the Digital Age?

Does this represent a new form of digital activism for privacy? Well, I have shown that (post)digital artists approach digital privacy issues, such as algorithms, surveillance, data mining and their impact on our everyday lives, through a critical process. The research revealed that the artists' position goes beyond a merely political or activist stance on social issues. For the respondents, privacy is part of an ongoing technological puzzle, which they are not content simply to subvert. Artists aim to democratize the evolution of technology, open up access to it and share its possibilities to propose different designs to those of big tech; as well as develop new alternative languages to empower the public.

While these characteristics are shared by almost all respondents, only three identified themselves as activists. It could have been a surprising result at first, given that they contribute, as this conclusion shows, in some way to challenging the evolution of current technologies dominated by a status quo. However, defining them as activists, meaning defining them by the results of their work, appears therefore reductive. As the research showed, (post)digital artists define themselves more by their creative practice *process* than by the result. This raises the question of whether this is a new form of digital activism. In this sense, post-digital art would differ from its activist origins (hacktivism and tactical media) in that it reflects and proposes alternatives to the short- and long-term - social consequences of the current human-technology relationship. As the research has shown, post-digital artistic practice seeks to get audiences to regain agency and autonomy in their use of technology as well as reflect and raise awareness of the immediate consequences in their lives (data, hyperconnectivity, surveillance).

Finally, contrary to what one might think, especially given the influence of big tech, for (post)digital artists, it seems now more obvious that capitalism puts the brakes on the evolution of technology in the sense that it is oriented strictly towards profit and efficiency. Indeed, this research has shown that technological possibilities abound, encouraging (post)digital artists to confront the black box and share alternative experiences with the public. One might ask, what would the human-technology relationship look like if access was open, if it didn't present a design asymmetrically thought out to ensure profit and perpetuate the status quo about the actual trajectory but rather increasing human sensitivity towards their environment and themselves? This research shows that artists are helping to rethink both, the use and the design of technology. They are helping to create an experience that approaches technology, more playfully and humanely, as an open tool rather than as a black box.

To conclude this point, I would like to emphasize that human beings have always had to fight to obtain and preserve our rights against technological change and the power of those who drive the so-called progress. Just as in the industrial age, workers had to fight to obtain trade unions, and previous generations had to fight to end colonialism or obtain the right to vote and so on. Here, research has shown us that the struggle continues in the digital world, especially for privacy issues, and that (post)digital artists are valuable allies in the construction of a more democratic and human space.

5.3. Limitations and Avenues for Future Research

To start, I would say that one of the main limitations of the research is that all the artists interviewed reside in Europe, and therefore are primarily concerned with European technological issues. Interviews were mainly conducted with resident artists who had exhibited or participated in residencies in the Netherlands. Their perspective is for the most part homogeneous, insofar as all artist's technological level is the same, i.e. they have access to the same tools and face more or less the same limitations in their creative practice. It is not certain that the results would have been similar if we had access to respondents from other parts of the world. As we have seen, the particularity of these artists is the process i.e. a critical exploration of technology, to which they develop a human experience and incorporate a political scope. However, one of the artists interviewed is from India. She emphasizes that the level of technology is not the same everywhere, and therefore does not present the same challenges. For her, it is nearly a "privilege" to be aware of the impact of technology and the issues surrounding data and privacy. By comparing the situation between India and the Netherlands, she puts into perspective the state of technological evolution, which is far from homogeneous throughout the world. This heterogeneity is an aspect that this research did not address, yet it seems to be an important issue for this artist: "That is something I struggle with, to see how issues here are important or issues back home in India. How do you weigh them against the same scale of importance?" This is an important limitation to bear in mind, as this research was carried out in a European technological and social context.

Another limitation of this research lies in its rigour about the concrete techniques deployed by artists in the conception of design. This research does not explain how the artists' coding technically contributes to the creation of open tools, or how they make alternative languages. This is an element that was deliberately omitted from the interviews, to focus instead on the artists' approach vis-à-vis technology and privacy issues in the digital age. Instead of describing the technical relation between artists and technological tools, this research focuses on what aspects artists conceive design to create meaning and convey it to the audience. As one respondent put it: "Design plays a very important role in bridging that gap between technical and non-technical real-world people and real-world applications." At the technical level, design is essential in transforming data into a more human experience of technology.

Therefore, future research could carry out this research in a context other than Europe. For example, we could investigate whether this "new form of activism" is also present elsewhere. If so, it would be

interesting to compare the results for two reasons. First, this will put the results of this research into perspective. Depending on the “standard level” of technology, would their goals or the process still be similar? The second reason is that it could teach us more about the black box around technology. The global dominance of big tech and social media’s worldwide reach could suggest that, by comparing different contexts, we could observe some interconnectivity between research. We might ask whether there are similar concerns between artists in Europe and those in India, and if they are present for the same reasons. Another research could be aimed specifically at the technical level of post-digital art. This could help us to understand how technically they are facing the black box and the status quo: what software they use, how are open source tools different from tech industries etc.

