

Swiping Dichotomies:

Losing Self-determination to a Digital Gesture—
and How to Gain It Back

An MFA thesis
by Akseli Manner



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Author	Akseli Manner
School	HFBK Hamburg
Department	Graphic Art/Typography/Photography
Class	Digitale Grafik
Supervised by	Prof. Cristoph Knoth Prof. Konrad Renner Dr. Ute kalender



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Born in 1999, Akseli Manner got his first smartphone, a Samsung Galaxy Star Pro S7260, in 2013. Since then, he has owned several iPhones, and now uses an iPhone XS with a worn-out case and shattered screen.



1 Introduction

The planning of this thesis started from two subjective emotional pulls: curiosity and fear. On one hand, I wanted to deal with my own problematic relationship with my smartphone, but on the other, I wanted to invest time in finding out what's up with dating apps. And more specifically: why do we gravitate towards them, even when we think that they are evil'? One could argue that this *curiosity* also stems from my personal trauma, but I thought there is more to it. After all, dating apps are simultaneously a taboo and a laughing matter—a target for many mixed emotions. Me and my friends rest our romantic hopes on them, while simultaneously treating them as a joke. Either way, we talk about them a lot, and use them more than we dare to admit, and that's where their charming paradox lingers.

As I study graphic design, the common ground to study these addictive user experience (UX) patterns and dating apps is easy to pinpoint: it's the act of swiping. "Left or right?", you know the hassle. Tinder's binary navigation principle might be the most famous (and most commonly referred) example of the swiping instance, but actually there's much more to it's cultural depth. In fact, the gesture's impact affects us both in all kinds of apps and even beyond the screens.

Consequently, this study also needed to be stretched outside the technological user experience and interface (UX and UI) contexts, in which the issue is usually dealt with. As a response, we walk through the topic with two main dichotomies. Firstly, the act of swiping is viewed both as a *technological object* and a *cultural object*. This shows the path from the very roots of swiping, at the code level, to the physical everyday practice, which it is today. Now the act of swiping is charged with cultural weight, shaping the way we interact digitally, make decisions, and even form relationships (at least we try).

Secondly, both of these objects' natures are examined through their *tactile essence*, but also through *algorithms' impact*. This is done by viewing swiping as a today's social ritual of touching a smartphone. The thesis states a smartphone as a gadget that enables the apps to manipulate us, and on the flipside, offers focusing on smartphones' tactile dimension as the way out.

Through exploring these tangents, the thesis aims to answer questions like how could I have control on my swiping habits and seeks for solutions for my fading digital self-determination.

Here are a few disclaimers. The thesis focuses specifically on smart-phones and leaves aside tablets and less common touch-screen devices. Also the main focus is in social media applications and dating apps especially on Apple iOS products. This delimitation is due to my extensive personal experience on using these products, and on the other hand, Apple has played a key role in the development of swipe technology. The study of mobile games, while they undeniably often work with swiping, is also excluded as I want to focus on the importance of the phenomenon especially in the context of social media and dating apps.

Lastly before we get to it, this thesis springs from my own anxiety of high screen times and I treat writing this as a tool to deal with it. I suppose the text can also be relatable and, therefore, helpful to its reader. I know that one size doesn't fit everybody, but along with my subjective experiences, this thesis is equipped with a swipeable assortment of objective observations and anecdotes, so you can also treat it as a mini dictionary to the topic of swiping.

2 Technical Object

The Cambridge Dictionary defines that swiping is:

“to move your finger over the screen of a mobile phone or tablet in order to move onto the next page, choose something, etc.”²

This academic definition is rather vague but still worth considering. To find a more technologically precise answer, we can look into the website amazing-algorithms.com, which defines it as:

“a gesture in which a finger or stylus slides across a touchscreen to execute a command or interact with an interface.”³

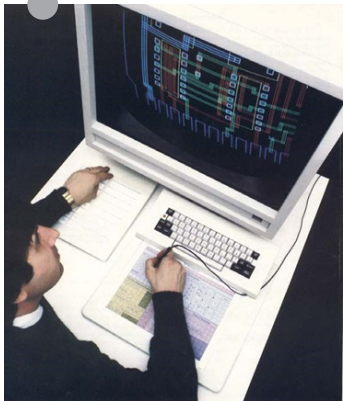
Indeed, swiping both takes care of navigation and assigning actions at the code level, but that is nearly not all that it does—these definitions ignore the user. A cultural definition, which also includes (my)self could be: swiping is a technologically enhanced social ritual that condenses the responses to our thirst for information, need to be entertained and sexual desire into a simple flick. Both a technological and cultural object, swiping is a certain swiss-army-knife of digital navigation.

Now, it does many things: scrolling, shutting windows, browsing sequences of stories, verifying payments, writing, drawing, and searching partners. On the flip side, it's addictive, strains my wrist and produces brain fog, blurring my perception of the surroundings. While it messes with my life on such a large scale, where does it come from? To answer that, we need to look outside of the user interface and even outside of smartphones.

2.1 From Origins to a Daily Practice

In order to register a swipe, a machine needs to be able to track more than one point. When it comes to touchscreen technology, namely its invention, the usual mindset turns to Steve Jobs and the iPhone. However, digital swiping has existed decades earlier—as long as touch screens have been able to read the movements of fingers.⁴

Swiping in its purest and most original form, is dragging something on a surface to leave a mark. For the first time, this act was electrified in the 1970s by an American tech firm, Applicon, which pioneered the study of gesture commands. They were the first ones to craft an electronic CAD tablet where users could draw simple geometric shapes with a stylus.^{5 6}



The original CAD in use

Essentially, this can be seen as the starting point of digital swiping—only, that it wasn't yet done by fingers. The primary user group for CAD was engineers, working with mechanics and circuit board designs⁷—in short, it was a device made by engineers for engineers.

By the 1990s, touch gestures became more common in devices like PenPoint tablets and Palm PDAs. These earlier examples of swiping mostly work with a stylus, but the introduction of the iPhone in 2007 was when fingers came into play. Also the iPhone introduced new types of swiping and pinching gestures.⁸ Although the iPhone

wasn't the first smartphone, it was one that reached a larger audience, therefore also popularizing the swiping act.⁹ Until its release, IBM Simon, released in 1994, and Blackberry 850, released in 1999, were smartphones, primarily developed for the needs of business professionals, and were both operated with a stylus.^{10 11}

In 2024, the most popular smartphone brands worldwide are Apple and Samsung, which dominate the market by a big share. Going down the list, come brands such as Xiaomi, Oppo and Vivo.¹² Regardless of Apple's lead in shipped phones worldwide, the popularity of their iOS operating system is far behind the one of Samsung's: Android.¹³ This is because the operating systems of Xiaomi, Oppo and Vivo are also based on Android, with their own hardware optimisations.

There are differences between these operating systems, but one connecting factor is that they all are swipeable. To gain an understanding of

how many people swipe daily, we can look into several statistics from 2024. First of all, there are 7.21 billion smartphones worldwide, which is theoretically enough to cover 90% of the 8 billion population.¹⁴ China has 974.69 million smartphone users (69% of the country's population), while the US has 276.14 million (80% of the country's population). Since 2017, the average screen time on smartphones in the US has been 2 hours 21 minutes.¹⁵ Assumably other countries get close to this number too. There are no numbers for how much of this screen time consists of swiping, but it must be a big one, considering that the average Tinder user spends 35 minutes daily on the app¹⁶ and the average TikTok user nearly an hour¹⁷.

It's not straightforward to draw a line between the 1970s engineer's niche tool and the global phenomenon swiping has become, but it shows how technology can evolve in surprising ways. I wonder if the engineers at Applicon could have thought that their inventions would so soon be applied to making art¹⁸—or, even funnier, 40 years later, to changing the course of romantic matchmaking.

2.2 Hardware

Smartphones are optimized for swiping. This is evident, for example, in how my iPhone fits pretty comfortably in hand and is practical to carry around. These features are a result of hardware developments made throughout the 90s and into the early 2000s. Compared to early mobile phones, for one, screens have become flat and touchable and batteries are finally powerful enough to keep the device running through the days.^{19 20} Let's take a brief look through how smartphones have developed to the swiping devices they are.

First of all, their screens consist of light-emitting diodes (LED) covered with a thin glass. Most of them use capacitive touch technology, which works as follows: the glass is coated with indium tin oxide or another electrically conducting material. When fingers touch this coat, they draw some of its electricity, lowering the screen's electrostatic field. A sensor grid embedded inside the screen detects this change. Then, the touch-screen controller processes it as a touch command, which is executed by

the phone's central processing unit (CPU). In addition to capacitive technology, other types of touchscreen technology do exist. However, smartphones mostly have capacitive screens for better accuracy and durability since there are no moving mechanical parts that would wear out in stress.²¹

From the touch screen it's natural to proceed to investigate the phone's body. At the spectacular slideshow debut of Apple's first iPhone in 2007, Steve Jobs claimed that: "no one's going to buy a big phone"²². The iPhone was marketed with a promise that it "fits beautifully in the palm of your hand," making it comfortable for calling.²³ The studies on consumer behavior have since proven this claim wrong.²⁴ When iPhone 5 was released, the main feedback from users was that its screen was too small. Consequently, Jobs' hypothesis about the small size of the phone as a market driver wasn't correct. Compared to other phones, the size wasn't its advantage, but its weakness.²⁵ In 2011, as Tim Cook took over as the CEO of Apple, the firm started gradually moving towards larger screens.²⁶

In 2020 Apple gave small phones a second chance by launching the iPhone 12 mini (still boasting a way bigger 5.42 inches screen compared to the first iPhone with a 3.5-inch screen), but it ended up selling poorly and was quickly discontinued. As it turns out, when making a purchase decision, users put other needs before the physical size of the phone. One reason for this is that small screens put more strain on the eyes than larger screens because they require the eyes to work harder to maintain focus and convergence at close distances. Conclusively, it seems like the users value an immersive viewing experience over practical single hand use of the phone.

