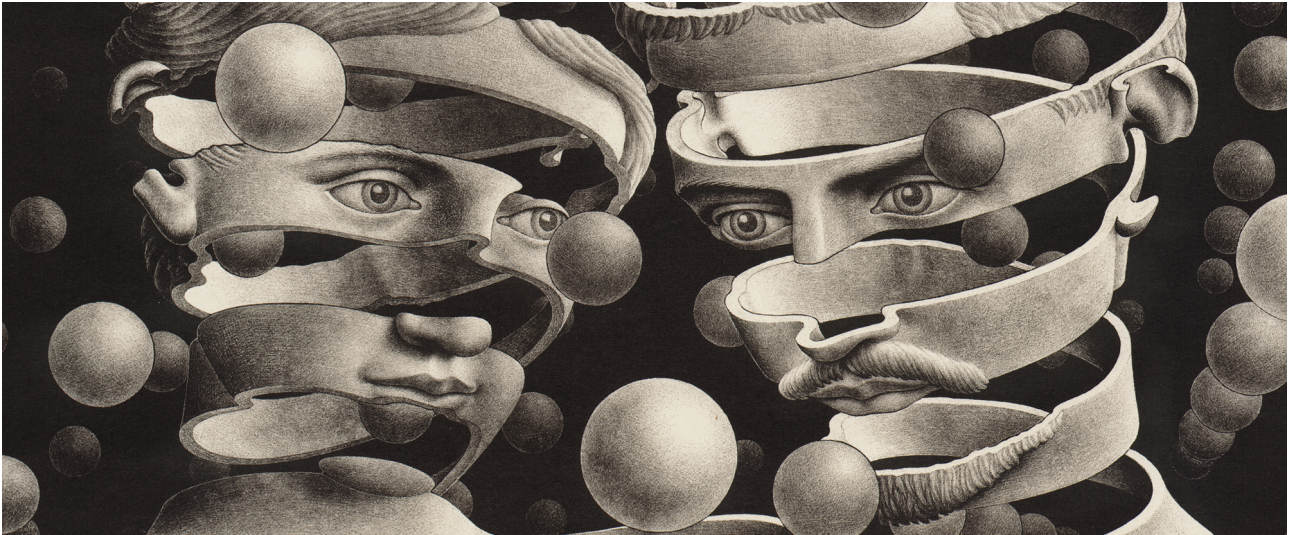


How we attend to our attention

Disconnective smartphone practices and attentional infrastructure within the attention economy



Bond of Union (cropped) (Escher 1956)

Abstract

This research investigates the disconnective practices individuals employ within the attention economy, focusing on strategies to manage distractions caused by constant smartphone connectivity. The study delves into theoretical frameworks surrounding attention, situatedness, and attentional infrastructure. Employing interviews, diary entries, and user-led mobile phone walkthroughs, the research explores how individuals modify their attentional environments to disconnect from smartphones. Findings reveal diverse disconnective strategies, including physical separation, rule establishment and personalized device configurations, underscoring the interdependence between individuals and their attentional environments. Emphasizing the paradox of seeking autonomy while acknowledging dependence on external elements, the study reveals a broad atomization of strategies, finding that individual users are the one's primarily responsible for dealing with the issues of the attention economy. The research proposes a reconceptualization of attention as a form of care, advocating for a shift from individualistic strategies to collective efforts. Offering insights into attention management within the attention economy, this research urges a re-evaluation of attentional practices, emphasizing social arrangements and shared endeavors to navigate contemporary attentional challenges.

Keywords: Attention economy, attentional infrastructure, disconnection, practice theory, smartphones

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A [thesis] dealing with the exhaustion of our attentional resources is a living contradiction: it explains to you why you will not have had time to read it. - Yves Citton

1. Introduction

In our ‘always-on’ societies in the Global North it has become the norm to be constantly connected to the internet, and the rise of the smartphone has made this connectivity more ubiquitous than ever (Nguyen et al. 2022). While smartphones enable us to be connected everywhere all the time – to our friends and our job, to entertainment and information –, a collective awareness of the need to temporarily *disconnect* from our mobile devices is growing (Treré et al. 2020, Treré 2021, Kaun 2021). There is a thriving public discourse on ‘digital detoxing’ and long lists of popular self-help books with titles like *The Power of Off: The Mindful Way to Stay Sane in a Virtual World* (Colier 2016) and *How to Break Up With Your Phone* (Price 2018). Think-tanks like the Center for Humane Technology (Harris 2023) and collectives like The Unplug Collaborative (The Unplug Collaborative 2023) have emerged, trying to make the problem of ‘overconnection’ (Baym et al. 2020) into a public issue.

Meanwhile, individuals are searching for their own everyday strategies to disconnect from their smartphones. These ‘disconnective practices’ can be interpreted as attempts to defy the forces of the attention economy, which try to capture and re-sell individuals’ attention for profit (Wu 2016, Hari 2022). As we will see, the need for disconnection revolves around the management of our attention. In this thesis, I will study how people are trying to disconnect from their smartphones and reclaim their attention from the attention economy. Pivotaly, I will study attention as a product of the interplay between ourselves, our actions, and our surroundings. I will therefore be looking into how people are adapting their environment in ways that enable them to focus more and use their smartphone less. People’s pursuit of disconnection will provide insights into the ways we relate to the external world around us, how we conceive of autonomy within the attention economy, as well as bring to light some of the deeply social qualities of attention.

2. Theoretical Context and Problem Statement

To better understand the practices studied in this thesis I employ a specific theoretical framework, consisting of a three key concepts: 1) the attention economy, and the smartphone as a crucial component of it; 2) attention itself, understood as originating from a situated individual; and 3) the concept of attentional infrastructure, as studied from a practice-theoretical perspective. In what follows I will contextualize and explain these concepts.

2.1 Paying Attention

This study is squarely situated in what is often called the ‘attention economy’. In this section I will explain what I understand by this concept; to what degree it is a new historical development; and in which ways it is merely a continuation of a millennia old process.

Attention is a faculty all humans possess, and almost all conscious human activity requires some form of sustained attention. So, how come our current economy is said to be one that converges around attention specifically, and why do contemporary authors speak of an ‘attention crisis’ (e.g. Crawford 2015, Wu 2016, Citton 2017, Williams 2018, Zuboff 2019, Hari 2022)? The first publication about the attention economy stems from 1971 when psychologist Herbert Simon wrote about how modern communication technology gave rise to an unprecedented increase in information:

[T]he wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention. (Simon, 1971: 40)

In an economy that commodifies information and thereby demands more and more of our attention, attention itself becomes the limiting factor to our production of wealth.¹ This is why Goldhaber (2006) described the attention economy as ‘a system that revolves primarily around paying, receiving, and seeking what is most intrinsically limited and not replaceable by anything else, namely the attention of other human beings’.

Media and tech corporations attempting to capture and re-sell our attention for profit and the resulting commodification of our attention turns out to have negative consequences for people’s wellbeing. One example is internet addiction, which is a growing problem according to the World Health Organization (Bhargava & Velasquez 2021: 321). Research into the negative outcomes of the attention economy focuses on concepts as ‘digital wellbeing’ (Vanden Abeele 2021, Beattie and Daubs 2022, Vanden Abeele et al. 2022, Meier 2022, Nguyen et al. 2022), ‘digital inequality’ (Madden et al. 2017, Scheerder et al. 2019, Gui and Büchi 2021, Hartford and Stein 2022), ‘overuse’ (Gui and Büchi 2021) or ‘overconnection’ (Baym et al. 2020). For this study, I will focus on the negative outcomes relating to our ability to pay attention – to ‘attentional harms’ such as constant distraction, inability to focus and information overload (Hartford and Stein 2022). One simple illustration of such harms is the fact that the mere presence of a smartphone reduces your capacity to pay attention to a task at hand (Ward et al. 2017). From the perspective of users,

¹ See Schüll (2022) and Crogan and Kinsley (2012) for more on the commodifying pressures caused by the combination of the attention economy and ‘everyday liberalism’. Moreover, since it is such an accepted term, I will also be using ‘attention economy’ to refer to this type of societal organization of our attention. However, I do agree with Pedersen et al. (2021) when they argue that it would be more accurate to speak of a ‘political economy of attention’. Following Karl Polanyi, they write that ‘the “production,” “circulation,” and “consumption” of attention are inherently social and political activities. Social scientists must cast a wider net than seeing attention merely as a scarce resource.’ (p. 193)

a significant proportion of the population self-report that they spend too much time on their phones (Deloitte 2018) – the term ‘user’ even taking on a double meaning in this context.

The attention economy not only commodifies attention, it also produces an ‘impoverished subject’ (Terranova 2012: 7), which is why Bernard Stiegler writes about the attention economy as the ‘proletarianization of the life of the mind’ (Stiegler 2010: 21). In the last couple of years scholars have studied how people try to cope with these negative outcomes of the attention economy (Scheerder et al. 2019), looking for example at the concepts of ‘digital detox’ (Hesselberth 2018, Jorge 2019, Syvertsen and Enli 2019, Fast 2021, Karppi et al. 2021, Schwarzenegger and Lohmeier 2021, Radtke et al. 2022, Syvertsen 2022) and ‘disconnective practices’ (Light 2014, Light and Cassidy 2014, Beattie and Cassidy 2021, Mannell and Meese 2022). This thesis will be an extension of these studies, delving into how people are coping with the issues provoked by the attention economy.