Last but not least, further research could be done on how the audience experiences post-digital art. This would make it bring together both sides, the artists’ goals and their creative practice’s design on one side, and the audience’s experience on the other. Further research could then find out how the artist’s goals and design are received by the audience. If, for example, they succeed in “opening up” the conversation or the utilization of open tools. And if they don’t, researchers could look closer at the reasons why. Thus, future research could be done in three different ways: either by changing the context, (other than Europe), by looking at the technical level (coding and conceptual issues), or by addressing the audience’s experience (if post-digital reflexivity succeeds or not). Therefore, it could contribute to enhancing our understanding of post-digital art.

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CreaTures Framework <https://www.creaturesframework.org>

VII. Appendix

A1. Respondents Overview

	Age	Gender	Education level	Occupation (type of organization they work for)	Labels (found on their web)	International Background	Residencies or Exhibitions (Name and location)
1	24	Male	Master's in Interactive Media Design (Art school)	Artist and Lecturer at KAVK, The Hague	Creative Technologist	Italy	V_2, Rotterdam, NL
2	-	Female	Master's in Graphic Design (Art school)	Artist** (also do conferences)	Techno-critical artist	Russia	IMPAKT, Utrecht, NL
3	-	Female	Master's in Graphic and Media Design (Art school)	Artist (also do conferences)	Independent artist, designer and performer	Germany	Nieuwinstitut, Rotterdam, NL
4	26	Queer	Master's in Interactive Media Design (Art school)	Artist and Lecturer at KAVK, The Hague	Interactive Multimedia Artist	South-Africa	V_2, Rotterdam, NL
5	25	Female	Master's in Interactive Media Design (Design school)	Artist and Design-coding assistant	Post-digital and Interdisciplinary artist	Czech Republic	IMPAKT, Utrecht, NL
6	23	Queer	Master's in Game Design (Art school)	Artist	Playful media artist	Netherlands	V_2, Rotterdam, IMPAKT, Utrecht, NL
7	-	Female	Master's in Graphic Design and Engineering	Creative Director and Curator	Creative designer	Spain	Digital Impact, DDS Barcelona, SP

8	24	Female	Master's in Graphic Design (Art school)	Artist	Graphic Designer, and critical artist	France	IMPAKT, Utrecht, NL
9	-	Female	PhD in Industrial Design	Research designer for ErasmusX, EUR	Multi-disciplinary designer and researcher	India	IMPAKT, Utrecht, NL
10	-	Male	-	Artist	Writer and multimedia artist	Belgium	Privacy Salon, Belgium

*The name of the respondent was not mentioned and was replaced by a number for privacy reasons

** "Artist" put alone means that respondents said that they are full-time artists.

A2. Interview Topic-guide

INTERVIEWEE'S INFORMATION SHEET

- General info: name, age, gender, education, nationality
- Specific info: occupation and career path, number of years as an artist
- + Consent form.

INTRODUCING QUESTIONS

1. To what extent would you describe yourself as a digital artist?
 - multimedia or mixed media artist, graphic designer, engineering
2. When was your first interest in that medium – what was it?
 - Medium's characteristics.
 - Artist' interest.

ARTIST'S POSITION

3. In general, how would you describe your position between arts and politics?
 - Insights on the artist's **position** and **values**.
 - Position in terms of **digital activism** and **social engagement** through digital medium.
4. What would be your main concerns (or position) about our digital society?
 - **Surveillance**: *Intrusive surveillance* (secret services, mass surveillance, etc.) and control techniques concerning governments and corporations, but also between individuals sometimes.
 - **Big data**: data mining, manipulation, protection, and disclosure of personal information issues.
 - **Hyper-connectivity**: any digital social interactions in social media such as sharing content, location, pictures, and videos. + concerns about self-presentation, identity, and belonging in digital culture.
5. What would be your work's main goals and desired impact on the audience?
 - What is at stake, what are you trying to do/show?
 - How would you describe the relationship between the aesthetic and the social commitment of your work?
 - How would you describe the desired impact of your work? Interaction with the audience, participation, raising social awareness, societal transformation, etc.

DIGITAL AMBITION

6. To what extent do you think digital art can play a role in such a context/ambition?
 - In terms of:
 - **Changing meanings** (Embodying, Learning, Imagining)?
 - **Changing connections** (Caring, Organizing, Inspiring)?
 - **Changing powers** (Co-creating, Empowering, Subverting)?

6. In terms of **audience experience**, what do you think digital artwork (immersion, augmented realities, VR, etc.) add?

- What would be digital art *plus-value* compared with organizing conferences or symposia on digital concerns for the public?

- New possibilities, new impact?

7. Regarding privacy issues, how would you describe the contribution of the **digital medium** in terms of social engagement?

- Digital medium **opportunities** and the **potential** to describe broad and more complex topics.

ENDING QUESTION

If we add up everything that's been said about privacy issues,

8. What, in your opinion, are the main privacy **challenges or improvements** to be made to the art world, in a society destined for an increasingly digital future?

- What role do you see artists playing?

- Should artists strengthen the bond with the scientific community? If yes, how?

- How do you see the role of cultural policies or governments in a “better” digital society? And what about the role of democracy and capitalism...?

EXTRA THOUGHTS OR COMMENTS

A3. Code Tree