In retrospect, it's funny to consider the part of Jobs' speech where he established the iPhone as "a widescreen iPod with touch controls, a revolutionary mobile phone and a breakthrough internet communicator".²⁷ The phone, indeed, ended up "revolutionizing" all these aspects, but it had a compromised calling function.²⁸ When you think of a smartphone like the iPhone, it's not very convenient for calling without headphones. In fact, the call feature feels glued-on—holding it against your cheek leaves a smudge on the screen, and to me it feels weird to point the front camera into my ear.

The iPhone was designed primarily as a phone²⁹, but it ended up being more of the two other things he mentioned. Not so much a phone, but rather a revolutionary swiping gadget.

The hardware solutions dictate how the smartphone feels in hand, and thereby lay the foundation of how swiping physically feels. However, the hardware is only half of the technology that makes swiping possible. The rest is embedded into code.

2.3 Code

The functions of swipeable applications are based on two primary factors: user's gestures and the software that interprets them. This section sheds light on the ways these coding mechanisms generally detect, analyze, and respond to touch inputs. The focus is on smartphones so-called native applications, such as Tinder and TikTok and their frameworks. Please, bear with me—it's not only ones and zeros.

The native mobile applications track both touch events and touch gestures. That means 1) tracking when the user's finger touches the screen, how it moves, and when it leaves, and 2) interpreting the movement data—what path the finger followed, how long the gesture lasted, and what kind of interaction (e.g., swipe, flick, or tap) took place.³⁰

In iOS, native applications use frameworks like UIKit, which is a part of the Xcode environment. UIKit has tools for gesture recognition such as `UISwipeGestureRecognizer`, which allows it to extract specific details from a user's movements, such as direction, speed and touch pressure. These details come from the collection of "granular data points", which refer to very specific data collected from hardware components such as the capacitive touch screen, and the phone's internal gyroscope (which interprets the movement and orientation of the phone). Native applications generally have better access to these hardware level data sources, compared to browser-based libraries (such as the popular Swiper JS library, utilized on websites). This enables for precise touch interactions.^{31 32} In addition, native apps also can be set to handle interruptions during gestures.³³ An example of this could be that an incoming call interrupts the transition to the next TikTok video and

returns you the previous one in the middle of a swipe.

Ultimately, the success of apps like TikTok is based on hiding their code and algorithm logics behind their business secrets and we can only make educated guesses about how their applications work³⁴. It's therefore useful to approach the subject at a more general level, with practical examples. The logic of the swiping mechanism may feel straightforward: mimicking the motion of a finger and the experience of turning a physical page. However, there are many parameters beneath the surface that customize the behavior and appearance of the swiping. These parameters define the different types of swipes: how they look and how they feel.

2.4 Different Swipes

As stated earlier, in order to register a swipe, a device needs to track more than one point. This differentiates swiping from gestures like tapping, for which tracking only one point is usually enough. In addition to these, there are technical differences in the different types of swipes. One way to differentiate these swipe gestures from each other, is to examine if they are path-based or not. In other words, does the precise path the finger moves on the screen matter, or is the gesture about the direction and speed? www.tpgi.com in an article "Is swiping a path-based gesture?" sets the following rules:

- “
- *Path-based gestures are dragging movements where the path is significant.*
 - *Sliding is the same as dragging movement.*
 - *Swiping is either a directional dragging movement where a gesture is recognized after the pointer has moved a minimum distance, or, a directional gesture that's only recognized on the pointer-up event (or both).*
 - *Flicking (aka. Flinging) is a directional gesture that's only recognized on the pointer-up event.*

From these definitions, we can identify two gestures that don't need to be considered any further:

- *Flicking is never a path-based gesture because only the direction is significant, or even specified (notwithstanding things like pressure and acceleration, which are unrelated concerns).*
- *Consequently, flick-swiping is also never a path-based gesture.*³⁵

In this light, swiping can be either path-based or non-path-based, depending on how it's implemented. However, non-path-based actions don't seem to be very common nowadays, probably due to path-based gestures having a more natural and intuitive nature. For instance, the navigation of TikTok (vertical swipe snapping full-screen videos into the view) is actually path-based, even if it's not very remarkable for the overall user experience. Similarly, on Tinder you are able to drag the profile cards across the screen within certain limits, but the gesture's origin is non-path-based. On the other hand, the navigation on map applications is strictly path-based, since they take into account the precise starting point and endpoint of the dragging and move the map accordingly.

Let's consider a concrete example, such as a hypothetical book reader application. In this app you can turn the pages, by swiping the page from the right side of the screen. The key question is: how should the app interpret the user's gesture? Some parameters to consider are:

- **Should you be able to hold the page, while slowly moving the finger sideways**, thereby allowing dragging, or should the page snap back to its initial position if you don't perform the swipe fast enough?
- **How far should the finger move** in order for it to register a swipe? Essentially, this forms the difference between a flick and a swipe. It can be annoying, if the tiniest, accidental flick to the side turns the page.
- **What counts as an acceptable angle for the swipe?** If you swipe horizontally in 90 degrees, that should obviously turn the page. But what degree is then off-angle? If you swipe in 45 degrees, should it count as a page turn or a vertical stroke?

Looking into this example gives a rough idea of what parameters the code behind swipe mechanisms could have. Since this thesis is focused primarily in swiping in the context of social media and dating applications, we can conclude that their swipeable nature was originally non-path-based, but they are increasingly moving to a path-based direction. This means that they were originally designed to be fast-paced and flickable. As drawn from the list by www.tpgi.com, flicking is, indeed, never path-based and this makes a key distinction with other types of swipeable platforms: E-books and map applications are not designed to be fast.

Later on we will learn about the culturally multifaceted nature of the swiping act, but the most important lesson we can learn from this section is that, at the code level, the different swiping gestures are a spectrum.

2.5 Milestones

Some swipes are more famous than others. On surface, they may look the same, but one might be flashy and decorated, filled with emotional weight, whereas the other is subtle and pragmatically navigational, performed almost automatically. Here is a list that goes through some remarkable innovations from the field of smartphone swiping technology. The listed features are divided in two: applications and iOS native navigational features. All the features mark either technological or cultural significance—or both, as these two often walk hand-in-hand. Since the focus is on the pioneers of swiping, the list excludes apps like musical.ly and Youtube. While they are swipeable and inevitably stacked with cultural value, they haven't contributed much to swiping technology.

Applications

1. Tinder (Left or right?)

- **Released:** 2013
- **Swipe function:** Right to accept, left to deny. Also later: up to super-like.
- **Innovation:** Gamification turned profiles into a sort of deck of cards.³⁶ Connected page navigation and decision-making under a single instance.
- **Cultural impact:** The swipeable interface, and ultimately, the word “swiping” became synonymous with dating apps.³⁷ Started universally to accelerate the decision making process on dating apps.³⁸

2. Snapchat (MyStory)

- **Released:** 2013³⁹
- **Swipe function:** The horizontal swipe shifts between the users' personal channels.
- **Innovation:** The stories were only visible for 24 hours.⁴⁰
- **Cultural impact:** The story format came to change the way we consume short-lived content and share casual snapshots.⁴¹ Later, adapted by Instagram and Facebook, who added a rotating 3D effect.

3. Vine (navigation)

- **Lifeline:** 2013–2016⁴²
- **Swipe function:** Vertical swiping through a feed of videos.
- **Innovation:** Immersive and looping short videos.⁴³
- **Cultural impact:** Vine laid the foundation for the success of TikTok, by popularizing the format of short videos.⁴⁴ Left a significant mark on the development of meme culture.⁴⁵

4. Venmo, MobilePay (payment verification)

- **Released:** Early 2010s
- **Swipe function:** “Slide to confirm” or “swipe to pay”. Slide from left to right within the container to verify the payment.
- **Innovation:** Resembles a bank card swipe. Reduces the chance of an accidental payment, compared to a button press.
- **Cultural impact:** This feels like one of the most emotionally loaded swipes you can make. Obviously depending on the personality, but many want to make sure they do it right.

iOS native environment

1. Safari (back and forward)

- **Released:** 2013
- **Swipe function:** Swipe right on the left side of the screen to go to the previous page, swipe left from the right side to go forward to the last screen you returned from.⁴⁶
- **Innovation:** Accelerated forward and backward movement between screens, compared to the back and forward buttons.

2. Slide to unlock

- **Lifeline:** 2007–2016
- **Swipe function:** On the lockscreen, slide the bolt all the way to the right side of the container to unlock the phone. If not slid all the way, the bolt will snap back to its initial position.
- **Innovation:** Unlocks the iPhone lock screen, by mimicking a real-life gesture of dragging a bolt back across a door to unlock it. Later replaced by first Touch ID and then by Face ID.
- **Cultural impact:** A prominent case of “fiddle factor”, which attempts to demystify technology by making it recognisable and thus approachable. The feature was also a subject of a long-running lawsuit against Android.^{47 48}

3. App switcher (swipeable on the iPhones with Face ID)

- **Released:** 2017
- **Swipe function:** The App switcher is opened by sliding up slowly from the bottom. If this action is made in a fast flicking motion, it exits the current app and returns to the home screen. This is the main way of returning to the home screen in iPhones with Face ID (from the iPhone X onwards) that don't have the home button. On App switcher the apps are displayed side-by-side and can be navigated with sideways swipes and force quitted by flicking them upwards.^{49 50}
- **Innovation:** Practical for switching in between recently active apps. On the other hand, also for accessing apps that have been opened earlier, with a small amount of swipes.
- **Cultural impact:** Hard to evaluate, since it's a purely pragmatic improvement.