But if all conscious human activities require attention by definition, then one can question if this attention economy is indeed a new phenomenon. Throop and Duranti (2015) pose exactly this question and claim that all culture is a matter of managing our collective attention. Taking inspiration from Husserlian phenomenology, they write that we should conceive of ‘the organization and regulation of attention as a key dimension of our cultural existence’ (Throop and Duranti 2015: 1056). In this vein, you could state that the attention economy is as old as human culture itself (Krieken 2020). Attention scholar Yves Citton writes in this regard about the Ancient Greek and Roman rhetoricians who were already occupied with the ‘capturing, and then maintaining, the attention of an audience, whether in a judicial, political or artistic context’ (Citton 2017: 12).

If ‘attention management’ (Paasonen 2016) has been central to our cultures and economies for centuries, then what is new about the current attention economy, and why would our attention be in crisis? What changed in our collective management of attention is the scale and effectiveness at which attention is captured, as well as the financial incentives for the ‘attention merchants’ (Wu 2016) to do so. Attention merchants capture our attention using an attentional ‘evolutionary mismatch’ (Sbarra et al. 2019), similarly to fast food companies:

The media have become masters at packaging stimuli in ways that our brains find irresistible, just as food engineers have become expert in creating hyperpalatable foods by manipulating levels of sugar, fat, and salt. (Crawford 2015: Introduction)

While our attention has always been influenced by our environment, in our current media-saturated world this is taken to a whole new level. Social media algorithms are more engaging and addictive than ever, and in this ‘always-on’ society it is hard to find respite from digital communication technologies (Nguyen 2021, Karsay and Vandenbosch 2021). An important component of this development and the central focus of this study is the smartphone, which in the attention economy has become a ‘weapon of mass distraction’ (Hynes 2021). Distractions have always existed, but ‘[it is] another thing for them to be literally at our fingertips constantly all the time’ (Sacacas 2022b). As people carry their devices with them everywhere they go and smartphones become almost indispensable (Hanin 2020: 397), they become ‘technological

extensions of our bodies' (McLuhan 1964: 5), and we become ever more susceptible to the commercial and political entities that try to benefit from capturing and re-selling our attention (Wu 2016: Chapter 25). In order to better understand how deeply the smartphone and the attention economy shape us and our attention, we will have to engage in some philosophical anthropology, which I will do in the next section.

2.2 Situated Attention

In this section I will use Crawford's work to analyze why our image of the self matters for the ways in which we are able to deal with the issues of the attention economy. But first, I need to define what I mean by 'attention'. Contemporary discussions of attention (Pedersen et al. 2021) often start with William James' famous definition: 'Everyone knows what attention is. It is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought.' (James 1890: 403-404) This definition fits with our earlier observation that attention is a requirement for almost all of our conscious activities. But attention as it will be used in this thesis is something even more fundamental. It is the way in which humans relate to the world around them. Looking at attention from this perspective, it is not surprising that some anthropologists have even called our species *homo attentus* (Seaver 2019). For this study then, humans are conceptualized as inherently attentional beings.

Philosopher of technology Matthew Crawford argues that at least since the advent of modernity, we have not adequately acknowledged this attentional aspect of our human nature. He argues that in order to be able to fully understand the attention economy of the 21st century, we have to trace how our imagination of 'the self' has been formed historically. He claims that the way in which we in the Global North currently imagine the self is poorly suited to deal with the issues of the attention economy.² Crawford writes that our current imagination of the self has its roots in the Enlightenment. Before the Enlightenment it was customary to imagine oneself as fundamentally affected by external forces, such a God, faeries or fate (see for example, Taylor 2007). However, from the advent of modernity, we started to see our selves as autonomous entities, independent from such external forces. We started to conceive of individuals as (ideally) rational and independent. Crawford gives a historical explanation for how this specific self-image emerged: it arose in a context in which one of the central political concerns was the liberation of the individual from arbitrary political authority that was exercised by the absolute monarchs and colonial rulers of the time. In this historical situation, it made sense to imagine an ideal, liberated self as independent: we were striving to be *politically* autonomous, to give ourselves (*auto*) the law (*nomos*).

But according to Crawford, this view of the human condition that originated in the 17th and 18th century is fundamentally misguided, and we have to thoroughly reconsider it if we want

² This study takes place in the Netherlands. Using 'we' in the context of the modern self image and the attention economy, I mean people in the Global North.

to be able to deal with the issues that the attention economy confronts us with. Instead of imagining our selves as independent, autonomous and rational agents, we should understand our selves as fundamentally '*situated*' in a world that is not of our making' (Crawford 2015: Introduction, emphasis in original). This world is a precondition for all our actions, and 'the role of attention [is] bringing the self into a relation of fit to the external world' (Ibid.). Crawford emphasizes three elements of this 'situatedness' of the human condition: 'our embodiment, our deeply social nature, and the fact that we live in a particular historical moment' (Ibid.) From an Enlightenment-liberal point of view, these elements that make up our situatedness are interpreted as 'sources of unfreedom' (Ibid.). They limit us in the same way that the oppression by absolute monarchs limited us in the 17th century. Instead, according to Crawford, we have to turn this logic around. For him, the situatedness forms the 'framing conditions for any worthwhile human performance' (Ibid.). He argues that these situating factors should not be seen as limiting, but as inherently necessary and productive. Acknowledging that our environment conditions us fundamentally – that we will never be independent from it – enables us in this study to better understand what the attention economy does to our attention and how people are dealing with it.

Crawford's philosophical anthropology will aid us in examining how our environment influences our attention. But where Crawford's project is ultimately aimed at finding ways to reclaim some sense of agency, that will not be the purpose of this study, for I believe the attentional issues at hand ask for a more nuanced approach. That is why I want to adopt a linguistic intervention proposed by Didier Debaise and Isabelle Stengers to help us think more clearly about our situated nature. Akin to Crawford, they write that modern individuals 'certainly know that they are dependent – nothing is more dependent than a modern individual – but [they] suffer these dependencies as unfortunately necessary limitations to their freedom' (Debaise and Stengers 2022: 410). They suggest that, instead of imagining human beings as either unfree or free – as either passive objects of actions or active subjects – we should let go of this dual image and instead practice 'a deliberate and attentive use of what linguists call the *middle voice*' (Ibid., my emphasis). Neither the passive nor the active voice is well-suited to speak of our situatedness, of the inherent co-production between a human being on the one hand and its environment on the other. With the middle voice however, we can convey the notion of '[l]etting oneself be touched by, solicited by, affected by, forced to feel and think by, and [recognize] that we have been made capable of this thanks to something other than ourselves' (Ibid.). In the next section I will discuss why the practice-theoretical notion of 'attentional infrastructure' enables us to analyze this co-production of attention.

2.3 The Attentional Environment as an Infrastructure

I will conceptualize the inherent co-production of our attention through the concept of 'attentional infrastructure', as developed by practice theorists Nicolini and Korica (2021). For practice theorists 'social reality is fundamentally made up of practices' (Feldman and Orlikowski 2011:

1242). Practices are the building blocks of reality (Pentzold 2020). Attention, they argue, should be studied as a practice as well. And as a practice, the ways we pay attention are co-produced between actions, actors and the environment in which these actions take place. Similarly to Crawford, these researchers view ‘attention as an embodied, social and situated activity, rather than an intrapsychic phenomenon or a sensory-motor behavior’ (Nicolini and Korica 2021: 1277). Within practice theory, the notion of co-production is also sometimes called a ‘relation of mutual constitution’ (Feldman and Orlikowski 2011: 1242) As we will see, the attentional practices studied in this thesis are all the result of exactly such relations of mutual constitution: what we pay attention to is shaped by our environment, and in turn our environment gets shaped by our ways of attending to it. So, it is possible and arguably beneficial to study attention from a practice-theoretical perspective. In addition to this, I will focus on the concept of attentional infrastructure, because it allows us to bring into view the specific arrangement of practices, artifacts and the larger environment that so profoundly conditions our attention.³

What does infrastructure – something we usually associate with roads or pipes – have to do with attention? Infrastructures can be defined as ‘built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space’ (Larkin 2013: 328). The ‘good’ that flows in the case of attentional infrastructure is, of course, attention itself. It flows from us, to the external world around us, but is also pulled on by things in the world. Attentional infrastructure also shares other significant characteristics with other infrastructures (Star and Ruhleder 1994). Like most infrastructures, attentional infrastructure ‘is mostly opaque’, ‘is composed of mundane elements’, and although it usually supports flow, it also ‘can become an obstruction’ to the flow (Nicolini and Korica 2021: 1274). It is important to note that, like other infrastructures, attentional infrastructures do not just consist of technologies, objects and the relations between them. The processes and practices that people use to deal with attentional issues are just as much part of the make-up of the attentional infrastructure (Gillespie et al. 2018). In other words: attentional infrastructures consist of both ‘technologies of attention’ as well as what Pedersen et al. call ‘techniques of attention’ (Pedersen et al. 2021: 197). In this sense, infrastructure studies and practice theory form a natural fit when it comes to their ontology. As Larkin writes: ‘[Infrastructures] peculiar ontology lies in the facts that they are things and also the relation between things’ (Larkin 2013: 329). So, from both the infrastructural point of view as well as the practice-theoretical perspective, attentional practices are not merely the result of actions by human individuals, but the product of a dispersed process throughout an infrastructural network that facilitates the flow of attention.

It is crucial for this study that we do not understand infrastructures as something static or fixed. Infrastructures ‘are sites where multiple agents meet, engage and produce new worlds’ (Jensen and Morita 2015: 85). In this thesis, the agents I will focus on are the individuals that are trying to disconnect from their smartphone, and I will look at how they (re)shape their personal attentional infrastructure. Yves Citton calls this manipulation of one’s attentional

³ These theoretical perspectives fit well with contemporary developments in the field of philosophy of mind, where one study states – making use of the middle voice – that individuals ‘let their behavior be guided by the practices in the form of life’ (Bruineberg et al. 2019).

environment ‘indirect attentional agency’ (Citton 2019: 2). Indirect, because we often cannot directly control what we pay attention to. He writes: ‘even if I cannot control my attention itself at any single moment, I can, in most circumstances, modify the environment which will condition my attention at some point in the future’ (Ibid.). In a sense we already use this indirect attentional agency all the time, often unconsciously:

[W]hile all of us already do take measures that precondition our future attentional environments within various time-scale[s] (from buying a book at the station before getting on the train to banning professional emails on holydays), it is surprising how rarely and superficially we discuss problems and devise solutions in terms of managing our attentional environments. (Ibid.: 4)

Additionally to infrastructures being emergent systems created by multiple actors, they are also *experimental* systems: while the creation of infrastructures is generally highly planned and controlled, ‘they often generate entities and forms of knowledge planned and foreseen by no one’ (Jensen and Morita 2015: 83). A practice-based view is well-suited to research such a fluid system, since it also emphasizes that all seemingly durable features of our world take productive and reproductive work in order to be maintained (Nicolini 2012: 6). This will prove important for looking at people’s attentional infrastructure which is, as we shall see, in constant flux.

Lastly, I want to point out that however pragmatically oriented practice theory might be, practice theorists still try to take power structures into account (see for example Woodstock (2014) on ‘media resistance’ or The Critical Infrastructure Collective 2022). Practice theory ‘foreground[s] the centrality of interest in all human matters and therefore put[s] emphasis on the importance of power, conflict, and politics as constitutive elements of the social reality we experience’ (Nicolini 2012: 6) This is important, since it enables us to situate people’s personal attentional infrastructure *within* the larger power structure of the attention economy.⁴

2.4 Problem Statement

The aim of this practice-oriented study is to understand how people try to disconnect from their smartphone by modifying one’s attentional environment. Five in-depth interviews about people’s lived experience with their mobile phone and their attempts to manage their phone-use will be used to explore the concept of attentional infrastructure and the way it relates to the larger attention economy, which will be generally defined as a set of ‘practices for activating and regulating attention’ (Nicolini & Korica 2021: 1274).

⁴ An important caveat to my use of the toolset of practice theory, is that it was developed within the organizational sciences, and is mostly used to study management structures within organizations (Ocasio 2011). That is also the site where Nicolini and Korica came up with the concept of attentional infrastructure: they were researching the way healthcare CEO’s managed their attentional environment within the firm. I will be taking these practice-based methods and the idea of attentional infrastructure, and porting them to a more personal and individual context.

My main research question is: how do people actively intervene in the attentional infrastructure in which they find themselves in order to disconnect from their smartphone? To answer that, I will first give an account of the most prominent types of disconnective smartphone practices that I encountered, and discuss their shared characteristics. Afterwards, I will examine more closely how people actually construct their personal attentional infrastructure by looking at their use of experimentation, how they become aware of their attentional infrastructure in the first place, and the struggles that go along with building one's attentional infrastructure. Concluding the thesis, I will reflect on what my observations reveal about some of the larger trends relating to our attention in the current socio-technological conditions.

3. Research Design

Since my research question focuses on individual's attempts to disconnect from their smartphone, the practices that follow from that and the resulting attentional infrastructure, interviews were my main method for collecting material. By having conversations with people, I tried to learn both about people's actual (dis)connective practices as well as about how they felt about them and how they thought these practices influenced their attention.⁵ Four out of the five interviews took place in the participant's home, which helped to contextualize the stories people told about their attentional infrastructure, and it gave the participants the possibility to physically demonstrate the steps they took in order to disconnect from their phone.

Solely using conversational interviews would be unsuited for a practice-based approach. Moreover, self-reporting is known to not be the most reliable method when it comes to gathering data on mobile phone usage (Kaufman 2018: 232), so I enhanced my interviews in two ways in order to arrive at a more nuanced 'crystallization' of the issue at hand (Tracy 2010). First, I asked participants to keep a one-day diary of their (dis)connective practices. For this diary entry, I encouraged them to take photos and screenshots to document their experience. These diary entries could then be used as a jumping off point for the in-person interviews.

Secondly, the interviews were aided by making use of 'user-led mobile phone walkthroughs'. This method synthesizes insights from three innovative qualitative socio-technological research methods: the 'app walkthrough method' (Light et al. 2018), 'the smartphone as snapshot' (Kaufmann 2018) and the 'mobile instant messaging interview' (MIMI) (Kaufmann & Peil 2020). This meant that the participants were encouraged during the interview to use their mobile phone and the ways they have personalized it to illustrate the stories they told me. During the walkthrough, I asked the participants to take screenshots whenever I thought something relevant to the research showed up. In this way I was able to observe the ways in which people set up their phone in unique ways. These observations could bring aspects of their

⁵ Ethnographic observations could have also been a fruitful path for research, but due to practical and time constraints, I chose to focus on interviews.

phone-usage to the forefront that they themselves would not deem worthy of attention, but that were nonetheless of importance to their attentional infrastructure.

Using these user-led phone walkthroughs I was able to observe how people ‘conform their tool to suit their daily activities’ (Tossell et al. 2012: 995), ‘changing affordances according to their own ideas and imagined actions and thus, adapting the devices into highly individual companions for their very own everyday life’ (Kaufmann 2018: 238). In a sense, the smartphones themselves served as a sort of ‘found data’ that enriched the interviews significantly (Kaufmann 2018). Additionally, the presence of the smartphone during our conversations also helped the participants to reflect on their habits and practices. For example, while scrolling through their phone, something on their screen would cue an extra bit of information that had not come to mind otherwise. Conversely, it must be said that smartphones also formed a distraction during the conversations. During most interviews notifications would pop up or calls were received. Sometimes these moments detracted from the interview and would force us to try to circle back to what we had been talking about. However, more often than not these (unwanted) notifications served as useful catalysts for our conversation about their actual smartphone practices.

The interviews resulted in five transcribed interviews that were all about an hour in length. Using Atlas.ti I coded the transcripts thematically. First, I used in-vivo codes and stayed close to the original material, while moving to more abstract codes and theoretical concepts in subsequent coding rounds. Ultimately, I ended up with a coding tree that structured the citations in broad analytical concepts like ‘awareness’, ‘situatedness’ and ‘strategies for disconnection’.

The aim of my particular combination of interview methods was to increase the internal validity of the research. Since the sample size is small and the spectrum of motivations and coping strategies large, external validity and generalization are likely weak points of this study. In reality not all methodological interventions proved successful: it turned out that only two out of the five participants actually wrote diary entries beforehand. In those cases the diaries gave me the opportunity to bring up some important strategies that had not come up during the interview itself but were mentioned in the diary entries.

The sampling for this study was principally guided by the theoretical framework. The aim was not to find a representative sample of a specific population, but to locate paradigmatic cases (Flyvbjerg 2006: 230) that could teach me something new about attentional infrastructure and disconnective practices. My initial strategy was to find people who use or have used meditation apps on their phones (Bruder 2022, Jablonsky 2022), as to select for people who both used their phones for more than the mere basics as well as were somewhat aware of their attentional habits. On top of this first selection criterion, I kept an eye out in my social networks for people who might be of particular interest for the research. This contributed to my sample being fairly homogeneous (most participants were white, around 25 to 35 years old and academically educated). In this way I was able to find five people who were engaged with the topic of disconnection in different ways: a digital wellbeing coach, the founder of a company focused on promoting digital wellbeing, a computer science student with a highly personalized attentional infrastructure, a freelance journalist with a personal interest in spirituality and a mom of two kids who struggled to limit her phone usage.

Regarding ethics and privacy considerations, I only used pseudonyms and general descriptions of people in my thesis, and only incorporated the screenshots that participants gave me permission for and erased any traceable personal details from them before using them in my thesis.⁶

Lastly, I think it important to reflect on my role as a researcher in this field, especially because the subject matter of the research plays a large role in my own life. I have struggled tremendously with problems of procrastination and distraction, especially in relation to internet and smartphone use, both during my studies as well as in other aspects of life. Although I encountered the concept of attentional infrastructure only during my research for this thesis, the notion that I had to design my surroundings in ways that would make it easier for me to attend to the things I value, instead of being constantly distracted by the easy entertainment of the internet, has been on my mind for some years. I do not believe this prior engagement with the subject hampered my ability to do this research, but it is important to acknowledge it in order to stay ‘answerable’ for the choices I made (Haraway 1988: 583). On the contrary, I believe my personal engagement with the issues related to the attention economy gave me the opportunity to more deeply connect with the research participants. In most of the interviews, the participants and I exchanged practical tips and tricks for disconnecting from our mobile phone. The shared sentiments of frustration and hope, of futility and empowerment led to some of the most profound material I collected.