As can be gathered from these few examples, swiping plays different roles both in the user experience of social media apps and iPhone's native environment: decision-making (Tinder), navigation (Safari, Snapchat, Vine), verification (payment apps), and access control (slide to unlock, app switcher). On the apps side the swiping mechanisms are more about gamification and immersive dimensions, which influence the ways users share and interact with content. On the other hand, the improvements on the iPhone native environment are essentially for navigation and multi-tasking, shaping universally the technological standards of swipeable technology.⁵¹ For example, Google has recently adapted Apple's UIKit components, such as the back-and-forward swipe for its navigation.⁵²

So far, I have painted a picture of swiping as a technological object. We have answered questions, such as where swiping originates, how it works and looks, and in what ways it's applied. Also: how it feels, on a surface level. Now, the remaining questions are: how it affects me and the people around me and how that makes me feel. The cultural object of swiping embeds a web of social and power relations that can't be described in tech lingo (sorry again for that), but needs to be addressed in a slightly different tone.

3 Cultural Object

I worked for a week at my old kindergarten in 2013 as part of my middle school's work experience program. At that time, smartphones were rapidly becoming popular among people of my age, but most of the younger children did not have them. The closest they got to swiping was their habit of spilling lunch soup on the table and licking it off the surface, if I may stretch the concept of swiping this far. Because the kindergarteners couldn't usually access smartphones, they had a huge interest in those gadgets. I had to answer daily questions about my smartphone, like what games it had and if it had a touch screen.

If I mistakenly pulled out my phone in their sight, they would immediately feel entitled to poke it, asking, "Is it a touchscreen? Can I try?" For them, the touch screen seemed synonymous with the liberating feeling of playing Fruit Ninja or Angry Birds. Just touching my phone brought them closer to that dimension, even if only for a brief moment. I thought it was funny at the time, but looking back, it's ironic that I, similarly, used every short break as an opportunity to hide in the bathroom to respond to my friends' snaps.

3.1 Extending Swipe Culture

When examining the cultural significance of swiping, we can ask ourselves what the word brings to mind. For some, it may be the world conquest of iPad kids⁵³ or the flood of negative news making us sad and anxious⁵⁴. However, many will think of *swipe culture*. The term is related to dating, but I think it has potential for describing the cultural nature of common swipeable apps on a larger scale. Since the roots of the term are in UI design, let's start there.

In my view, the cultural significance of swiping poses the challenge of distinguishing the gesture itself (technical function) from the surrounding mediascape and cultural framework. As a matter of fact, the function and the media are inseparable: while the development of swiping technology changes the mechanisms of the applications, swiping is also adjusted to the specific needs of each application. As pointed out in the list of the remarkable

swiping innovations (2.3 Milestones), swiping can be seen on one hand, as one of the features in an application or, on the other hand, a determinant of the overall user experience. The latter option can make an application synonymous with the word “swiping”.

This is what happened to Tinder, whose left-or-right feature gave a whole new meaning to swiping in 2013.⁵⁵ Back then the app’s initially click-based (or tap-based) interface was replaced with the swiping method, allowing for a faster user experience.⁵⁶ The basic promise of this update was that a user is able to make more lifelike, hasty decisions on whom they like or not, judging by their looks. For the first time, page navigation and decision-making were connected under a single swiping instance.⁵⁷ Art imitates life—or how was it? Ironically, as this same simplistic swipe mechanism has spread to other dating applications, the shift has begun to globally reshape the dating scene and the way we view each other.⁵⁸ This is what people refer to as *swipe culture*.

Essentially, we’re talking of a way of approaching people by looking at them. Emphasizing looks over deeper connections, reducing judgments about people to a left-or-right motion. Sherry Turkle, in her book “Alone Together”, argues that technology has enabled us to explore relationships at a distance, offering the illusion of intimacy while avoiding any deeper emotional engagement:

“Technology proposes itself as the architect of our intimacies. These days, it suggests substitutions that put the real on the run... Digital connections may offer the illusion of companionship without the demands of friendship.”⁵⁹

In this case, the way we value others becomes visual, leaving emotional and intellectual connection aside. The personas that we swipe to either reject or accept, and possibly fall in love with, are an illusion. To understand why we become attached to non-existent characters, we can look to Jean Baudrillard’s theory of hyper-reality. In his work *Simulacra and Simula-*

tion he describes how media has the ability to produce experiences that are indistinguishable from reality, and in that way they create a kind of simulation, which he calls hyper-reality:

“Simulation is no longer that of a territory, a referential being, or a substance. It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory—precession of simulacra—that engenders the territory...”⁶⁰

This extended reality can even feel so real that it makes the simulation appear more desirable than the real world.⁶¹ The hyper-reality, that is the online dating world, combined with Turkle’s theory suggests an idea that by swiping, users interact not with the person but with a simulation of the person. It’s constructed through carefully curated photos and a bio. In this way, swiping becomes a process of engaging with “simulacra”, not an authentic person.

Both writers point out the dehumanizing features of modern technology: Turkle by questioning the change in social relations, and Baudrillard by being concerned about the fading perception of reality. When people’s dating profiles become more “real” than the people behind them, it moves dating increasingly to a more superficial direction, and eventually messes with our idea of what we expect of other people and ourselves.

Swipe culture culminates in the concept of “FOBO” which stands for Fear Of a Better Option⁶²; or to put it more traditionally, “grass is always greener on the other side of the fence”. Only that “GIAGOTOSOTF” doesn’t have such a good clang. On dating apps the hyper-reality, puts us in a cycle of chasing for illusions—there may always be a more interesting profile behind the next swipe. There is also evidence that the same cycle is repeated in real life: we’re increasingly more hesitant to commit to long-term relationships, whilst considering other options.⁶³ This constant need to swipe for something better leads to emotional dissatisfaction and also creates de-

cision fatigue⁶⁴—the endless options on certain swipeable apps makes it harder to settle on any choice, which doesn't satisfy the users.

As a matter of fact, the whole social ritual of swiping on these platforms can be summed up in the idea of rejecting the previous in the thirst for new. Social media, short video and dating apps universally support this kind of disposable culture where there is always a more attractive alternative around the corner. In this spirit, Baudrillard's theory on hyper-reality can also be generalized on all these platforms, where representations in the form of curated profiles, pictures, and brief captions replace reality. Think of Instagram—we connect with people we don't know, and get a very reduced, yet glorified image of them. And on the other hand, I occasionally find myself in a loop of communicating with some of my friends only with Reels (Instagram's own version of looping short videos), which promotes a reduced mode of engagement—speaking with them in words of Instagram, about issues related to Instagram. What is happening to our friendship?

Building on this concept, I will extend the term *swipe culture* to cover the themes related to fast and disposable media culture on these platforms. It's practical to condense this cultural nature of swiping into a single term as we move on to observe the phenomenon from other angles. In the same manner, I will collect the apps, such as TikTok, Tinder, Instagram, Snapchat and Facebook under the name of *swipe-cultural apps*.

Lastly, to add to the earlier question about what people think when they use the word *swiping*: the word has started to live outside the phones. In colloquial speech, swiping can mean, for example, the act of lounging on the couch and scrolling through Instagram. With the popularity of Tinder, swiping is also associated with decision-making, also outside of romantic matchmaking. I believe that in speech it's used at most in an ironic tone: "oh, oatmeal again? Swipe left!". Also: "ah, raisins and grated carrots? It's a match!"

3.2 Fear of swiping

Appicon might have been among the first ones to technologically enable digital swiping, but behind the phenomenon is a long tradition of non-digital-swiping and inventing ways to browse information. Consequently, we can say that the swipe gesture did not emerge in a vacuum, but there always was a human need to swipe. For instance, take the bookwheel. This medieval device is a sort of rotating bookcase created by an Italian military engineer Agostino Ramelli in 1558. It allows its user to browse through multiple books in a crosswise manner.⁶⁵ According to the Atlantic, the bookwheel's invention marked an early emergence of *literary restlessness*, further laying the foundation for the need for e-readers and iPads.⁶⁶

In this human need to assort sequences of information, also lies a big contradiction: we not only need swiping, we fear it. What was once drawing in the mud with a finger or a stick later became the bookwheel, and eventually digital swiping. However, the human tendency to organize things with their fingertips has probably never been as widely condemned as swiping is today. In contemporary discourse, smartphones are frequently criticized for their role in fragmenting attention spans and pulling us apart from each other. Matthew B. Crawford, in his work *Attention as a Cultural Problem*, addresses this concern:

"It's hard to open a newspaper or magazine these days without reading a complaint about our fractured mental lives, diminished attention spans, and a widespread sense of distraction... Attention has also become an acute collective problem of modern life — a cultural problem."⁶⁷

This excerpt pictures the current societal discourse on digital media—the same cultural environment where the concepts of doom scrolling⁶⁸ and, the previously mentioned iPad kids were born. In a nutshell, people are scared of excessive swiping, and for a good reason (we will return to the reasons later). Crawford also underlines that attention isn't only an individual

challenge, but also collective, because this overwhelming habitat is created by society.⁶⁹ Now the apps' architecture is designed in manipulative ways to capture and maintain our focus and further commodify it⁷⁰ (also for later!).

To return to the historical perspective, it can be noted that the concerns about the emergence of new technology are not new to our time. As

a matter of fact, every major technological advancement has faced resistance and fear of its potential consequences. For example, In the 15th century the Gutenberg machine was feared to blow up the amount of dangerous heretical ideals.⁷¹ Also, at the turn of the 20th century, electricity was feared to be harmful to health and moral values, among other things because it allowed for a wilder nightlife⁷². Moreover, in the light of recent knowledge, we know that trains don't disrupt cows' milking instincts—this wasn't always the case.⁷³

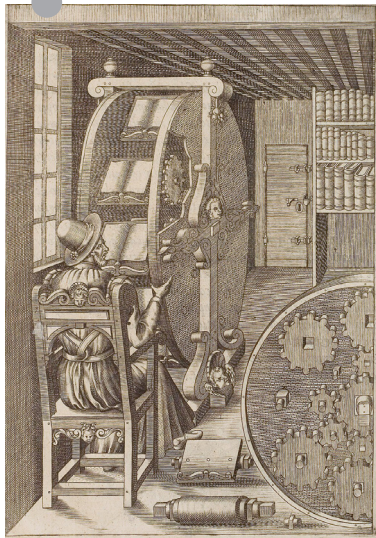
Accordingly, there seems to be a built-in resistance in people for new technologies, and in fact, to everything else that is new. Just look at the support for the

far right and conservative parties across Europe⁷⁴. Similar concerns of technology taking over our minds, indeed, apply to swiping. These fears, as with other new innovations, are rooted in a typical human perception that new innovations may challenge established social structures, cultural values, and sense of control.⁷⁵ This fear casts a fat dark shadow on the word *swiping*, which definitely contributes to its cultural essence.

Smartphones are scary and therefore loaded with cultural affect. In fact, there are countless cultural discourses to grasp. For instance, on the level of hardware: a question of power relations—who can afford a phone?

Who builds it, and at what price? Where are lithium and other raw metals, necessary for manufacturing, mined, and how does this contribute to climate change? On the level of software, for instance, questions of user rights, open-source code and the ethics of porn industry are central. I place this naively simplistic list only to demonstrate the endlessness of the discourse and sort of disclaim that swiping is only one of the issues, yet a very prominent and, therefore, graspable one in our digital native lives. Yikes.

Like Agostino Ramelli and the Italian military forces, I also follow the historical continuum and have the *need to swipe*. Even though I demonize the phenomenon myself, I'm good at justifying to myself why I need swiping. Therefore, swiping and I have a complex relationship: for me, it's a source of convenience, but at the same time, it's an embodiment of modern time's anxieties. While I notice (most) of its flaws, swiping also feels alluring and inescapable. In this thesis, the cultural significance of swiping crystallizes in this contradiction.



4 Tactile Essence

“He [Frodo] shut his eyes and tried to remember the evening, but all that he could recall was the gleam of the gold ring as it lay on the smooth dark surface of the table. It had an unwholesome fascination. It lay on the table, glowing faintly as if with a fire within.”
(*The Fellowship of the Ring*, Book II, Chapter 1: “Many Meetings”)

“But the Ring was upon him. Frodo’s thoughts were drawn to it: his will was lost. His hand moved on its own accord toward the chain about his neck.”
(*The Two Towers*, Book IV, Chapter 1: “The Taming of Sméagol”)

4.1 Haptics

What happens when you remove content from swiping? You are left with touch. But how tactile is swiping, really?

As stated in the introduction, not much has been written about the sense of touch in the field of digitality and social media. While the importance of touch is a huge discourse in the history of art research, it has not been extended much to smartphones in art context. Instead, when talking about touch in the context of digital devices, the research is commonly centered around the technological viewpoint and something called “haptics”. This term originally derives from the Greek word “haptesthai”, which translates “to touch”.⁷⁶ In tech lingo it means transmitting and understanding information through the sense of touch, and interfaces that have tactile sensation to them.^{77 78}

In the case of smartphones, “haptics” includes, for example, vibration and pulse effects that simulate physical sensations. These haptic features appeal to different senses, often working together with sight and sound to make the devices more immersive and even add to accessibility.⁷⁹ Because of this, I may notice a notification even in a noisy environment. This is due to the haptic vibration, while at the same time, the screen turns on, indicating an incoming message.

However, swiping (at least as the term is understood within swipe culture) doesn't typically involve haptic feedback. The reason for this probably is due to the fluid and frictionless nature of a swipe. To back up this point, Apple's Human Gesture guidelines state that gestures should "enhance the experience of direct manipulation" and "provide users with a sense of immediate feedback." With this, they push the designers to handle gestures in ways that feel natural and intuitive.⁸⁰ In other words, the gesture isn't intended to feel like a friction-heavy physical event, but rather something intuitive and fluid. Consequently, swiping isn't worth enhancing with multisensory interplay, such as vibrations and blinking lights, because that would make it flashier than it needs to be.

As a disclaimer, there still are instances where haptic feedback is linked to swiping. However, I would argue that these examples are not culturally significant to swipe culture, and for example the list of remarkable swipe features (2.3 Milestones) doesn't involve examples with haptic features. That said, apps are increasingly using haptic vibrations in their navigation, which inevitably overlaps with some swiping functions. For example, Tinder on iPhone vibrates when scrolling up a menu to let you know that the top or bottom of the page has been reached⁸¹. This could be viewed as a sort of UX easter egg that adds triggers for sensory stimulation to the app's navigation beyond its primary left-right-swipe function, with an aim for a more engaging user experience.

The non-haptic and frictionless nature of swiping makes it a delicious object of study in relation to other gestures. For example, A 2021 research by Michelle Kramer and colleagues suggests that swiping is actually a better measure for psychological studies, compared to the traditional way of button presses. In the study, they challenged people to play a game called *Airport scanner* in which the idea is to categorize luggage correctly by swiping. The team was focused on two measures: time-to-touch (how long it takes for a person to first touch the screen) and 'time-to-swipe' (how long it takes to complete the swipe once they have touched the screen). Their key discovery was that longer 'time-to-swipe' often led to mistakes, unlike the initial touch

(like with button presses) which gives less insight into decision-making.⁸² Conclusively, it seems likely that the study of user interfaces should be more focused on tracking people's swiping habits in the future.

The disconnection of the swiping gesture from traditional discourse of hapticity centered around button presses, is also one of the reasons why I argue for the relevance of examining the tactile nature of swiping. In addition, it works as an example of why the nature of swiping should be studied in a broader framework of touch, because otherwise the discussion unnecessarily gets limited to the digital user interface. This ignores other aspects that contribute to the tactile experience—one of the most important ones, obviously, being the way you hold the phone.

4.2 Holding a phone

When you stare into the black and cold screen of a shut-off iPhone, you may not necessarily think that the inventor of the gadget was an eccentric hippie. The biography of Steve Jobs states that the man was heavily invested in counter-movements of the 1960s and he admired Eastern spirituality. Consequently, he twisted the Zen Buddhist ideal of minimalism and human-centricity into a commodity, by creating a sleek design language for the Apple products.⁸³ Even if, through this, his ideas of simplicity and spiritualism were commodified, this cultural background casts a different light on the tactile user experience of an iPhone. Jobs wanted to connect it to a mindset that emphasizes human touch as the basis of communality⁸⁴.

The way users physically hold their phones significantly impacts the tactile experience, with different grips affecting comfort and usability. Most typically the swiping gesture is performed with either the thumb or the index finger (left or right depending on handedness). The common one-handed method has the three central fingers supporting the phone on the back and the pinkie (by the way this can be harmful to the pinkie and ache the wrist⁸⁵).⁸⁶ This allows the thumb to move in a wide arc on the screen in a lever-like manner, making use of both joints. Also the thumb can easily move to use the buttons on the side of the phone, and the same with the index

finger on the opposite side. The most common two-handed holding method has the other hand cradled, having a sturdy hold of the phone, while the free hand controls the touchscreen with either an outstretched index finger or a thumb⁸⁷.

In 2013 Steven Hoober carried out a study of people's phone holding habits. He observed people in everyday situations, such as in cafés, at the airport and on public transport, and came to the conclusion that people hold phones in one of the three basic grips:

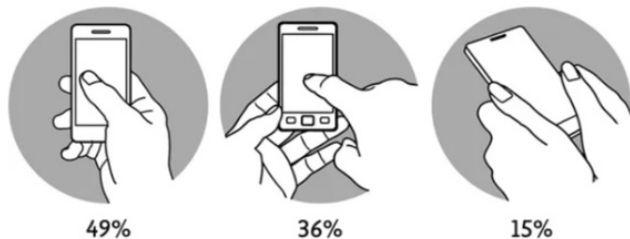
"At 49%, the one-handed grip was most popular; 36% cradled the phone in one hand and jabbed with the finger or thumb of the other; and the remaining 15% adopted the two-handed BlackBerry-prayer posture, tapping away with both thumbs."⁸⁸

The study is already over a decade old and the results would likely be different in the modern day habitat. Nowadays, as smartphones generally are larger and the touch screen covers most of the front side, different

modes of holding the phone are needed for different purposes. Hoober's important conclusion, that can be applied also for today, is that holding a phone isn't a static state, but already 11 years ago,

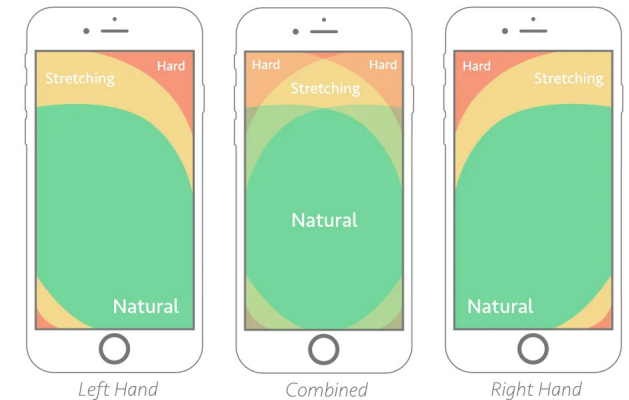
when he carried the research, the users were constantly switching between the different modes of holding; changing even every few seconds.