4. Results and Analysis

In what follows I will answer my research question by describing and analyzing the conversations I have had with the participants about their attempts to disconnect from their smartphone. My main research question was: how do people actively intervene in the attentional infrastructure in which they find themselves in order to disconnect from their smartphone? To answer that, I will first give an account of the most prominent types of disconnective smartphone practices that I encountered, and discuss their shared characteristics. Having identified these practices, I will dive deeper into how people construct their personal attentional infrastructure by looking at their use of experimentation; how they become aware of their attentional infrastructure in the first place; and the struggles that go along with building one’s attentional infrastructure.

⁶ For a more extensive discussion on ethics, see the ethics and privacy form in the appendix.

4.1 Three Disconnective Practices

4.1.1 Physical separation

Probably the most common and straightforward strategy for disconnection and one that everybody in the research employed was physical separation (see also Mannell 2019). One of the defining characteristics of a smartphone is its portability (Schrock 2015), and this affords people to strategically bring it with them, put it somewhere out of view, or leave it behind completely. Within this category of disconnective practices, the participants use different degrees of physical separation, that I have separated into three categories. Probably the most modest example was to put the smartphone in a place that is still within reach, but out of sight. This often meant putting the phone behind the screen of a laptop during work hours or putting it on a chair next to you instead of on the table while you are having dinner. In this case it was still easy to grab the phone if you might need it for something or when the urge to use it came up, but the fact that your phone was not 'sticking out' in your field of vision as something that 'requested' to be used, made it easier to concentrate on the task at hand.

A second degree of physical separation would be for your phone to be in the same room, but out of reach. This was not as universally applied as the first category. The benefit of this degree of physical separation is that it creates a larger barrier for interacting with the phone. What seemed especially useful, was that it can take surprisingly little effort to create a large distance between you and your phone. As a response to what she does with her phone when she cannot focus on her work, Dana – a 26 year old freelance journalist – said: 'I'll just angrily throw it to the couch'. So mobile phones did not just prove portable, but even throwable. Because you can get the phone relatively far away with relatively little effort, it seemed to make for an effective disconnective practice.

The third degree of this strategy was to put the mobile device in a different space altogether or behind an otherwise significant barrier. This could literally be a different room, but also putting it in one's bag, a dedicated box, a locker or even a special faraday-pouch that blocks the phone's wireless connections. This third degree of separation seemed to be the most effective strategy when employed. A drawback is that, contrary to the first two degrees, there is a larger hurdle to overcome to actually implement it. Walking into another room is a much larger step than just flinging your phone to a nearby couch. Additionally, if you do end up needing to use your phone for a specific task anyway, you might not go through the motions necessary to put it back in its designated spot, hence defeating the purpose of this disconnective strategy. For example, in most instances Sarah's strategy of having a dedicated side table in her hallway where she could leave her phone before entering the bedroom worked very well: she almost never used her phone in bed. However, if for some reason she did bring her phone with her to bed, it would be tempting to just keep it on her nightstand, where it would distract her both before she went to sleep as well as the next morning. All in all, removing your smartphone from your (direct) environment was a prominent way in which the participants managed their attentional infrastructure.

4.1.2 Classification

A second category of disconnective practices occurs on a conceptual level rather than a material one: the category of self-instituted rules or systems. For example, Dana had an agreement with herself that whenever she would go outside, she would not be on her phone. This can be understood as a temporal shift in regard to the moment of decision.⁷ Instead of having to decide whether or not to take your phone out of your pocket each and every moment you feel the urge to do so, the decision has already been made for you. Although that earlier decision was of course also made by *you*, it seems nonetheless to be a sufficient enough barrier for it to be an effective part of one's attentional infrastructure for some people, because these self-instituted rules eliminate in-the-moment decisions and create trusted rules one can safely fall back on.⁸

A similar mental aid that people create for themselves in order to more easily disconnect from their phone has to do with countering the smartphone's inherent lack of closure. Digital activities do not boast the same natural limitations that their real-life counterparts have. Moreover, because of the adaptive nature of a smartphone's software, the activities one can do on them is almost limitless. Additionally, because of the extreme portability of the smartphone, these activities are hardly ever bounded to a certain location. On top of that, because smartphones are so multi-functional, they are 'at hand' numerous times in a day. This can make successfully disconnecting from them very hard.

One example of this is a tendency Anne – a mom of two kids who works in the cultural sector and who struggled to limit her phone usage – described to me. She said that sometimes when she parks her car after arriving home after a day's work, she takes her phone from the hands-free stand, where during the car ride it had been used as a navigational aid as well as a podcast or music player. While closing the navigation application, all kinds of notifications can be checked and other apps can be opened. She will almost unconsciously start going through the motions of checking messages and scrolling through social media. She explains: 'At some point I catch myself thinking: what I am even doing?', after which she will finally put her phone away and actually get out of the car and go home.

This is just a small illustration of the fact that on a smartphone there is always more to do; from entertainment, to productivity, to social interactions. Moreover, the effort required to start scrolling through your phone is extremely low, especially when your phone is already in your hand for some other reason, like when removing it from the hands-free stand. But also *within* these specific activities it can be hard to encounter natural limits. In 'real life' conversations can have a more natural endpoint. When you have to leave lunch to go back to work, say goodbye and walk

⁷ Citton states that most forms of indirect attentional agency are based on this 'time delay'. As we saw earlier, this type of agency is about changing our environment, 'which will condition our attention in the minutes ahead' (Citton 2019: 2).

⁸ Matthew Crawford might call these self-instituted rules mental 'jigs'. These function similarly to a physical jig in a carpenter's workshop, which he defines as follows: 'A jig is a device or procedure that guides a repeated action by constraining the environment in such a way as to make the action go smoothly, the same each time, without his having to think about it. (...) A jig reduces the degrees of freedom that are afforded by the environment. (Crawford 2015: Chapter 1)

away, the conversation is over, just by the nature of the two of you no longer being in earshot of one another. This is of course not true for a text-conversation on your mobile phone. One can wait an arbitrary amount of time to respond, and conversations do not have as definite conclusions as they have in real life. Since a lot of people have their smartphone with them almost all the time (Wu 2016, Hanin 2020: 397), natural limits or endpoints are sometimes hard to find. In other words: activities on smartphones can suffer from a lack of closure.

The lack of closure during normal smartphone use came up in several of my conversations. When a text-conversation never really reaches a clear-cut conclusion, it can make it hard to successfully disconnect from your phone. A new message can always be just around the (temporal) corner. Dana told me that explicitly ending WhatsApp-conversations by saying ‘goodnight’ or ‘talk to you tomorrow’ helped her put away her phone before bedtime and reduce the urge to keep checking her phone. In a similar vein, Sophia – co-founder of a company that tries to help people have a healthier relation with technology – told me:

For mealtimes I really always want to be without the phone. I know sometimes it's a little bit difficult to do that because, I guess, we're all struggling with this idea that we could possibly be doing something [on our phones]. So I really need to say, okay, I'm putting my phone away now and focus on my meal.

She could still be using her phone, available for others to reach her, if she wanted to, but she decided beforehand that she will *not* be available for the next stint of time, and that gives her some breathing room and space to focus on her meal.⁹ This is a different way of eliminating in-moment decisions that would otherwise demand discipline. Instead, a broader rule is put in place that she can more easily fall back on.

The self-instituted rules and the explicit ‘closing’ of certain activities are an example of categorization – in this case of activities where phone use is permitted and ones where it is not. Classifications like this are less obviously part of one’s attentional infrastructure. While at first glance it might seem odd to include immaterial concepts as rules, agreements, and classification as part of an infrastructure, the role of classifications as integral to infrastructures has been widely recognized in infrastructure studies (Bowker and Star 2000). These classifications then function as prime examples of a ‘technique of attention’ (Pedersen et al. 2021) within the wider arrangement of the attentional infrastructure.

4.1.3 Personalization

Here I want to look at disconnective strategies that mobilized the smartphone’s own software in order to spend less time on it (Kaufmann 2018, Beattie 2022). Not everybody customizes their phone: some people only use the phone’s default software. Most people however will install new applications, and some even make conscious decisions about where to place them on their

⁹ The issues caused by the constant availability inherent to digital technologies in the attention economy is also the object of recent neuroscience research (Bruineberg 2023)

home-screen or whether to have the apps visible at all. Personalizing phone home-screens was something that all of my participants did. Nonetheless, its effectiveness differed widely between them. On the less effective side of the spectrum, Anne told me that she hid the Instagram app away in a folder on her homepage (see Image 1). She went even further when it came to WhatsApp, which was not even allowed to be on her home-screen at all. This strategy did not prove to be very effective for her. Since the app is now only one tap further removed, the barrier to opening the app is still very low. 'So yes, that is quite striking. I hid WhatsApp. I have to go to this screen to open it (see the 'search screen' in Image 2). And now that is my most common move of the day.' The movements to gain access to the app have been ingrained in her finger's muscle memory since she has moved the app there some months ago, so the hurdle has been practically nullified. She still opens the app unconsciously. To make matters worse, the phone makes 'helpful' suggestions for apps she might want to use at the top of the screen, completely defeating the purpose of the deletion.