Conclusively, one-handed grips are efficient for quick, casual interactions, such as typing short messages or repeating a simple swipe on TikTok. On the other hand, the one-handed grip may limit reach and control, especially on larger devices. Two-handed grips provide better stability and precision, ideal for typing longer texts or playing games. Two-handed grip is also of-



ten necessary when operating larger screens. Varying grip positions are due not only to changing situations, applications, but also to the user becoming tired of a simple movement that puts strain on a single finger⁸⁹.

It is also noteworthy that there is an ethos on the internet suggesting that different typing techniques would differ between generations. It boils down to the idea that the digital native zoomers and millennials type more deftly with one hand and a thumb, while older generations poke the screen with their index finger.^{90 91} Speculatively, I can say that there may be a grain of truth in the notion that young people use devices in more casual situations and are generally more adept at controlling them than previous generations. However, in light of the evidence we have gathered, depending on the size of the screen and the current application, all of us, regardless of age, need to switch between different positions frequently. While the app interfaces are designed differently, depending on the primary target (age) group⁹² I haven't found any empirical research showing that young people use their thumbs to swipe more than old people.



Larger screens make the one-handed use of the phone more challenging, especially for reaching corners, which affects the design of user interfaces. Therefore designers must consider thumb reachability zones and the most accessible areas for touch.¹⁴⁹ Also pop-sockets were invented to increase accessibility through a better grip.¹⁵⁰

4.3 Swiping as a prosthesis

Have you bumped into this idea that we're using smartphones so much that they are growing to be extensions of our arms? According to a quick Google search on "phone grows to be a part of body", it seems to be a relatively common rhetoric among tech-savvy news outlets, such as Medium. One of the main arguments Medium uses is that no other device has made such

a cultural impact that we couldn't function without one, and therefore we can't even leave home without it⁹³. In addition, I quite like their metaphor of seeing virtual reality as a sensory entity, which only smartphones allow us to experience. In this way, the Medium article presents the phone as a sensory organ with its own function.⁹⁴ Perhaps this concept could help us understand why I experience sensations of the virtual realm as if they were part of our natural sensory world.

To align the conclusions from this discourse with the topic of my thesis, I would like to go one step deeper to think in what relation the object of swiping (cultural and technological) is to this organ. Because swiping is another technical feature, added to enhance the functionality of the smart phone organ, we could think of it as a prosthesis. To establish a smartphone's connection to our physical body, let's start by considering the ways touching a smartphone affects us neurologically.

Reading some papers on the psychology of haptics, it turns out that repeated touch interactions on smartphones, such as swiping and tapping, are bound to activating the brain's sensory reward systems. This stimulation can strengthen my habits, causing me to grab my phone unconsciously and use it almost in an automated manner.⁹⁵ These habits are formed in stable contexts, which are habitual everyday rituals.⁹⁶ In my case, this points to the habits of checking my phone the first thing in the morning after waking up and always swiping Instagram, while commuting by S-Bahn.

This discovery aligns with certain theories from haptic perception which point that *active exploration*, done through touching, enhances sensory satisfaction in users of a touch screen device.^{97 98} In this context, active exploration means goal-oriented and purposeful fiddling of a gadget. On this basis we can draw that touching a phone is neurologically rewarding in itself. This pleasure is an outcome of the actions producing dopamine bursts, which encourage repeating the act, ultimately reinforcing the previously discussed automated behavioral patterns.⁹⁹ Through this, the smartphone can be seen as an organ, responsible for causing pleasure in my body on a frequent basis.

To then extract what role swiping plays in this procedure, we need to first differentiate its psychological effects from those of other digital gestures. One way to do this is to look again into swipe culture, because it's the culture which best summarizes swiping's nature, and it essentially doesn't involve button pressing or other common gestures. As discussed in *4.1 Haptics*, swiping is different from other major navigational gestures on smartphones due to its fluid and frictionless nature. Therefore the reason why swiping is addictive can't be pointed to the act's hapticity.

Instead, a major feature that makes swiping addictive and practically an automated act, is the logic of *variable rewards*, in which many swipe-cultural apps are built. Variable rewards are infamously present in gambling machines, with the core idea that it's not predictable when you get rewarded next¹⁰⁰. Only that in swiping the reward isn't always as concrete as getting a jackpot on a slot machine. For example, on TikTok the reward is a new stimulating video, jumping into the window, but its actual value to a user is abstract compared to a cash prize. On Tinder, however, the "jackpot" is highlighted in the event of a match. When swiping right, if I get lucky, the screen turns green and my picture is portrayed next to theirs—the dreams could finally come true.

Conclusively we can say that touching a smartphone, in itself, is a pleasurable act, but the pleasantness-enhancing factor in swiping isn't based on the act's tactility or hapticity, but on psychological satisfaction, through the gambling logic. In this light, swiping can be seen as a prosthesis, which enhances the acts of the smartphone organ—in collaboration, they work similarly to other organs (the ones usually found inside the body, covered in blood): by providing sensory input that activates the brain—and in this case, its reward system. This makes the smartphone organ a sort of dopamine tap and the swiping prosthesis its handle, controlling the flow. Due to the dominance of swipe culture, using this part of the body causes excitement and pleasure, but in the long run, it may turn into an addiction, which may eventually drain the dopamine source.¹⁰¹

4.4 Organ Dysfunction

The smartphone organ has its beneficial sides, allowing us to sense virtual reality and accelerating dopamine production in my body, and its actions are enhanced by the swiping prosthesis. What if the prosthesis fails? How does this breakage in the habits affect me?

To swipe intuitively, I need to know my phone like the back of my hand. As we have gathered, swiping is optimized not only to speed up my daily communication tasks, but also to stimulate my brains with content. Both of these fundamentally require that the mobile phone can be handled in as familiar a way as possible. Only then the user experience is smooth and the transition from reality to the virtual is immediate.

Breaking my phone may cause a breakage in the swiping prosthesis. There are different levels of breakage: the edges of the protective glass shatter, the protective glass shatters causing visual harm to the display, the screen breaks down making it difficult to control, the components of the phone break down causing a power cut.

While a switched-off mobile phone prevents you from using it at all, even minor cracks can distract me, making it difficult to see content clearly and causing discomfort during use. Also, a shattered screen can lead to touch sensitivity issues, where parts of the screen no longer respond accurately to touch (in the worst case this causes random click events around the display with bad consequences). This not only slows down navigation but also forces me to change how they interact with their devices, often requiring me to adjust the grip to reach for the responsive areas of the screen. This change disrupts the seamless transition from physical to digital interactions.

On the Apple community site, the user Crystalgems04 struggles with swipe-to-unlocking their recently cracked phone screen (note that this is the unlocking system on newer iPhones which don't have the original slide-to-unlock feature, however the main idea is similar). As a response, they are told that the only way to open their mobile phone again is to repair the screen.¹⁰² Without knowing exactly what state the user's Crystalgems04 screen is in, it would seem ironic if only the bottom edge of the screen was inoperable and therefore the unlock slider there was unusable. In other words, while Apple wanted to make unlocking the screen intuitive and easy by condens-

ing it into a simple swipe-element, if it malfunctions, unlocking isn't possible.

The user experience is also impaired, breaking the digital immersion, if the phone is working slowly. There are many reasons for this, for example if the phone's Random access memory (RAM) or cache is full or about to fill up. A weak internet connection will also slow the swiping experience, forcing the user either to find a faster connection or quit altogether.

While the smartphone organ is designed to bridge the physical and digital worlds seamlessly, a death (or even a mild injury) of the system shows its fragility. Screen damage, battery failures, software glitches, touchscreen malfunctions, connection issues and overheating are all issues breaking the immersion that the smartphone is supposed to offer. These interruptions don't only destroy the enjoyment and utility of smartphones, but also undermine the core promise of these devices. As a whole, there is something rather odd about a sleek modern technology and design showpiece that becomes unusable in the hand. Broken iPhones are not what you are used to seeing in Apple's advertising.

The broken screen of my iPhone doesn't keep me from swiping, but the need is so often so hard that I would even keep pushing under the risk of shattered glass. Because of my automated swiping cycles, I will keep swiping through blood and shattered glass, even if the device is hurting me physically. It seems like the death of the swiping organ wouldn't be the death of me, but I'm not sure how losing it would affect me.

Swiping is a form of touching, but it's not like hugging a friend. Rather something subtle and unconscious, usually performed automatically. This makes the act similar to walking—it's a way of freely roaming around and navigating virtual reality, unless it gets directed by external forces. The biggest threat to this freedom of movement are the traps built into the apps.

5 Algorithm Traps

The earlier question in the beginning of *4.1 Tactile essence* hypothetically asks what happens when the content is taken out of its swiping context. Well, in a way, this isn't a very meaningful question, since without content, there is nothing to swipe. After all, it's easier to imagine the end of the world than the end of the Insta feed¹⁰³.

Regardless, this thesis doesn't delve into the content of the swipeable platforms because it would extend the thesis' scope too much. Therefore, things like trends and memes are excluded. And even while some topics, such as swipe culture, closely deal with the fast paced nature of TikTok videos and curating of dating profiles, they are discussed in an abstract manner, without concrete examples. However, the content on swipe-cultural apps defines the swiping phenomenon so largely that it needs to be addressed in some way. As a response, this following section touches content, focusing on algorithms. So, not content itself, but the way it's managed. And ultimately, how these algorithms are designed to manage me.

5.1 Understanding Attention Ecology

"When you gaze into TikTok, TikTok gazes into you", states a case study from Harvard Business School, pointing how apps like TikTok adjust their algorithms to manipulate user behavior. According to the study, TikTok's algorithm is designed to first capture and then hold user attention by feeding personalized content that feels familiar.¹⁰⁴ This is the way swipe-cultural apps usually aim to turn my attention into profit. A prime example of the tendencies characteristic of the attention economy, which has its roots in the days before smartphones¹⁰⁵. For now, please excuse this minor detour, as we try to picture the economic state, within which we swipe.

The term *attention economy* means commercialization of attention, where it's treated as a scarce commodity that can be bought and sold. This economic model focuses on the commercial value of user attention, with platforms using various strategies, such as personalized algorithms, to maximize engagement and profit.

In contrast, there is a cultural framework, called *attention ecology* (it's easy to confuse the two), which is suitable for the scope of this thesis. In contrast to the attention economy, attention ecology offers a more holistic approach, emphasizing the interactions and relationships between individuals and their environments. It views attention as a key process for sustaining these connections and frames it as a dynamic thing within the intersection of media, technology, and culture.¹⁰⁶ This approach is crucial for understanding how the algorithms affect my personal autonomy.

In his book “The Ecology of Attention”, Yves Citton describes attention as functioning like an ecosystem, influenced by the media we consume, the devices we use, and the social contexts in which we live. In his view, attention isn't a resource, but a renewable process formed in interactions.¹⁰⁷ In contrast, the concept of the attention economy, as described by thinkers like Herbert A. Simon and Michael Goldhaber, frames attention as a limited and valuable resource in the digital age. Simon noted that “a wealth of information creates a poverty of attention,” highlighting the challenge of managing attention in the middle of information overload. Goldhaber further argued that in the digital era, the traditional economic principles of the information economy, where information was the main commodity, are less relevant. Instead, attention has become the most scarce and valuable resource.¹⁰⁸

Whereas attention economy sees attention as a commodity, attention ecology sees that *the real value* (which can be turned into profit in the attention economic framework) is generated in interactions—like in this context, swiping. Therefore, applying the theory of attention ecology gives a better cultural viewpoint to this thesis than attention economy.

5.2 User Data as a Commodity

So, we know that most¹⁰⁹ swipe-cultural apps work according to attention ecological models. How do they do it in practice?

The principles of the attention ecology are a defining factor in the functionality of swipe culture, and therefore the apps are dependent on the scarcity of our attention in several ways. Firstly, they study our interests and

swiping habits to feed the algorithms. In addition to capturing and holding attention, media corporations sell this data, commodifying our attention as preferences, interests, and swiping habits.¹¹⁰ This is an example of the ecological approach, which sees the value in interactions. These behavioral profiles are then sold to advertisers who push customized imagery and links to our screens. As Shoshana Zuboff describes in *The Age of Surveillance Capitalism* this process is a new kind of market that trades in behavioral futures, where companies like Google and Meta profit by predicting and influencing what we will do next.¹¹¹ This market is a direct outcome of treating attention as a scarce resource.

The algorithms on different apps have very different goals that align with their business agenda. Therefore, it's not really meaningful to try to summarize the essence of the different algorithms here, so let's keep using TikTok as a case example. Allegedly, its algorithm has four main goals: 用户价值, 用户价值 (长期), 作者价值, and 平台价值. These the company translates as “user value,” “long-term user value,” “creator value,” and “platform value.”¹¹² These goals are reached by tracking such as what videos a user likes, shares, or comments on, as well as how much time a user spends engaging with different types of content.¹¹³

All of this data helps build a detailed profile of your preferences, which can be sold to advertisers. According to these profiles, advertisers can target specific audiences based on detailed criteria, such as age, location, interests, past behaviors, and even the type of device you are using. This is why you often see ads that hit the bull's eye with your recent searches or interests.¹¹⁴

On top of supporting the operation of applications and algorithms with user data, the platforms like TikTok also harvest what Zuboff calls “behavioral surplus,” the excess data drawn from our online interactions that go beyond the point of which is necessary to maintain the functions of the service. This surplus data is analyzed to create detailed behavioral profiles that can predict user actions and preferences.¹¹⁵ In practice, the different apps also collect data like your device identifiers, including your phone's unique device ID, and the network addresses you connect to.¹¹⁶

An alarming example of surplus data collection comes from 2020, when the controversy about the privacy of clipboard data while using TikTok surfaced. At the time, already the world's most downloaded app turned out to be able to read and store any type of data a user currently had on the clipboard. Concerns intensified by Apple devices' ability to sync clipboard data between a user's different devices, potentially exposing personal information such as passwords. TikTok quickly responded to allegations made by the Telegraph magazine by announcing that it would stop spying on clipboards in the coming weeks. However, the monitoring did not stop, but research shows that TikTok continued to analyze clipboard contents at an accelerating rate, with checks being made every few seconds.¹¹⁷

Also Tinder has shown a tendency to unpredictably collect surplus data by storing a user's location history, which hackers have been able to access by querying Tinder's API.¹¹⁸ In 2020, a report by Norwegian Consumer Council (NCC) found that dating apps, Tinder and Grindr on the forefront, violate numerous EU privacy regulations by sharing information such as users' locations and sexual orientation with third party advertisers. The NCC highlighted the seriousness of the situation by implying that a user's ability to control the availability of their own data was superficial, posing them under a risk of different forms of discrimination and exclusion without even knowing about it.¹¹⁹

In addition to taking over your personal time management, the algorithms' can be harmful in different ways. In 2018, Mark Zuckerberg, the CEO of Facebook (nowadays Meta), decided to change the goal of their algorithm to prioritize social interactions over public posts by news outlets and ads.¹²⁰ This change was due to the discovery that the increasing amount of video content on the platform leads to a more passive user experience, which was harmful for their mental health.^{121 122} Zuckerberg reacted to the app's shrinking user base, by noting that "protecting our community is more important than maximizing our profits."^{123 124} Additionally, he also has claimed that "using social apps to connect with other people can have positive mental health benefits and well-being benefits by helping people feel more con-

nected and less lonely." Now these claims appear awkward, since a recent leak of "Facebook files" showed that Zuckerberg has intentionally hidden the fact that he is aware that Facebook and Instagram are harmful to mental health, and especially among teenage girls.¹²⁵ Although he lied when claiming to view community well-being as an intrinsic value, he was right in saying that the passive consumption media is indeed harmful¹²⁶.

Luckily, there are also recent measures against algorithmic cruelty; most notably the 2021 EU acts: Digital Services Act (DSA) and Digital Markets Act (DMA). A central driving force of these agreements is the need to give smaller digital companies a competitive advantage over the market ecologies of large media corporations.¹²⁷ However, they also have a major impact on an individual user, offering to opt out of certain types of algorithmic processing. (EU) One example of the benefits of these acts is the update to the Facebook feed that allows to sort the content by "Most recent", instead of the obscure default algorithm. However this feature is somewhat awkwardly hidden under a separate "feeds" tab, instead of having the button visible in the opening view, but at least it's there. On top of that, since 2021, both Facebook and Instagram (both operated by Meta) have been featuring a "why am I seeing this?"-option to give more direct answers to the questions regarding the algorithms. Hopefully, these are some milestones on the way to a better algorithmic awareness.

5.3 Dark Patterns

The user deception doesn't end with a sneaky algorithm. The manipulative tendencies of swipe-based cultural apps manifest physically in the form of *dark patterns* (also known as deceptive patterns). As stated in 4.1 *Haptics*, swiping is a natural, intuitive and frictionless act, which makes it easy to fall into a swiping cycle. For that reason, I should always keep on my toes to avoid falling into a trap.

“Oops! You missed a match.”

Tinder has a tendency to charge the user for having lost their focus and making an error. While swiping, if a user mistakenly slips an attractive user’s account to the left, they must pay to rewind the account back into view. This is a carefully calculated model by Tinder, where the lack of attention caused by repeated swiping leads to error and frustration, potentially increasing the user’s propensity to invest in paid subscription—a very concrete example of the user’s lack of attention to being monetized.

This example from Tinder is just a tip of the iceberg of dark patterns, veiled behind business secrecy. The common swipeable applications are packed with similar patterns, with an aim to trick users into investing more of their time, attention or money on the platform.¹²⁸ The concept of dark patterns is rather vague and unscientific. Although there are lists on the internet that categorize its different types¹²⁹, the apps we use try to lead us in so many ways that their boundaries are blurred. What kind of guidance is useful to us and when is our online presence exploited? Media content based apps are also ephemeral in the sense that the secret algorithms are in control of the UX, which has evolved to maximize engagement and profit.¹³⁰ Therefore, it’s challenging to pinpoint exactly when a design choice crosses the line into manipulation.

For instance, a feature such as Youtube’s video recommendation is a double-edged sword. On one hand, it studies your preferences¹³¹ and makes sure that you always have interesting, entertaining and, sometimes, even educational videos in line. On the other, the autoplay features, unless you disable them, push new videos endlessly, promoting a prolonged viewing session. When the timer starts to count down from 5 seconds, marking the end of the previous video, you don’t have time to consider whether to swipe up from the bottom of the screen, to kill the app, before the next one already starts playing.

On short video platforms that are navigated by swiping, there is a similar trick to Youtube’s autoplay, guiding user behavior is the so-called

infinite scroll, which, you guessed it, pushes an infinite amount of content into view as you keep going. This is a common type of dark pattern, playfully referred to as “roach motel”. The point is that, while it’s easy to enter the application, leaving it’s made hard—thus promoting forced continuity.¹³²

This repetitive principle is, in fact, characteristic to the swipe culture as a whole: the user becomes numb to what is currently visible and instinctively seeks for more. This is also closely related to the earlier discussed variable rewards logic. For example, similarly to YouTube, TikTok doesn’t even give you a chance to get bored, but after finishing one video, the platform immediately offers more stimulating content. To emphasize the urgency, the video below bounces twice by a few dozen pixels into view, inviting you to scroll upwards.

Matthew B. Crawford describes how the “intensification of nervous stimulation” brought by modern technology limits people’s ability to direct their attention where they please. This often leads to the crisis of self-ownership while people can’t be present in simple activities such as family meetings.¹³³ Yves Citton echoes this point by highlighting how our collective attentional capacities are shaped by the media we consume: “It’s the media that decides to what we pay our attention (or not)”.¹³⁴ Both imply that the media has the power to direct our attention in the directions they want, when it suits them best.