On the complete other side of the spectrum of effectiveness, I spoke to Lars – a 25 year old student of computer science and philosophy – who was constantly tweaking his phone's set-up, especially when it came to the kinds of apps that were installed on his phone and the location those apps were placed in. Lars was so keen to adapt his home-screen design, that even during our interview he deleted one of the apps that he thought he should be using less. 'I can always download it again if I really do need it', he said. Interestingly enough, the app he deleted would not be widely considered a harmful or distracting application: it was his online banking app. After having already deleted almost all apps he classified as 'distracting', like social media apps and some direct-messaging apps, the banking app was the app that 'pulled on' his attention the most. It was something that he could check, and after checking it he would get a little 'dopamine rush' (his words) for having completed a tiny task. Lars was not happy with this situation. He would rather have the phone not pull on his attention at all, and only use it when he actively intended to do so. So the banking app had to go (see images 3 and 4).

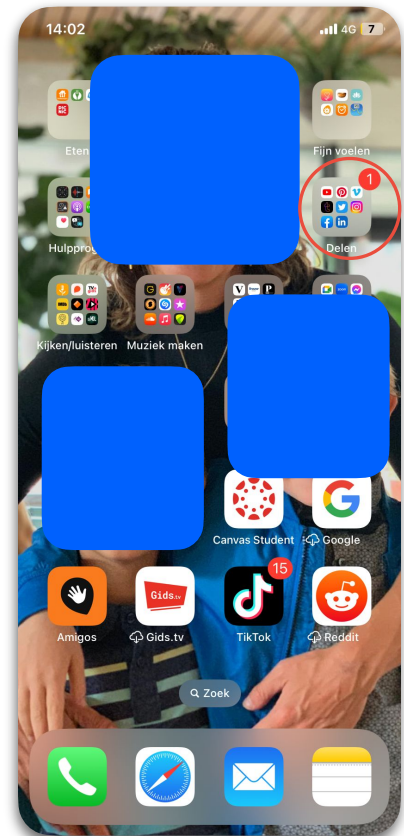


Image 1: Anne 'hides' the Instagram-app in a folder

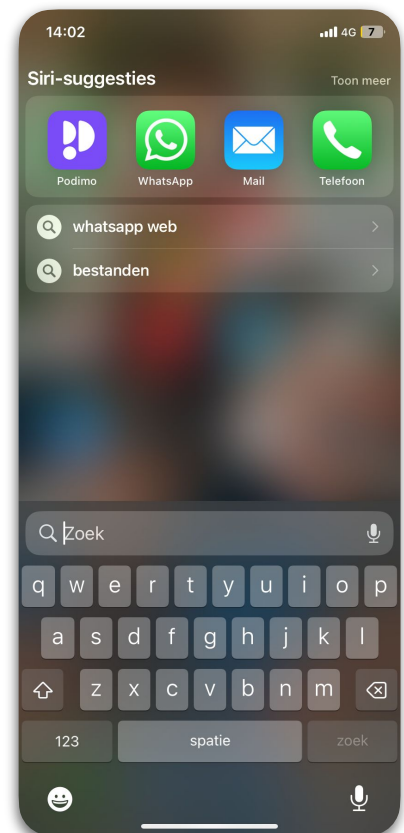


Image 2: Anne has to use the search-function to access WhatsApp

4.2 How to Build Your Attentional Infrastructure

4.2.1 Experimentation

Besides these three main types, there were numerous other particular disconnective strategies practiced by the participants. Ranging from using built-in functionality to limit your phone use (such as putting it on airplane-mode or using ‘maximum screen time’ features), to the use of specific devices dedicated to distinct tasks, such as e-readers and fitness watches, in order to not be exposed to the distractions of the multi-functional smartphone. Almost all of these adaptations of people’s attentional infrastructure shared something particular: they were arrived at through a process of experimentation. People try out different settings on their phone, they explore how their habits change when they delete certain distracting apps or they experience what it is like when they do not bring their phone on a walk in the park. Part of the reason for this need to experiment is due to the inherent malleability of the software on the smartphone (Tossell et al. 2012, Kaufman 2018).

Another reason can be found in the indirect environmental agency that is employed when it comes to attentional infrastructure (Citton 2019). Because of the indirect nature of these interventions, we often do not know exactly how a certain decision will turn out in practice. Maybe deleting the Instagram-app from your phone will mean you never feel the urge to check the platform again, or maybe it creates a whole new practice of going to Instagram in a web browser and logging in manually six times a day. This uncertainty necessitates experimentation: in order to come upon a practice that suits your needs, you often have to try different strategies before settling on a practice that works for you, for now. This also means that one’s personal attentional infrastructure is in a state of constant flux. For my participants, adapting their attentional infrastructure to their personal needs is an iterative process that involves continual tweaking. Lars described it as a ‘slow uphill battle to reduction’. The idea of manipulating one’s attentional infrastructure as something experimental, conforms with the notion of infrastructures as experimental systems (Jensen and Morita 2015: 85). Because of the ever-changing

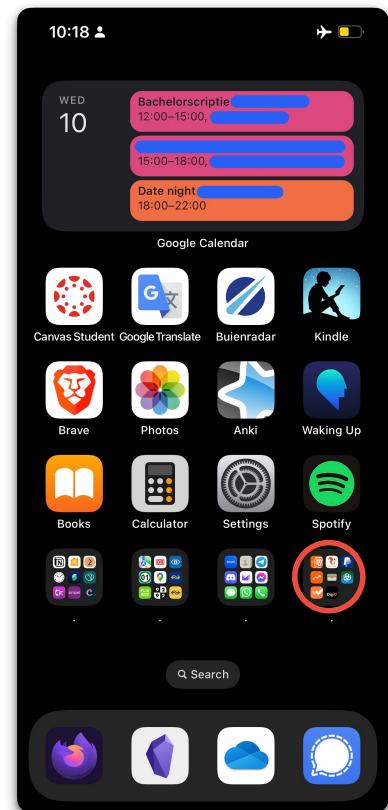


Image 3: Lars’ home-screen before removing the bank app (bottom right)

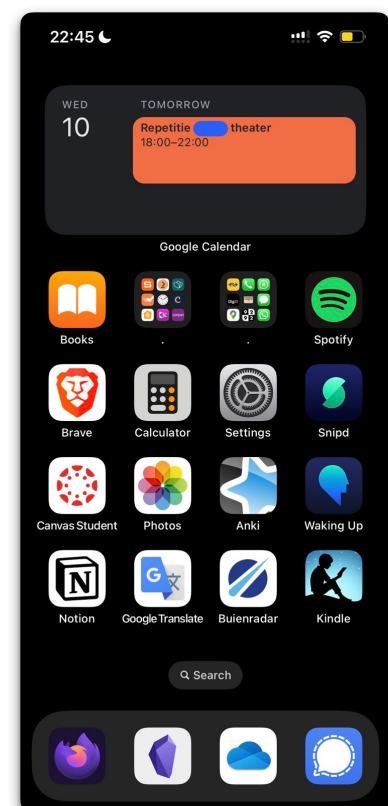


Image 4: Lars’ home-screen after removing the bank app (including an aesthetically motivated re-arrangement of apps)

nature of attentional infrastructures, actively adapting it demands a sustained awareness of the effects of your environment on your attention. In the next section I will dive deeper into how such an increased awareness develops.

4.2.2 From breakdown to awareness

As we saw in Citton's writings earlier, we do not often think of our surroundings as an attentional environment that poses problems *and* through which we might devise solutions (Citton 2019: 4). Then how come that my participants seem to engage so actively with their attentional infrastructures? Normally, the 'routines, relationships and artefacts' that make up our attentional infrastructures are unassuming parts of the backgrounds of our lives (Nicolini and Korica 2021: 1296, Vanden Abeele 2021). This is typical of infrastructures in general: its existence is taken for granted and they often remain 'invisible'; they only become visible following a breakdown (Star 1999). Just like how we become acutely aware of the plumbing under our houses when the drain stops working, we start to notice our attentional infrastructure when the structures that usually guide our attention without issue, stop doing so or start manipulating our attention in ways that we do not want (Nicolini and Korica 2021). The principle that one's attentional infrastructure remains invisible until a breakdown occurs, generally held up in my conversations as well, but there also were some noteworthy exceptions to this rule.

One exemplary story of a breakdown that brings the infrastructure into view came from Sarah. She told me that in 2018 she started to experience larger and larger problems concentrating on her work while she was sitting at her office desk. She experienced a constant urge to check what was happening on her smartphone, even in the absence of notifications prompting her to do so. First she thought that something was wrong with her – she had always been easily distracted as a child. But after discussing it with colleagues and friends, she realized she was not alone in this. Lots of people were experiencing the same issue. This breakdown started Sarah off on a path towards actively managing her attentional infrastructure more and more, eventually leading her to do a training on digital wellbeing and become a digital wellbeing coach. Sarah's story is emblematic for the other people I spoke to as well: at some point they come to realize that their attention does not work anymore as it did before. They are more distracted; they find themselves reaching for their phone at moments that they should be doing something else; their employer e-mailing them 200 times a day keeps disrupting their focus; or they go to sleep two hours after their planned bedtime because they keep endlessly scrolling through social media. On the other hand, there are also moments of breakdown that actually had a perceived positive effect on people's attentional practices. For example, Anne told me that 'it almost makes her happy' when her phone's memory is full, the battery is dead or it is otherwise broken. This disruption reveals how much her phone dictates her day to day life, and shows her that other possibilities exist. These moments of breakdown bring the attentional infrastructure into view, and this awareness of its existence is a prerequisite for being able to actually intervene in it.

But breakdowns turned out to be not the only important way people developed awareness of the influence of their environment on their attention. While Nicolini and Korica found that the

healthcare CEO's in their study only started actively engaging with their attentional infrastructure after moments of breakdown (Nicolini and Korica 2021: 1296), in my research a change of scenery also often created an improved awareness of the influence of one's technological environment. For instance, Sophia told me that moving to China changed her perspective drastically. 'Being in China helped me gain perspective and a bit of distance.' For example, 'when you always need to use a VPN to access the things that are addictive', it becomes a lot easier to notice the profound effects of the internet on your attention, she explained to me. This change of surroundings was a common thread through how people developed an increased awareness of their attentional infrastructure. Similarly, Sarah spoke about how being on a transatlantic flight without internet showed her how well she was suddenly able to focus. As for Dana, holidays were instructive in becoming more aware of the role her smartphone plays within her attentional infrastructure. The change in environment and routines allow her to reconsider the ways in which her practices are shaped by the constant presence of her smartphone in her life.

Here something unique to attentional infrastructures compared to other infrastructures comes into view. As we saw, infrastructures are part of the background and usually easy to overlook, until a breakdown occurs and we suddenly become aware of them. This is also the case with attentional infrastructures. But different from the way we usually imagine infrastructures, your personal attentional infrastructure is not fixed in space. It does not simply consist of static pipes or roads, but it is a network of techniques and technologies centered around an embodied human subject that is able to move through to the world. So when you move to a different country with a different internet infrastructure or enter an airplane in which there is no WiFi available, your attentional environment changes drastically without you having to actually meddle with it. So an increased awareness of your attentional infrastructure is not only caused by infrastructural breakdown, but also by exposure to drastically different attentional environments.

4.2.3 The reality of building your attentional infrastructure

These descriptions of how the participants disconnected from their smartphones through managing their attentional infrastructure risks disregarding the struggles that people experience while trying to disconnect. Interviewing people about their disconnective practices reiterated how hard it is to really become aware of the minutiae of your attentional infrastructure. And even when people make conscious adjustments to their attentional infrastructure, their actual practices did not always correspond with how they imagined them, showing that disconnection was something the participants 'both want and struggle to want' (Berlant 2016: 395).

For example, during the smartphone-walkthrough Anne told me about how she turned off all her notifications. Right when she said this, she notices an unexpected notification popping up on her phone. 'Oh ... well, I must have not been able to turn the notifications off for this particular app,' she explains. Still more often than such clear discrepancies, I noticed that talking about their disconnective practices made people reflect on and reevaluate their attentional infrastructure. One example of this we saw earlier with Lars deleting some of the apps from his phone's home-

screen during the interview. Another instance of it occurred when Dana was telling me about her habit of reading news stories on her phone, and she suddenly reconsidered: 'But maybe I just shouldn't do that either.' Moments like this happened regularly during my conversations; it was obvious that although these people already managed their attentional infrastructure quite fervently, engaging in an hour-long conversation about it increased their awareness of their practices even more. To further illustrate this point: some weeks after the interview I received a text from Anne, saying that our 'confrontational' conversation 'set some things in motion' and that 'the shock effect of the interview' had brought her screen time down from 7.5 hours to 4 hours per day. The fact that my conversations had such profound effects on most of the participants reveals what a solitary activity thinking about and managing one's attentional infrastructure usually is.

There were also instances where people's struggles showed not via reconsiderations of specific practices, but through expressions of shame or guilt. When I asked Anne if she uses any of the built-in 'screen time' features on her phone, she says 'I don't put those "locks" on [my apps]. Because that would be such a terrible confession, I don't think I could handle it [Dutch: '*dat trek ik niet*']. Using the software on her phone to limit her phone use, would mean admitting to herself that she cannot control herself. 'If I really don't want to use my phone so much, I should just be able to do it *myself*. But well, what I just said does not make any sense, because the opposite is true', she says in a moment of self-honesty. She told me that admitting she does not have control over her phone usage 'is actually really embarrassing'. Anne was not the only person admitting shame or guilt when it came to talking about their phone use. When I asked Dana if she spends time on her phone after she wakes up, she says: 'Yes, and I'm ashamed of it. It's really shit. I don't want to do it, but I do.' Despite people's strong feelings about and need for disconnection, one strategy that was notably absent from my conversations, was the choice to not own a smartphone at all. Notwithstanding the relieve Anne felt when her phone broke down, buying a 'dumb' phone was not an option. To live without a smartphone – to become a 'mobile phone refuser' (Rosenberg and Vogelmann-Nathan 2022) – seemed to be almost unfathomable for my participants.

Even the people who seemed most adept at managing their attentional infrastructure struggled to realize their ideal version of it. Out of the five people I spoke to, Lars was among those who adapted their attentional infrastructure most successfully and seemed to have the most grip on their disconnective practices. Describing how he limits his phone use through daily routines of physical separation, phone-free mornings and the personalization of his smartphone, he admits: 'But I don't manage to do this every day. There are many days where I do spend time on my phone in the morning. I'm not that kind of "guru" either.' It turns out, for people managing their attentional infrastructure, there can be a significant difference between the ideal and the reality when it comes to their disconnective practices, and that difference can come with strong feelings of shame and embarrassment.

4.2.4 The paradox of situated autonomy

Having showcased the different disconnective strategies that I encountered and analyzed how people manipulate their attentional infrastructures, I will now work towards some concluding remarks. Let me start with the observation that by engaging in their disconnective practices, the people in my research appear to attempt to take their attention back from the attention economy that, to quote Sarah, ‘steals our time and attention’. Trying to reclaim their attention, they are in a certain sense striving towards the ideal of individual autonomy that originated in Enlightenment liberalism. The remarkable thing is that they achieve this by employing strategies that are at direct odds with this liberal worldview. Paradoxically, in order to reclaim their attentional *independence*, they have to engage in practices that acknowledge their fundamental *dependence* on the external world around them.¹⁰ This seems to be an ontological contradiction: the reality that they enact (Mol 1999) with their practices does not correspond with the liberal ideal of autonomy. For the people involved, this is a tragic paradox, because if the reconstruction of individual independence is the imagined end-goal, it will definitionally never be reached. They would be searching for a mirage: a self that is truly independent from its environment.

A potential way out of this conundrum appears when we look more closely at some of the disconnective strategies that were notably absent from the interviews, the most glaring of which was that nobody opted to simply not own smartphone in the first place. Why would complete smartphone refusal seem almost unfathomable to my participants? Potentially because it would mean one had to leave the realm of individualistic solutions and start looking for more social ones. Becoming a ‘smartphone refuser’ (Rosenberg and Vogelmann-Nathan 2022) would mean you would have to create new arrangements and understandings with the people in your life, about when and how you will stay in touch (Mannell 2019, Caron and Mays 2021). We have seen some small examples of new social arrangements as parts of disconnective practices, but the prevalence of individual strategies over social ones is indicative of the atomized, almost solipsistic way in which people are dealing with the issues of the attention economy.¹¹ Anne’s confession that – even though she is not able to do so – she feels like she *should* be able to solve her attentional issues *herself*, reaffirms that managing one’s attentional infrastructure is considered an individual, not a social practice. Contrastingly, it seemed that my conversations with the participants were moments in which this atomization was briefly dismantled, and that this moment of human connection helped people shed new light on their practices of digital disconnection.

Out of Crawford’s three elements of our situatedness – the body, the social and history –, both the elements of embodiment and historical developments got addressed through people’s

¹⁰ See for a discussion on the notion of finding technological solutions for technological problems, hence never actually escaping the logic of technology Kuntsman and Miyake (2019).

¹¹ This also fits well with the notion of the smartphone as a highly individualistic device – a smartphone is almost never shared. This matters because ‘our devices do not only mediate information and entertainment, they mediate relationships’ (Sacacas 2022a). Continuing this line of thought, some writers even claim that our crisis of attention is deep down actually a crisis of loneliness (Jacobs 2016). Similarly, Vanden Abeele and Mohr (2021) write that disconnection is strongly associated with *self-discipline*.

practices. The embodied situation was reflected explicitly in disconnective practices like physical separation, but also more implicitly in the personalization of devices. Acknowledging one's historicity happened for example through the recognition of our changing technologies and media landscape. If we just look at these parts of our situatedness, the participants seem to adopt Crawford's situated worldview. The management of their attentional infrastructures shows that the world around us should not be seen as something that limits or determines us, but as a *requisite* for practice. It allows us to engage in *praxis*, instead of mere *contemplation* (Crawford 2015: Chapter 10). Instead of experiencing the dependence on their environment as an annoying limitation to their attentional practices, people can *let their attention be shaped* – to use Debaise's and Stenger's middle voice – by an attentional infrastructure they themselves have helped build.