Conclusively, these apps do more than just show us content they know we will like—they manipulate our behaviors and preferences to align with their commercial goals, by showing us imagery they want us to like. As my friend Vilppu Rantanen aptly put it:

“one day the big social media corporations will be treated as cigarette companies are today”.

Indeed, the way they first hook us up and then keep us in the endless loop of swiping is nasty. Chronic brain fog can complicate life as much as a smoker’s cough.

6 Reclaiming Agency

“Surveillance capitalism’s operations [are] a challenge to the elemental right to the future tense, which accounts for the individual’s ability to imagine, intend, promise, and construct a future. It is an essential condition of free will and, more poignantly, of the inner resources from which we draw the will to will.” (Shoshana Zuboff, *The Age of Surveillance Capitalism*, p. 21)

6.1 Swiping Cyborg

This thesis presents swiping as a matter of two dichotomies. Firstly, it’s both a technological and a cultural object. Secondly, its nastier side is exposed in a dichotomy which juxtaposes both the tactile and algorithmic tricks as a web of user deception. Now, having read about them, it feels that I hardly see any point in using swipe-cultural apps anymore and I would even consider letting my phone go. But actually, these options don’t feel so meaningful to me. After all, I still see value in swiping (remember, according to the ideas expressed in 3.2 *Fear of swiping*: I need to swipe). My friends are there and I don’t want to miss out. Also my profession requires a certain presence on social media. Overall, sacrificing the phone, thereby paralyzing an organ, is a step I’m not ready to make. I’m left questioning: are there ways to make the experience healthier for me? How could I have a better control on what I’m doing? And even: who am I in this digital space—a product of algorithmic manipulation or, still, a real person that is able to define themselves autonomously?

Some clarity to these questions could be found through picturing my digital self as a cyborg. Like I do, this 80s sci-fi archetype has technological components replacing organs and sticking out of the body. Donna Haraway in her text *A Cyborg Manifesto* defines the cyborg as a hybrid entity that blends the organic with the technological. She argues that “we’re all chimeras, theorized and fabricated hybrids of machine and organism.”¹³⁵ With this, she highlights today’s inseparability of human beings and the machines they make. The text is written in 1985, but the described phenomena have kept accumulating until today. In the current state, the technical and organic are increasingly mixed, especially with the rise of cybernetics (for example Elon Musk’s Neuralink¹³⁶), but more tangibly, it’s evident in our relationship with smartphones, which now are our bodily extensions.

Additionally, Haraway points that this blurring of boundaries has gone to a point that cultural and even scientific frameworks recognise this blended existence:

“there is no fundamental, ontological separation in our formal knowledge of machine and organism, of technical and organic.”

Consequently, the whole concept of human moves to the direction of a technological being. With each swipe, that I decide to either engage or disengage with the swipe-cultural simulacra, I’m increasingly transforming real-life people into technological beings which consist of images, bios, and an absurd amount of surplus metadata, out of my reach. In other words, physical gestures turn into *content* and this makes swiping an embodiment of cyborgian hybridity. Now we’re dependent of the technology, but also the other way around:

“One consequence is that our sense of connection to our tools is heightened... Perhaps paraplegics and other severely handicapped people can (and sometimes do) have the most intense experiences of complex hybridization with other communication devices... Why should our bodies end at the skin, or include at best other beings encapsulated by skin? ... For us, in imagination and in other practice, machines can be prosthetic devices, intimate components, friendly selves.”¹³⁷

Without the technology, the swipe means nothing, and without the human touch, the machine is useless. So having a smartphone organ, enhanced with a swiping prosthesis, makes me a cyborg. Neat. What am I capable of?

The swiping cyborg has a certain degree of autonomy in choosing what they engage with and how they present themselves, but this is partly limited by dark patterns and algorithmic tricks. And, indeed, as long as I’m not completely consumed by scroll and decision fatigue, and directed by dark patterns and conditioned to automated habitual patterns, I can make

decisions such as: who I want to engage with, what sites and apps I want to use, and what posts to like. But then again, the invisible architecture on swipe-cultural apps aims to exhaust my self-determination. Seemingly, I can swipe, like and reject as I wish, but all these decisions are heavily shaped by manipulative algorithms. How could I liberate myself from them?

Luckily, Haraway’s cyborg isn’t a passive entity:

“The cyborg is a kind of disassembled and reassembled, postmodern collective and personal self. This is the self feminists must code.”

The cyborg has a cool ability to question and rework their identity, even under oppression. And this is the mentality I should adopt in order to understand my relationship with swiping. By questioning the influence that the platforms have on me, I’m, perhaps, able to reclaim some control over my digital self. But due to the algorithm traps, it’s not very easy.

As a solution, we could turn to what swiping fundamentally is: touching. Even Aristotle argued that touching is our most important sense for survival, because it’s our primary way of perceiving the world around us and interacting with it¹³⁸. Even if swiping isn’t like regular touching, given its automated nature, it still is the way we approach smartphones: slide-to-unlock, swipe to open an app, swipe the app. Touching promotes closeness and warmth in contrast to the cold world of technology.

6.2 Tactile Liberation

To learn about the risks of excessive phone usage and how to avoid it, we can read various lists on the internet. They provide some solutions against mindless swiping: create phone-free zones, set time limits, turn off notifications et cetera.¹³⁹ Or in terms of dating apps: ask yourself if you really have the energy for dates, replace distraction and find alternative ways of meeting people.¹⁴⁰ However, these lists are concentrated on how to avoid the phone. But once the phone is my bodily extension, it’s hard to avoid it. Moreover, avoiding it doesn’t align with my need to swipe.

Once the swiping is my prosthesis—a bodily expansion, I should also treat it as one. Let me elaborate: the goal for my legs is to reach physical destinations, without me having to think actively how to move them. The same no-brainer logic is universal to my body: I can grab the desired object with my hands and my fingers know what to do. Now I would like to get this same level of intentionality to my swiping. One problem with swiping is that the goal is often unclear. When I just habitually grab my phone, not having a task in mind, I'm most vulnerable to dark patterns and algorithm games. Due to the natural, intuitive and frictionless nature of swiping, my swiping will know how to maneuver, and therefore I often find myself in unpleasant places. Now I should learn to turn this intuitive way of moving into my strength.

To gain a better consciousness of my swiping choices, I propose to bring the focus on the sense of touch. According to Aristotle's book "De Anima", our skin senses hotness and coldness and with these animals know to look for nourishment and dodge danger.¹⁴¹ For instance, take the star-nosed mole. This mighty creature may be blind, but its star-shaped nose is so sensitive for touch that it creates an image of the surroundings. This super-sense is great for hunting for earthworms (a mole's great nourishment).¹⁴² With its tactile sense it also quickly escapes from predators (a definite danger).

This is exactly the type of skill set I need to support my smartphone use: I deserve to contact my friends regularly, read daily news articles and even swipe reels (nourishment), but on the other hand, I need to look out for passive watching of videos and extended swiping cycles (danger). How is this done, you may ask. Well, it's like learning to walk again.

There are practices for conscious walking, like the Zen Buddhist mindfulness practice of *Kinhin* (though here, I refer to it purely as an example, removing it from its cultural and spiritual context). *Kinhin* guides people to walk slowly, focusing on the sensation of each step and maintaining balance through a specific posture, which helps for a better awareness of the body and surroundings. The sensation of touch is central in this practice, since the focus is in the way your feet connect with the ground.¹⁴³ In addition to *Kinhin*, there are other meditational walking methods, like sensory and body

awareness walking, which aim for a better connection with the environment, by shifting the focus between soles and auditive and visual observations.¹⁴⁴

Similarly to these, there could be a conscious swiping practice, which could go something like follows:

When I realize that I'm falling to a swiping loop (or have already fallen), I should stop and ask myself the following questions:

- Is the swipe fast or slow?
- Is it path-based or not?
- How long is the touch?
- Is it emotionally charged?
- Is there another way I could take?

I should also focus on how the phone feels in my hand. The feeling of touch could be a reminder of my own physical presence.

- Is the screen broken or intact?
- Is it clean or smudgy?
- How is my pinky situated and does it ache my wrist?
- Does the phone feel good right now or does it already burn in my palm?

And most importantly:

- Am I swiping with a goal in mind, or am I lost in the action?

In this way, I can let my fingers intuitively guide me through the virtual spaces, while still retaining the agency, at least for most of the time. Also, I get more aware of the possible traps and I could make the decision if I want to engage or disengage with them. Sometimes it's also good to set the auto-pilot on. Regardless, like the star-nosed mole, I will sense the danger when it's present, and will know how to escape it.

Considering myself a rebellious swiping cyborg, combined with a practice of mindful swiping, I'm now equipped with tools for having a clearer digital self-image and knowing when to stop if needed. In the future, these lessons could hopefully end in a healthier swiping practice. Swiping should be something I can control, rather than something that controls me.

7 Conclusions

7.1 The Tactile Future of Swipe Culture

Right now, many apps like Spotify (music streaming service) and Netflix (service for movies and series) are adapting to the faster TikTok-like-communication style with their new scrollable feeds that contain short snippets of music and videos.¹⁴⁵ It feels like a certain last state of swiping has been reached, since now apps that were born outside of swipe-cultural context, become swipe-cultural. Therefore designers have a responsibility to now utilize the tools of digital gestures for a healthier swipe culture.