However, this apparently successful acknowledgement of our situatedness by way of building an attentional infrastructure only paints part of the picture. While the *embodied* and *historical* situatedness were being addressed, the awareness of the *social* aspect of their situated nature seems to be underdeveloped, or at least underrepresented in the strategies that I encountered. This would suggest that, while the idea of autonomy is – paradoxically – being expanded to take into account one's dependency on the environment, the liberal ideal of *individualism* is still intact. My participants were evidently not solving their attentional issues in consultation with others. Apparently, in the attention economy it is the users themselves who are the one's made responsible for setting up their phones in ways that are conducive to better use.

5. Discussion and Conclusion

Looking at the the disconnective practices as I encountered them during my research, I can conclude that everybody in my research has at some level acknowledged the situated nature of the human condition, and addressed some of the challenges that the attention economy poses in regards to our situatedness. The most prominent strategies for disconnection were physical separation, creating systems or rules around smartphone use, and the personalization of devices, all of which can be interpreted as adjustments to one's attentional infrastructure. These disconnective practices also seemed to show an understanding of the fact that the 'liberal Enlightenment' view of the human subject as an autonomous agent who functions independently from its environment is naïve and counter-pragmatic. On the contrary, the participants' practices demonstrated that we are never separate from our environment, that humans can always and only be humans-in-their-environment.¹² In order to deal with the temptations and distractions of the attention economy – centered around the smartphone – the participants in my study had to build, maintain, repair and adapt their own personal attentional infrastructure. In order to do so, they first had to become aware of the existence of attentional infrastructure, by experiencing a breakdown

¹² Just how according to Tim Ingold (2010) trees are fundamentally trees-in-the-air. He explains how it is impossible to say where the tree ends and its environment begins. The tree is always in a state of exchanging things with its surroundings, without which it could not have been a tree.

or feeling how their attentional practices altered when their environment changed. Then, they had to go through a process of experimentation to find new (dis)connective practices. Thirdly, people showed me how difficult and frustrating it can be to realize the attentional infrastructure they imagined in their heads.

I completed my findings with an evaluation of the collected material, in which I discussed three interrelated observations. Firstly, I noted the paradoxical nature of people trying to reconquer their so-called independence while simultaneously acknowledging their fundamental dependence on their (attentional) environment. Secondly, I pointed out the notably absent disconnective strategy of general smartphone refusal, which I related to the general lack of social strategies and the ubiquity of individual ones. This brought me to my last observation, namely that solving the issues that people experience as a result of the attention economy is the individual user's responsibility. In other words: disconnective strategies are broadly atomized in nature.

5.1 What is Attention *For*?

Studying people's ways of dealing with the attention economy prompts us to ask some broader questions regarding the state of attention under our current socio-technological conditions. In these closing remarks, I will first go through some of the limitations of this study. Having done that, I will try to say something about the 'poetics of infrastructure' (Larkin 2013); at what the material on attentional infrastructure shows implicitly, rather than says explicitly.

A shortcoming of this investigation has to do with the lack of political-economic analysis and consists of two parts. The first part of this has its roots in the theoretical framework used, namely that of Matthew Crawford. The larger cultural systems that Crawford problematizes are 'Modernity' or 'Enlightenment liberalism' (Crawford 2015), and he has been criticized for hardly paying any attention to the idea that it might be the political-economy of *capitalism* specifically that commodifies our attention in harmful ways (Sutton 2017). Secondly, both Crawford's philosophical inquiry as well as my own research are culpable of not adequately situating our project in its particular social and political context. Almost all of Crawford's examples 'draw from a limited range of largely white, male experience' (Ibid.: 550). And while the scale of my own research would have always caused troubles for generalizability, if my goal was indeed to encounter the widest possible variety of attentional practices, interviewing mainly young, white and higher-educated participants might not have been the best course of action. These points of emphasis are especially important, since 'more carefully situated local accounts of digital praxis are a necessary step toward developing a deeper understanding of the digital world' (Darling-Wolf 2021: 1863). Additionally, critical media practice research has shown that the ability to disconnect from your devices is a privilege not everybody has (Woodstock 2014).¹³

Nevertheless, a focus on the everyday practices of people is not completely void of the political either. Work in the field of Science and Technology Studies shows that everyday practices

¹³ For more on the racist history of the conceptualization of attention, see Valasek (2022a, 2022b).

can be decidedly political, because they are performative and enact a specific reality (Mol 1999, Law and Urry 2004). One way of politicizing everyday practices is to interpret them as ‘tactics’ (De Certeau 1988), which Woodstock (2014) defines as ‘[ways in which] individuals assert themselves in relationship to the structuring forces in society’ (p. 1989). In this sense we can start to see people’s disconnective practices as tactics aimed at protecting oneself from the harmful influence of the attention economy. It could then be tempting to understand disconnection as a type of resistance, but I agree with sociologist Marguerite van den Berg when she writes that we cannot simply interpret these practices as such. Resistance is a form of critique, of saying what we do *not* want. These everyday tactics on the other hand should not be interpreted as a critique ‘against’ something. Instead, they do something more difficult: they are an attempt ‘to defend what has not yet been captured by the logic of neoliberalism’ (Van den Berg 2023). To paraphrase Van den Berg, these attempts to escape the dominant logic of capitalism create *space* – space to imagine what we want, instead of what we do not want.

However, when it comes to the issues of the attention economy, knowing what we want might actually be the hardest part. As Sacasas puts it: ‘it is far easier to identify the failures and disorders of contemporary society than it is to identify the goods that we ought to be pursuing’ (Sacasas 2022a). To ask what our attention is for, is to be faced by the ‘ominous silence that still answers us whenever we dare to ask, not ‘What are we fighting *against*’ but ‘What are we fighting *for*?’ (Arendt 1968: 27, original emphasis). Not having a good answer to the question what our attention is *for*, I believe, leaves us extra susceptible to the defects of the attention economy (Sacasas 2022a). In the last section I would like to give a proposal for how to achieve these attentional goods worth pursuing. Doing so, I will not be looking for the ‘true cause’ of our attentional maladies, but instead try to ‘[create] the ground where the hypothesis of a cure can be formulated’ (Debaise and Stengers 2022: 403).

5.2 Attention as Care

The first step is to broaden our understanding of what attention is by way of a slight linguistic intervention. Instead of ‘paying attention to’ and its assortment of economic imagery (‘paying’, ‘lending’, ‘investing’, attention as ‘a scarce resource’ (Citton 2017: 171)), I would like to talk in terms of ‘attending to’. Suddenly a gamut of new meanings become available to us. To attend is ‘to be present’, ‘to notice’, and also ‘to take care’ (Cambridge English Dictionary 2023), and here we can start to see the unique of value of attention. The French mystic and philosopher Simone Weil called attention ‘the rarest and purest form of generosity’ (Weil in Pétremente 1976). Thinking thusly about attention as a form of (self-)care, we can begin to understand that attending is a deeply ethical activity (see for example, Panizza 2022 or Jablonsky et al. 2022) and an often overlooked form of reproductive labour (Gregg 2018). We can start to see that the current attention economy only promotes a certain type of commodified attention, at the expense of a more caring kind. This culminates in the realization that the issues of the attention economy are

more pressing than we previously thought. They are not merely a case of bothersome distractions, but they interfere with our capacity to attend to *each other*. Sacasas characterizes our situation succinctly: ‘the human-built world is not built for humans’ (Sacasas 2022b). And that takes its toll on us.

Understanding attention as a form of care and hence as a thoroughly social activity (Pedersen et al. 2021) might also help us incorporate more of Crawford’s missing social dimension into our attentional practices. Some studies on our attempts to disconnect from the attention economy draw bleak conclusions (e.g. Kuntsman and Miyake 2019). One example are Baym et al. (2020), who write:

Consciousness and mindfulness, no matter how diligently practiced, cannot save our landscape from the vegetation cover of Facebook. Disconnective practices may help people find balance in the trap, but it cannot set them free. The disturbances may already be irreversible. (p. 9)

I tend to disagree, because, unlike them, I do not believe changing our media or tech landscape is our only nor our best way out. What my conversations with the participants have taught me is that, if we want to take better care of our attention, we will have to do so by abandoning our atomized ways, by working together, by creating new social arrangements, by talking and listening to each other. If we tackle the issues of the attention economy as primarily social ones, we can begin to help each other find ‘new modes of togetherness’ (Fraser 2009: 76), new ways of living together. We could start to see our disconnective practices as ‘everyday forms of solidarity’ (Van den Berg 2023) and try to escape the solipsistic manner in which we have been dealing with the issues of the attention economy up to now. To return to Debaise and Stengers: ‘We need to cultivate a fabric of sociality that transforms our claims into practical stories of becoming with each other, thanks to each other and at the risk of each other.’ (2022: 411) One such story is The Unplug Collaborative, that organizes an annual Global Day of Unplugging (Unplug Collaborative 2023). I believe we need to leverage our human connections in order to achieve digital disconnection. Let us all help each other to take care of the things and the people around us and attend to our attentional infrastructure together.