As proven in *2.1 From origins to a daily practice*, technology can develop in surprising ways, and therefore it's hard to predict where the swipe culture is actually going. Many of the phenomenon's current problems are widely out of a designer's reach. A designer can't directly affect the apps' hidden architecture, shaped by sneaky algorithms and dark patterns. Instead, it feels like the only way for the companies to actually change their policies is through international unions to set more regulations. While certain steps (as the EU regulations, pointed in *5.2 User data as a commodity*) have been made for more transparent algorithms and awareness on dark patterns is spreading, not enough is being done. Nobody can argue that the swipe-cultural apps would be less addictive and exploitative than they used to be. Rather the opposite.

Even if we can't directly affect the bigger picture decision-making, the chapter *6.1 Swiping cyborg* points out that I'm, as a cyborg, able to resist oppression. So let's think in what ways designers can take action by getting inspired by the mentality of tactile liberation. Here are three principles:

1. Intentional swiping

Swipe culture has accelerated decision-making, especially on dating apps. Therefore we need to consider if this acceleration is actually beneficial for users. Can swiping be endlessly optimized, or is it time to slow down? The swipeable interfaces should support conscious interaction over automated actions. For example Tinder could learn from Hinge on how to slow down the

decision-making process¹⁴⁶. Tinder's left-right-swipe is iconic, but time has passed it by, given how much it has accelerated the decision-making process. One solution would be to put the user first to review the whole profile, until they can make their decision—whether it's then made by swiping or pressing a button. Consequently, the navigation should be automated only in the places where not much emotion is connected to the swiping act. Browsing people's profiles is emotional, and it's weird to do it fast, but scrolling through the settings window should remain quick and intuitive.

2. Healthy haptics

The rising trend of incorporating haptic feedback into swiping gestures has added an extra layer of sensory engagement. However, for a better swipe culture, it's important to make sure that haptics serve other purposes than just adding stimulation. As pointed in *4.3 Swiping as a prosthesis*, touching a smartphone is in itself a psychologically pleasurable act. Haptic features, such as pulses and vibrations, can be seen to further enhance this *fiddle factor*, creating a more immersive and stimulating user experience. The challenge, though, is to prevent haptics from supporting addictive behaviors. In the future, haptic effects should enhance navigation in subtle and playful ways, but they shouldn't contribute to supporting overstimulation and addictive behavior. For instance, haptic feedback shouldn't be tied to quick decision-making processes, as seen on Tinder, or to endless scrolling feeds, like on TikTok and Instagram, but rather to decorate navigation in places, where it's not harmful to a user—or, in contrast, is even helpful.

3. Tactile awareness

Swipe culture is essentially about speed and quick gratification, but what if it wasn't like this? Drawing from *6.2 Tactile liberation*, swiping shouldn't be only about efficiency, but also about connecting the user and the device in a balanced tactile way. Designers could think of ways to enhance ways for users to take breaks and reflect during the moments of emotional significance. For instance, an app could purposefully but subtly remind the user

about the fact that they are touching the phone, rather than trying to hide it. This could be achieved through gentle haptic feedback or visual cues that encourage to pause and think about the physical interaction with the device. In this way, the experience is less about mindless consumption and more about creating a connection between the user and the content they are interacting with.

Apps are increasingly turning swipe-cultural, which is not a problem in itself, but therefore we need to work for a healthier swipe culture. The previously listed changes in app design could potentially encourage a shift in people's priorities—from maximizing engagement at any cost to fostering a healthier relationship between users and their devices. My idea of a better swipe culture is that people still get to use whatever apps they like and as much they want, but they need to be the ones in control.

7.2 Reflection

While writing this thesis, I struggled with describing to people what my perspective on swiping would be, because I was going in so many directions. As stated in the introduction, I wanted to work on my own smartphone relationship, but when I was discussing the topic with other people, everyone seemed to relate to it in some way. Usually people would greet me for a “great and a topical issue”, start telling me about their own habits, often by mimicking the swiping motion with their hands. Keeping in mind that many people would be touched by the topic helped me carry on with writing. I knew that even if my conclusions are not applicable for everyone's situation, this thesis could work at least as a collection of helpful anecdotes.

In the end, there are two juxtaposed themes: the algorithm traps' impact on my digital self-determination and the tactile essence of swiping. The first mentioned closely resembles other existential reflections, commonly found in the field of media art, while the second one feels a bit more like my own—something yet unexplored. But in a way, there isn't one without the other. It feels like I couldn't have pictured the whole essence of swiping without going deeper to its cultural framework, where content needs to be included. And, on the other hand, the physical act of swiping is nowadays so

intertwined with our (mine at least) digital self-image that it was a necessity to address both issues side-by-side. Consequently, the result is a mixture of a little bit of everything. And I think it's cool, since I wanted to gain extensive knowledge of the topic anyway.

With confidence, I can now say that swiping is simultaneously four things: a technological object, a cultural object, a tactile object and a nasty object that tries to trick you. In the future, this is a valid starting point to give to the people who ask for some insight from the world of swiping. The biggest challenge, however, was the specificity of the topic. Answers to the technological and psychological aspects of smartphones and also swiping are largely available on the internet, but it was difficult to combine these lessons, extracting which smartphone characteristics are specific only for swiping. And, on the other hand, how deep should I delve into smartphones and their history to understand which things are relevant for the development of swiping. Is it in a good balance? Some might consider that this thesis starts out slowly, but I personally like having this extensive look into smartphone technology before the real deal.

For research, I needed to refer to various blogs and tech news outlets, and I tried to focus on big ones that I knew from before, such as Medium, the Verge and Wired. Writing about such a contemporary issue causes the challenge that academic studies are not up to date with technology's latest updates. Therefore, when I needed information about a specific technological feature, I needed to rely on a source, which has already covered it. Regardless, I tried to maintain source criticism in the blog posts I have chosen.

Because I needed to borrow some terminology from common smartphone discourses and apply them into swiping—and the other way around—there turned out to be some gaps to fill. Practically, I was responsible for naming things that remained unnamed, and in those spots I think we actually face some unique ideas. Through this we ended up with things such as *swipe-cultural apps*, *need to swipe*, *swiping prosthesis* and *algorithm traps*. Out of these, my favorite one was the extended theme of swipe cul-

ture, which also (kind of) was my original starting point for writing this. It ended up being a really useful term, pointing to the connection between the different apps, regardless that they serve different purposes.

On top of these terms seeing the daylight, now there also is *the mindful swiping practice*, which for one, sure is unique, but its actual level of utility is for you to judge. MFA (master of fine arts) theses on UI (user interface) give some thematic wiggle room, you know. All in all, even if I, at times, struggled to clearly point out the connection between the philosophical questions surrounding algorithms and the tactile study of swiping, I think these new terms mark a good effort.

If I were to continue this research, I would definitely compare these lessons to ones on other fields of digital media art. The essence of immersiveness and the flow-state interest me, and would be interesting to compare in what ways they are treated, for instance in artworks and research about virtual reality (VR). Personally, I see VR artworks often quite artificial, in the way they prioritize visually over stimulating experiences over grounded interactions. While their point may, indeed, be imagining alternative virtual dimensions, I'm more interested in ones that are already existing. And that's part of the reason why I'm currently fixated on studying how smartphones work. An imagined universe, in the form of a VR artwork, can have such a big impact on an individual, but what about exposing features about your own virtual reality, constructed through your daily habits? I would be interested in testing this hypothesis in practice.

7.2 Should I stay on dating apps?

For the very last thing, let's try to answer an important question that originally got this whole thing rolling—and it's in regards to my dating life. In a nutshell, the main problem is in my mindset. Specifically, I view dating as too swiping-centric. In fact, this also applies to many other aspects in my personal life, as an effect caused by my fear of swiping (3.2 *Fear of Swiping*) combined with the swipe-cultural apps' ability to direct my attention into unwanted directions (5.3 *Dark Patterns*). As I mentioned earlier, swiping is

partly an embodiment of our modern anxieties and I notice this adding up to a personal tendency of blaming my screen time for all kinds of personal problems—even those that shouldn't be connected to smartphones. This is due to two things: firstly, me swiping a lot and secondly, demonizing that action and smartphones as a whole, aligning my opinions on it with the societal narrative of smartphones as an antagonist, which “fractures my mental life”¹⁴⁷.

Doing so, I capture myself thinking in a very swiping-centric manner, by stating swiping guilty for several of my personal fears, such as: I don't read enough, I struggle to meet genuine people for dating and I'm not present to my close-ones in real-life situations. I take the easy way out pointing my finger to swiping as if it was my main problem, while these issues are actually way more complex. In this way, I adopt a distorted version of the mentality, which Sherry Turkle calls “tethered self”, suggesting that one's digital habits are an inherent part of their identity.¹⁴⁸ And I indeed tend to take my high screen time as a given personal trait—as something that I can't change about myself, and which I just need to learn to cope with. This leads to me internalizing the twisted idea that there must be a certain amount of swiping in every day.

As a response, I should learn to turn this situation upside down. This means thinking that the reason why I'm not reading books is neither the high screen time, nor the hundreds of reels I swipe through every day. Instead, I should view them as a consequence of not reading more. Also, the reason for not meeting people isn't because I wouldn't know how to balance with the algorithms on Tinder and Hinge. It's because my mindset is too stuck in apps

and instead I should “get out there”. Both are things I'm accustomed to thinking about in a screen-time-centric, albeit unpleasant, light.

And lastly, regardless of my extensive swiping background, I haven't lost the ability to be present for my close-ones. The fear of swiping is learned, and therefore I can also unlearn it. Swipe culture is pervasive, but doesn't have to be the default mode of living. By focusing on things that I enjoy, outside of swiping, there is less need to swipe. To come back to the question, if I should stay on dating apps, the answer is: probably not. I'm beginning to see this swiping-centrism so harmful for myself, that I should cut certain ties to it. Dating is often stressful anyway, and the apps just make it worse. Luckily, dating can (yes!—still) be done without swiping.

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