Appendices

- I. Ethics and privacy form
- II. Informed consent form

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Appendix I

CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: 'How we attend to our attention: Disconnective smartphone practices and attentional infrastructure within the attention economy'

Name, email of student: Mendel Op den Orth - mendel@opdenorth.com

Name, email of supervisor: Rogier van Reekum - vanreekum@essb.eur.nl & Freek de Haan
dehaan@essb.eur.nl

Start date and duration: 10-12-2022 until 15-12-2023

Is the research study conducted within DPAS YES - NO

If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: HUMAN SUBJECTS

1. Does your research involve human participants. YES - ~~NO~~

If 'NO': skip to part V.

If 'YES': does the study involve medical or physical research? ~~YES~~ - NO

Research that falls under the Medical Research Involving Human Subjects Act ([WMO](#)) must first be submitted to [an accredited medical research ethics committee](#) or the Central Committee on Research Involving Human Subjects ([CCMO](#)).

2. Does your research involve field observations without manipulations that will not involve identification of participants. ~~YES~~ - NO

If 'YES': skip to part IV.

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). ~~YES~~ - NO

If 'YES': skip to part IV.

PART III: PARTICIPANTS

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? YES - NO
2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? YES - NO
3. Will information about the possibility to discontinue the participation at any time be withheld from participants? YES - NO
4. Will the study involve actively deceiving the participants? YES - NO
Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.).
5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? YES - NO
6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? YES - ~~NO~~ [Of the above, only religious or philosophical beliefs and mental health could potentially come up]
7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? ~~YES~~ - NO
8. Is the health and/or safety of participants at risk during the study? YES - NO
9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? YES - NO
10. Are there any other possible ethical issues with regard to this study? YES - NO

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

- Concerning the above question 6, of the special categories of data defined by the GDPR, only religious or philosophical beliefs and mental health might be relevant data for this study. My thesis will research the relationship between mobile technology use, attention and mental wellbeing. This means that subjects pertaining to mental health might come up in the semi-structured interviews. Since meditation apps play a role in my study, philosophical or religious beliefs, especially when related to mindfulness and rituals, can turn out to be of significance.

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

- If, as a consequence of my interviews, participants were concerned about their relationship with the mobile technology in their lives, I would give them some information and links to help services around the problems of mobile phone addiction, to help them deal with any newly perceived problems. When it comes to religious or philosophical beliefs, I will make sure and inform them that the data will be stored safely (encrypted) and only used in an anonymised way in the study.

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

- I do not believe such consequences will be probable.

Please attach your informed consent form in Appendix I, if applicable.

Continue to part IV.

PART IV: SAMPLE

Where will you collect or obtain your data?

- I will perform one hour-long interviews at people's homes or in quiet public spaces.
- I will receive smartphone screenshots and diary entries pertaining mobile phone use from interviewees on my private and encrypted email address or a encrypted mobile messaging service.

Note: indicate for separate data sources.

What is the size of your sample?

- 5 one hour-long one-on-one interviews with 5 different people.
- 10 smartphone screenshots of 5 people.
- 2 diary entries pertaining to mobile phone use.

Note: indicate for separate data sources.

What is the size of the population from which you will sample?

- 5 people.

Note: indicate for separate data sources.

Continue to part V.

Part V: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

- Short term the audio data was stored on the recording device (my personal mobile phone or a dedicated ZOOM recording device. After that it was be transferred to a private encrypted cloud service. The same was true for the dairy entries and screenshots. The cloud storage automatically makes backups.

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

- I will be responsible for that.

How (frequently) will you back-up your research data for short-term data security?

- I will back-up my data every time I add some new material to it.

In case of collecting personal data how will you anonymize the data?

- All the interview transcripts will be anonymized by way of pseudonyms and/or codes and/or leaving out descriptions or citations that are easily related to the individual in question. The list with the corresponding pseudonyms to the personal data (for instance, phone number and email address for correspondence) will be kept in a separate file.

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Mendel Op den Orth

Name (EUR) supervisor: Rogier van Reekum

Date: 14-12-2023

Date:

A handwritten signature in black ink, appearing to read 'Mendel Op den Orth', written in a stylized, cursive script.

Appendix II: Informed Consent Form

Information and consent form

How do people disconnect from their phone?

Introduction

I am Mendel Op den Orth and I am a Sociology student at the Erasmus University Rotterdam. I am conducting my thesis research on the use of mobile phones. I will explain the study below. If you have any questions, please ask me. You can find my contact details below.

If you want to participate in the study, you can indicate this at the end of this form.

What is the research about?

This research is about the different ways that people try to disconnect from their smartphone. The smartphone is made to connect to the digital world, but people sometimes want to disconnect from their smartphone. I want to find out how people do this.

What can you expect?

The research takes 1 hour per respondent, plus the time the respondent takes to write diary entries beforehand. If you participate in this study, you will take part in:

Writing a short diary:

The diary entries can be in any form that is most convenient for you, be it written in a note-taking app on your phone, a word-doc on your computer or on a physical piece of paper. The diary covers just one day. You can choose any day, as long as you can send me the diary entries (through photographs, email or text messages) on the day before our scheduled interview. Please indicate whether the diary entry covers a weekday or a weekend day.

The idea behind the diary is that you write down the moments in which you (tried to) disconnect from your mobile phone during that day. The number of diary entries is up to you. For example, you could make a quick note every time you notice you are disconnecting in some way; you could choose three moments (for example, after your meals) to write down some significant moments of (dis)connection that you've experienced; or you could sit down at the end of the day to take a moment to reflect on all your (dis)connective practices of that day, how you went about them and how successful they were. You are encouraged to take screenshots of your phone or take pictures of your surroundings or anything else that you feel is relevant to the moment of (dis)connection. These can be included in the diary. All data, including potential screenshots, will be anonymized.

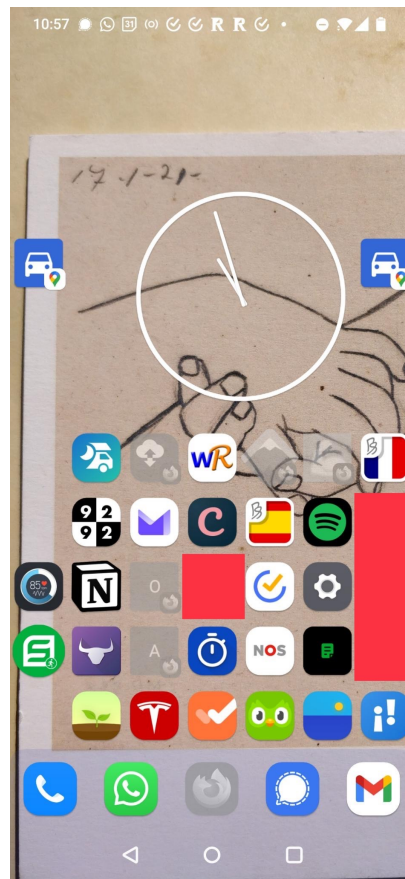
An interview:

We will meet at a place that is convenient for you, ideally in the respondent's home. The interview will last 1 hour or less. There are no right or wrong answers, I am just interested in your point of view. If you do not want to answer a question during the interview, you are not required to do so.

During the interview, you are invited to use your mobile phone during the interview to show me in more detail how you use your phone to disconnect from it. Because I am interested in how you design the interface of your mobile phone, at times I will ask you to take a screenshot. All screenshots will be anonymized. You are always allowed to say no to the request to take a screenshot, or to decide not to share them. I will make an audio recording of the conversation.

At the end of the interview, you will have the opportunity to comment on your answers. If you disagree with my notes, if I misunderstood you or if you do not want to share some of the screenshots, you can ask to have parts of them amended or deleted.

Examples of anonymized screenshots:



What data will I ask you to provide?

I will store your data so that I can be in contact with you. For the study, I will also need other data from you. During the interview, the following personal data will be collected from you: Name, age, gender, audio recordings, occupation.

Who can see your data?

- I store all your data securely.
- Only the researcher (myself) and my supervisors (Rogier van Reekum and Freek de Haan) will have access to the data such as transcripts and screenshots. Only I have access to your personal data such as your name and contact details.
- Recordings are transcribed. Your name is replaced with a number/made-up name.
- Data such as your name, address and recordings (direct personal data) will be stored separately from your answers.
- We may use your specific answers in the article, but without your name. If your answer can be traced to you or we would like to mention your name, we will ask your permission first.

How long will your personal data be stored?

After I finish my thesis, I will delete the audio recordings of the interview.

You always have the right to:

- a) access your data;
- b) rectify, erase or restrict the processing of your personal data;
- c) withdraw consent at any time;

d) lodge a complaint with a supervisory authority.

My details

Name: Mendel Op den Orth

Phone number: 0031 620555384

Email: mendel@opdenorth.com

Do you have a complaint or concerns about your privacy? Please email the Data Protection Officer (fg@eur.nl), privacy@eur.nl or visit www.autoriteitpersoonsgegevens.nl. (T: 088 - 1805250)

Declaration of Consent

I have read the information letter. I understand what the study is about and what data will be collected from me. I was able to ask questions as well. My questions were adequately answered. I know that I am allowed to stop at any time.

By signing this form, I

1. consent to participate in this research.
2. consent to the use of my personal data;
3. confirm that I am at least 18 years old;
4. understand that participating in this research is completely voluntary and that I can stop at any time; and
5. understand that my data will be anonymized for publication, educational purposes and further research.

Name of participant:

Participant's signature:

Date: