Capitalized Attention
vs.
Human Intention

Understanding the Implications of Objectified Attention Capital in Digital Media

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Contents

No, no longer

Shall I suffer

You to offer

Bold defiance.

I have brains,

I am the stronger

And I shall enforce compliance

You, hell's miscreate abortion,

Is this house doomed to perdition?

Signs I see in every portion

Of impending demolition.

Servant, cursed and senseless,

Do obey my will!

Be a broom defenseless,

Be a stick!

Stand still!

'The Sorcerer's Apprentice' by Johann Wolfgang von Goethe 1779,
translation by Paul Dyrsen, 1878

1. Introduction

Johann Wolfgang von Goethe probably had different thoughts in mind when he wrote 'The Sorcerer's Apprentice', a ballad about a sorcerer's apprentice who sought to make his life a little easier by enchanting a broom to fetch water but soon realizes that he cannot stop the broom which threatens to flood the whole workshop. However, it still lends itself as a viable metaphor in several ways as a description of today's technological advancements and their discontents.

Not unlike the sorcerer's apprentice, many consumers of the latest gadgets and devices are seeking to make their lives a little easier. Having the world at one's fingertips has become the norm for many. Devices like smartphones are advertised as making life more convenient, providing relevant information just when it is needed, helping to successfully complete tasks in every area of life. At the same time, however, more and more are sensing a lack of control and are becoming more skeptical of the immense power giant tech companies like Alphabet, Facebook, Amazon, Twitter & co. hold over their lives. Keeping up with all the available information can quickly start feeling like a chore, staying up to date with the latest news, social media posts of friends and family or the video-channels subscribed to on platforms like YouTube.
However, the time individual users spend with digital services like these is steadily increasing every year (Clement, 2019). The paradoxical nature of this development becomes apparent when comparing this development with the findings of a study by the Center for Humane Technology (2018). Having analyzed the app-usage of 200.000 people, they found that especially the apps people spent most of their time on made people most unhappy.

The aforementioned study already provides a first glimpse at a possible reason for this predicament of seemingly contradicting use patterns, where media is consumed for entertainment but leaves the consumer dissatisfied. It reveals that the usage of digital services that is likely caused by a clear intention on the side of the user - like the use of calendar apps or services to meditate or become fit - is linked with improved happiness. All the while the usage of services where the exact goal cannot be narrowly defined e.g. the use social media apps are seemingly prone leaving their users unfulfilled and less happy. This leaves the question: If the outcome is causing dissatisfaction and unhappiness, what keeps people swiping and scrolling for on average over 130 minutes per day (Clement, 2019) on digital services that are mainly thought to be recreational like social media?
The answer proposed in this thesis argues that the techniques employed by digital services to attract human attention are indeed systematically undermining human intention as the main motivation for using and consuming digital media. It also argues, that the repercussions of this substitution go way further than making people dissatisfied with themselves, including the epistemic fragmentation of knowledge, also known as 'post-truth politics' as well as threats to liberal democracy and human autonomy.

The rapid innovation and developments of digital media over the last 30 years seemingly overwhelmed policymakers and academia at the same time. Only slowly, e.g. with comprehensive works like Shoshanna Zuboff's analysis of what she calls 'Surveillance Capitalism' (Zuboff, 2019), academic literature is catching up with the admittedly fast developments of digital technology and its economic and social repercussions, giving insights for policymakers to deal with these developments. While in this growing branch of literature the role of human attention does not go unnoticed, it often only plays a minor role in the analysis of the practices and logic of digital infrastructure. As this thesis is going to argue, however, the

workings of human attention and its commercial exploitation are key factors in the business models the providers of digital services like social media employ. Only by understanding how their businesses center around the attraction of human attention is it possible to account for the psychological warfare taking place on our digital devices. Therefore, this work will take human attention as a vantage point to explore what will be called the 'colonizing tendencies of digital media'. This emphasis on attention allows this work to identify a central logic of functioning of digital media that switches the roles of humans and technology, depriving the former of their autonomy to maximize economic gain.

After these introductory remarks, the second and third chapters will give an account of human attention and its medial commodification, arguing that being able to attract attention in a mediatized world is a vital resource for individuals, corporations and public institutions alike.
Chapter 4 will then conceptualize the for the scope of this work vital framework of attention capital, representing the ability to attract public attention and distinguishing between three forms of attention capital.
Illustrating theoretical parallels in the workings of capitalized attention on the one hand and the media-ecological observations by Marshall McLuhan on the other, the fifth chapter will then embed this new concept of attention capital into his medial-theoretical framework. This will allow for the adaptation and expansion of McLuhan's theories and critiques to account for and analyze the developments of digital media and technology.
In chapter 6 and chapter 7 this theoretical expansion will offer first insights into how the roles of media and consumers are switching and how human intention is subverted in the process. Using the Habermasian terminology of colonization (Habermas, 1987) it is demonstrated, how attention capital is instrumentalizing the human mind to maximize profits. In this process, it is reshaping what and

how media is consumed on the individual level, fragmenting what Jürgen Habermas calls the lifeworld. (Habermas, 1987)
In chapter 8, four major repercussions of these developments are put forth, concerning the decline of public debate, populist threats to liberal democracies as well as discriminating effects of the penetration of everyday life of capitalized attention in form of digital media and technology. Most importantly, however, it will be illustrated how the power that is granted to the corporate owners of digital infrastructure is subverting human autonomy, perpetuating the aforementioned effects in the search for economic gain. But this analysis does not only allow for the identification of detrimental effects but also to conceptualize how the powers of digital media can be distributed more evenly, giving space to its intentional instead of only its attentional consumption.

The overarching objective of this thesis thus is twofold: First, to put forth an argument towards treating human attention as a key component in the analysis of digital media, which allows to build upon the already existing comprehensive media-theories of Marshall McLuhan and the Frankfurt School. Secondly, this thesis strives towards a critical analysis of the current economic embedding of media, its adverse effects on the human mind and human autonomy and to provide the tools for a reconceptualization of digital media without these negative social and political repercussions.

2. Attention

Every day a flood of information fights over our attention: The newspaper that wants to be read, advertisements on the daily commute, incoming emails and text messages - not even mentioning all the personal interactions over the day. Even the way attention is used in language also says a lot about how we think about attention. When we focus on a stream of information, we 'pay' attention to it. This conceives of attention as a resource that can be spent. But what exactly happens, when someone decides to pay attention?

2.1. What is Attention?

The easiest way to demonstrate how human attention works and its importance for functioning of the human mind is to show what is missing when attention is disregarded. The Norwegian social and political theorist Jon Elster set out to explain human action by relying on the so-called belief-desire-Model, the interplay of beliefs and desires being the main components of human action (Elster, 2015). In this model, Elster seems to rely on what is commonly called "action-based theories of desire" , which means:

> "*[. . .] an organism to desire* p *is for the organism to be disposed to take whatever actions it believes are likely to bring about* p. *(Schroeder, 2017)*"

Understanding desires in this way already implicates the dependence of desires and beliefs. One can only satisfy a certain desire if one is able to navigate and manipulate one's surroundings in a way so that the desire is met. For example, to

satisfy the feeling of thirst one has to identify drinkable liquid in one's surroundings and know that swallowing that liquid will serve that desire. The conception of how to bring about the satisfaction of a desire is called 'belief'. Beliefs are constructed by gathering sensory or mental impressions that over time build a mental map of one's surroundings. What Elster doesn't specify, however, is the way in which it is decided what information is being processed by the mental apparatus and is thus incorporated in our world view and which information is left out.[1] This is where the workings of attention become relevant.

One of the earliest descriptions of attention stems from one of the first American psychological researchers William James, who states that attention:

> "*[is] the taking possession by the mind, in clear and vivid form, of one out of what may seem several simultaneously possible objects or trains of thought. [. . .] It implies withdrawal from some things in order to deal effectively with others*" *(James, 1890).*

Two distinct components become apparent in this approach, the 'taking possession by the mind' on the one hand, meaning the focusing on a particular object, as well as the 'withdrawal from some things' on the other, meaning the filtering of information that is deemed unimportant.

His theory of attention being essentially a filter for information is still in use until today. Nobel laurate Daniel Kahneman builds upon this conception of attention, developing his model of the human mind as consisting of two systems (Kahnemann, 2011). He supposes that attention is limited by cognitive resources and thus must be regulated. This is achieved by splitting mental tasks into two groups

[1] Elster mentions so-called available opportunities, that can be ordered according to one's preferences and which are filtered out according to them being achievable or not, this might be the closest he gets to incorporating the functioning of attention.

or systems. System 1 is the autopilot, which does not need a lot of cognitive resources. It is employed mainly in the unconscious, recognizing patterns based on past experiences trying to relieve system 2. This second system is only activated if system 1 cannot process the sensory or mental input, be it because it is unfamiliar or simply too demanding. This system is highly capable of complex problem solving and the processing of new information, however, it needs a lot of energy to stay active. With this model, Kahneman also finds a possible answer to the question, what we pay when we pay attention:

> "*You dispose of a limited budget of attention that you can allocate to activities, and if you try to go beyond your budget, you will fail (Kahneman, 2011).*"

Implementing this notion of attention into the belief-desire-model, one could speak as attention as the 'gatekeeper' of the mind; everything must pass this gatekeeper to be incorporated into one's belief system. Without this ability to filter information, the human mind would not be able to focus on relevant information, making it impossible to act on a certain desire, as this would require the attenuation of information that is not critical to the task.

Understanding the workings of attention is especially valuable to companies whose economic survival depends on their ability to pass these filters (or put more bluntly, depends on being paid attention to), a big part of which are media-corporations. This relationship of attention and media companies will be the focus of the next section.

2.2. The Role of Attention in the History of Media and Publicity

Media-corporations and human attention have a long-shared history. Only in the 1970s, their relationship was theorized in the framework of the attention economy (Simon, 1971), which lends itself to take a look at earlier developments in the fight for human attention. This chapter will demonstrate how the dependency between media and attention developed since the emergence of the first mass media and how one enables the other.

Although the challenges addressed by the theory of the attention economy have been noticed and addressed before him, the term was first coined by the American economist Herbert A. Simon in 1971. He spoke of an overabundance of information on the one side, which causes a scarcity of human attention on the other side.

> *"[I]n an information-rich world, the 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 and a need to allocate that attention efficiently among the overabundance of information sources that might consume it"* (Simon, 1971 p. 40).

For the better part of human history information was hard to come by. On the one hand, there were no reliable and cost-efficient ways to send it from one place to another, especially over long distances. On the other hand, the reproduction of information was either labor-intensive, since it had to be written by hand, or unreliable, if the information was transferred by word of mouth and thus altered every time it was exchanged. This changed with digital innovations like the print-

ing press, the telegraph or later the radio, television and the internet. The cost to reproduce and transport information to anywhere around the world became successively cheaper until it is hardly measurable in today's connected world. This led to a steady increase in the information available at any given time. Today, more than 300 hours of video content are published every minute on YouTube alone (Hale, 2019) and over 70 Million blog posts are published on WordPress every month (WordPress, 2019). These two examples still only account for a small fraction of information that is processed and published on the internet alone. Devices like the smartphone, of which there are more than three billion in 2019 (Holst, 2019), drastically lowered the entry barriers to the internet.

But there is a second factor that significantly contributed to the flood of today's information: advertisement. Even though the printing press was commercialized in the 15^{th} century, it was not before the early 1830s that newspapers became widely affordable (Wu, 2017). This became possible because of Benjamin Day's idea to sell some of the space in his newspaper 'The New York Sun' to advertisers, which in turn subsidized his business. This deal enabled him to sell The Sun for just one cent apiece while the price of his competitors was six times that (Wu, 2017). This new business model was very successful and soon became the standard for newspaper publishing. This trend was also adopted by newer technologies like the radio, the TV and today, most of the internet follows this 'freemium' model of providing a service at no financial cost and in turn turning a profit through advertisement. It was the second integral dynamic to the explosion of information: the securing of profitability through the conjunction with advertisement. To appreciate the importance of the close relationship of the business model of advertisement and human attention the next section will take a look at the commodification of attention and its influence on the business models of the first mass-produced newspapers..

2.3. Attention as a Commodity

What exactly happens in this interplay of the publishing of information alongside advertisement? In 1998, a patent was filed that concerned the subject of 'attention brokerage' (Patent No. 5,794.210, 1998). In this patent, the selling of attention to the highest bidder was specified, which would enable advertisers to target the most promising audience for their product. Precisely this selling of attention is the business model of major corporations like Alphabet or Facebook, but also of most news outlets. By designing their products in a way that maximizes user interaction and thus time spent on their platform, they are maximizing the amount of attention they can divert and sell to advertisers that are financing their business. The effects of economization or marketization of information and thus attention are not confined to the sphere of consumption, it also affects what Jürgen Habermas calls the 'public sphere' (Habermas, 1990).

For Habermas, the public sphere is the place where political opinions are shared and discussed amongst private citizens under the 'unforced force of the better argument' (*zwangloser Zwang des besseren Arguments*) (Habermas, 1990). It first emerged as a bourgeois public sphere, its constituents being wealthy individuals, often time merchants, who took an interest in national and international affairs. But to be able to discuss these affairs, they needed a foundation of information that was provided by the press. Originally, what Habermas calls 'written newspapers'f were unpublished pieces of information specifically compiled for merchants that were not published (Habermas, 1990). The distributors and receivers of these written newspapers soon realized that they could resell some of the information for profit, which contributed to the emergence of what Habermas calls 'political newspapers' (Habermas, 1990).

Therefore, the commercial nature of political newspapers was enabling and threatening the newly born public sphere at the same time. The informational basis for an informed public was only enabled by the commercial practice of merchants and the flow of goods. However, for the kind of publicity they enabled to suffice Habermas' definition of a public sphere (Habermas, 1990), economic interest and information over global events were still to closely intertwined. Disentangling them proved to be difficult, especially when the publication of newspapers became the main business of some companies like the aforementioned 'New York Sun'. The interest of economic survival and flourishing soon tainted the public sphere itself. Since several publishers were competing for the attention of the same readers, they thought of strategies to secure as much of it as possible. This led to some of the first known fake news, when The New York Sun, facing strong competition from The New York Herald, reported in 1835 that a British astronomer had discovered life on the moon (Wu, 2017). Of course, after being published, this stirred a lot of public attention until it was discovered that it was a hoax. This illustrates how economic interest influences the public sphere. But even if there is no straight-up lying involved, the power of publishers to decide what kind of information enters the public sphere is also relevant to what is discussed publicly. The aforementioned competitor of The New York Sun realized very soon, that some content is more suited to grab attention than others, so it specialized in the reporting of particularly violent crimes and suicides (Wu, 2017).

3. The Profiteers of the Rules of Attention

The previous chapter demonstrated the two-fold role of media for the public sphere: On the one hand, they act as a necessary catalyst, without which the public sphere is void of a common basis to form and discuss political opinions. On the other hand, it acts as an intermediary or so-called gatekeeper, that determines what information enters the public sphere and thus public discourse. This chapter will first introduce Niklas Luhmann's Rules of Attention (2002), which are employed by these gatekeepers and which are producing and reproducing a caste of medial prominence that is increasingly on the verge of at least partially substituting traditional political elites.

3.1. Rules of Attention

In his book, 'The Reality of Mass Media' Niklas Luhmann described a process of information filtering. He calls this filter 'Rules of Attention' and supposes that gatekeepers have to follow these rules (Luhmann, 2002). Before political matters can be discussed and decided in the public sphere according to 'Rules of Decision', he states, these matters are filtered by sorting which matters are able to stir attention in the first place (Luhmann, 2002). He identified several factors that make information suitable to pass this filter. Amongst these factors are for example the 'newness' of information, but also the status of its sender or if it promises impending success or crises. The reporting of The New York Herald is an early example on how these rules were employed right from the beginning of printed mass-media. Citing studies of Winfried Schulz (Schulz, 1990), Thomas

Meyer expands on these factors, amongst them:

> *[...] the short duration of the event, if possible as a completed episode, spatial, political and cultural proximity to the viewer, the surprise-value of the information in the context of already introduced known topics; the conflicting nature of the event, as well as great damage or special achievements* (Meyer, 2001, p. 68).

In addition, especially events that are determined by individuals are suitable to generate media attention, especially when 'prominence' comes into play. The definition of who can be considered prominent presents a circular conclusion or tautology: People can be considered prominent if they can attract public attention and thus regularly get media appearances, which in turn promotes their prominence. Prominence is therefore mainly the value of being recognized publicly. A suitable example of this is provided by celebrities like 'The Kardashians' in the US, who are mainly famous exactly because of their prominence. A certain ease of being recognized can thus further increase the chance of not being filtered out by the mechanisms mentioned above.

3.2. Functional Elites vs Medial Prominence

The abundance of available information necessitates that the aforementioned filter mechanisms must be applied even more rigorously, making it more difficult for non-conform information to attract public attention. This rigorous filtering does not mean, however, that the information that passes these medial filters and grabs public attention amounts to a lucid and manageable set of information for every event of interest. For every political happening, there will be a plethora of diverse

and sometimes contradicting information available, from which an individual has to choose to make up their mind. And this choice can be overwhelming, as Ulrich Sarcinelli implies.

> *In a world of increasing options and choices, traditional collective producers of meaning are losing their effectiveness. This applies in particular to politico-ideological institutions, which have been channeling the formation of wills and the conveyance of interests within the framework of various political currents for more than one and a half centuries. (Hitzler, Hornbostel, & Mohr, 2004, p. 225)*

Being exposed to extensive information can question authority and with it, the security, traditional or conventional ideologies and institutions are able to exert. In the emerging modernity and post-modernity, media and the familiar faces appearing there can provide a new feeling of stability and order, which allocates even more space for media as a form of 'producer of meaning'. Sarcinelli describes this shift as a development to a system he calls 'media democracy' (Sarcinelli, 2012). In this type of society, the functional elite, participants of which are defined by belonging to it because of a specific role they play in public administration and decision-making, are increasingly replaced by prominence.

This differentiation between prominence and functional elite becomes more distinguishable when utilizing the Bourdieuan language of capital (Bourdieu et al., 1983). Whilst the *functional elite* is relying on cultural, social and economic capital, *medial prominence* utilizes a resource one could call attention capital to manifest its power. The formation of this kind of capital will be the scope of the next chapter.

4. Attention Capital

Having iterated upon the shared history of media, attention and their commercialization, this chapter will conceptualize what will be called 'attention capital'. Building upon the central importance of human attention for media corporations, being able to attract and steer human attention can be understood as a vital resource to control many aspects of everyday human life, including consumer choices and political discourse. The characteristics of this resource, it will be argued, is best understood in the Bourdieuian language of capital (Bourdieu et al., 1983). Understanding digital media and humans in the terminology of attention capital will enable a reconceptualization of digital media and its repercussions for the human mind throughout chapter 5 to 8.

Building on a similar approach by the media scholars Klaus Beck *et al.*, attention capital will be split threefold into *incorporated*, *institutionalized* and *objectified* forms of capital (Beck et al., 2013). This will allow for a differentiated analysis of different medial actors in their quest for public attention. On this endeavor, owners of objectified attention capital will prove to be of special interest, since their social and political influence seems to disproportionally increase with the triumphal march of digital media.

4.1. Incorporated Attention Capital

Incorporated capital is defined by its inability to be easily converted into economic or financial capital since it primarily consists of acquired or 'learned' knowledge and behavior. Although this knowledge could be passed on over time, it cannot

be quickly repossessed by buying and selling it. In the case of attention capital, incorporating abilities primarily refer to the medial habit of a person. According to Pierre Bourdieu,

> *"...incorporated capital is a possession, which became an integral part of a persons 'habitus; 'having' has become 'being'. Incorporated and therefore internalized capital can, therefore (as opposed to money, possession or even nobility titles) not be passed on by donation, inheritance, purchase or exchange at short notice."* (Bourdieu et al., 1983, p. 187)

For attention capital, this includes, for example, the self-presentation in front of the camera, which is either more or less fit for attracting attention. Another case would be having the right intuition as far as social media posts are concerned. Depending on the intended target group, the strategies can be very different. However, it is primarily not the person on stage who decides on the value of one's assets but the demand in the 'attention market'. A politician in the area of pension policy, for example, could have tremendously good social media strategies for staging and conveying her content on a platform like Twitter, but if her constituency is primarily watching TV, her ability and thus her attention capital is drastically devalued. Another property of incorporated attention capital is its transience, caused by its attachment to an individual's experience over a lifetime. Because it cannot easily be exchanged for financial capital, "it dies and perishes as its wearer dies and loses his memory, his biological abilities, and so on"(Bourdieu et al., 1983, p. 187).

4.2. Institutionalized Attention Capital

Bourdieu himself describes institutionalized capital as follows:

> "*Incorporated cultural capital is subject to the same biological laws as its respective owners. The objectification of incorporated cultural capital in the form of titles is a process that compensates for this deficiency: titles create a distinction between the cultural capital of the autodidact, who must constantly prove himself and the cultural capital, which is sanctioned by title and legally guaranteed and thus is (formally) independent of the person of their bearer*" (Bourdieu et al., 1983, p. 189f.).

For institutionalized attention capital, this implies a close connection with the professionalization of a person and the associated social recognition of certain titles and attributions. For example, the title of a professor or a doctor may be used to declare a person as an expert in a television program and to give him or her attention. Certain professions also hold an above-average amount of attention capital, such as that of the actor, social media manager, presenter or even teacher. Interestingly, institutionalized attention capital can in some ways create itself, as the previous definition of prominence shows. Thus, the attribution of being 'a celebrity' can attract attention without further qualifications, at least in the first instance. This is the case, for example, in so-called 'B-list celebrities', which attract attention mainly because of the attention capital attributed to them as prominence. This category of attention capital would probably be located at the boundary between cultural and economic capital since role attribution and reception are mainly constituted by cultural norms, but the capital itself can without much difficulty be converted into economic capital, for example by exercising a profession for a wage.

4.3. Objectified Attention Capital

Objectified attention capital is the closest to the economic capital form of Bourdieu. Above all, it refers to the material means that enable the gathering of attention. (Beck et al., 2013, p. 246) This mainly includes the means of production for medial content. For individuals, this form of capital is mainly constituted by access to internet-connected devices, for example, to publish a social media posting. But the access to recording equipment such as cameras, capable personnel, and media-consulting firms are also assumed under this category. Even the ownership and control of entire media institutions such as publishers, television channels or theaters or the control of social networks, more precisely their filter algorithms or server-farms are a form of objectified attention capital. This form of attention capital is also accessible to individuals or corporations outside the media industry, for example, by buying advertising space, hiring a media content production company or booking public stages and spaces. Some of the largest owners of objectified attention capital today are the so-called 'big five': Apple, Amazon, Alphabet, Microsoft and Facebook. Their control over massive server-farms, online platforms, algorithms and user-accounts constitute a powerful means to gather attention.

4.4. How Does Attention Become Capital?

However, just being able to attract attention does not suffice to speak of attention as a form of capital. Even if the language of economics lends itself to describe the relationship between prominence and audience, the usage of the term 'capital' needs some further qualification. When does attention turn into a resource that

can be extracted as capital?

Karl Marx famously described the way in which money becomes capital in the formula M C M'. A resource like money only becomes capital, if it is invested to return a profit (Marx & Engels, 1969, p. 162). But it is also possible for attention to yield interest, as the definition of prominence given above shows: Just being considered 'prominent' can thus reproduce and increase one's status, since according to the filter mechanisms of media it is more likely to secure media-coverage if one is already known to the public. Investing attention capital can also be risky since one is under the constant pressure to perform and to please the public. If one is successful, one's attention capital will likely increase, but if one fails, it can quickly perish, just like on conventional capital markets. Interestingly though, there is a difference between financial capital markets and attentional capital markets. Whilst the measures of failure or success are rather objective on capital markets, they are subjective and contingent upon the audience in the sphere of media, which could also be understood as the attention market. As will be shown at the end of the next section with the example of Donald Trump receiving unfavorable media coverage is still much more valuable than receiving none at all.

4.5. Investing Attention Capital in Politics

What new insights can this breakdown of attention capital provide for Sarcinelli's observation that prominence is partially replacing 'traditional elites'? Firstly, this differentiation of forms of capital underlines Sarcinelli's suggestion: prominence is not going to completely replace traditional elites. Institutional and objectified attention capital is closely tied to economic capital, which grants certain ease

of access to this sphere of attention. However, incorporated attention capital naturally is more evenly distributed and bears some opportunities of entry for less wealthy individuals and organizations. This is illustrated by people like Alexandria Ocasio-Cortez.

During Cortez' US-Midterm election campaign in 2018, her 'mere' $ 7,000 savings made headlines - which enables several observations: Her wealth is above that of most of their age group, however, Americans seem to be extremely familiar with the idea that political elites embody economic elites. Furthermore, her successful election campaign demonstrates plenty of incorporated attention capital that fits the demands of her rather young electorate. Her Twitter postings, for example, often include pop-cultural references, such as lyrics by rapper Cardi B., which caused disapproval amongst older people but proved cultural and intellectual closeness to her voters, who are mostly young and from poorer neighborhoods of New York City (Holmes, 2018). The video spot for her election campaign was produced only by volunteers, following a script she wrote herself. It was hugely successful as the number of viewers (Ocasio-Cortez, 2018) and the results of the final election demonstrated and ultimately cost less than $ 10,000.

This example shows that incorporated attention capital is a source of the equalizing effect of digital media since it is not primarily dependent on economic capital and is closely linked to the cultural habitus of the recipient of information. This makes incorporated attention capital function as a possible gateway into the realm of political elites. Technological change in the media landscape plays a major role in this, as distribution channels such as social media minimize the economic capital needed to spread a message. This disappearance of barriers to public attention seemingly challenges the value of objectified and institutionalized attention capital, since owners of incorporated attention capital can use and profit from its

infrastructure seemingly without having to pay for it. It still comes at a price though, as will be demonstrated over the course of the second half of this thesis.

However, objectified and institutionalized attention capital are far from becoming obsolete, as was and still is demonstrated by US-President Donald Trump, who was even titled a 'Clickbait-Candidate' (Williams, 2016). In his presidential campaign in 2016, he employed all three forms of attention capital – to great success. Firstly, he used his already established institutionalized attention capital that he acquired through previous occupations as an actor and TV-Show presenter to enter the public stage. His political style and disregard for political correctness brought him close to his 'conservative American working class' electorate, finding a language that resonated with them and proving his incorporated attention capital. Even though he does not own large-scale objectified attention capital, he knew how to use the publicly existing capital to his advantage. As shown by the attention filters, media outlets are prone to publish content that is surprising or conflicting, which Trump knew to play very well. His statements, which were often outrageous and polarizing for a large portion of the public, attracted a lot of media attention. Over the whole spectrum of media outlets from left to right, he managed to secure air-time worth over two billion dollars, without paying a cent (Confessore & Yourish, 2016).

Two dynamics with contradicting effects can be observed from these two examples. For one, they show that incorporated attention capital can alleviate some of the economic requirements to enter the public sphere. However, on the other hand this is only possible because of preexisting medial infrastructure that in turn is governed by profit-seeking companies, which reintroduces the economic logic of functioning. So, the 'leveling' of the playing field by social media platforms comes at a price. This price is no less than completely surrendering the infrastructural,

where one can invest one's attention capital, to the owners of objectified attention capital. How the owners of objectified attention capital are putting this power to use and what repercussions this entails will be discussed in the now following second part of this thesis.

5. The Extension of Man and the Rules of Media

Having established the concept of attention capital and its logic of functioning, the second part of this thesis will now embed this new concept into already existing media theory. As will be argued in the following chapters, understanding digital companies like the 'big five' primarily as owners of objectified attention capital allows for a new perspective on their societal influence. Holding the key to objectified attention capital equals holding the key to the minds of billions of people on which the functioning of attention capital has severe influence.

However, before taking a look at the combined influence of the joint forces of objectified attention capital and digital media on the human mind, the interplay of objectified attention capital and digital media itself needs some clarification. For this, the works of media scholar Marshall McLuhan pose fruitful ground, demonstrating the conceptional similarities between media and technology. Even though he did not live to experience the emergence the internet and its commercialization, McLuhan already laid out the conceptional framework of how media is striving towards technological innovations like the internet. This facilitates the contemporary adaptation of his theories while still retaining his critical analysis. Applying the concept of attention capital to his concept of 'the reversal of media' (McLuhan, 2005) will then allow for insights into the loss of human intentional control over digital media, highlighting the role of objectified attention capital in this process. Afterward, the repercussions of the tools employed by digital corporations are analyzed with the Habermasian terminology of 'colonization' (Habermas, 1987). Even though Habermas' works on the transformation of the public sphere were also tar-

geted at developments before the emergence of the internet, his theory falls in line and strengthens the hypothesis of this work, that economic factors are becoming a dominant power in how the (medial) world is constituted, undermining human control in the process.

5.1. The Relationship of Media and Technology

Taking a step back and looking at the long way media technology has come brings back a notion that might get lost only accounting for its status quo. The information people gather with their innate senses during life and the information that are artificially available to them especially through digital media have become so closely intertwined that one could forget that they are different in nature. The interaction with media has become so natural that it is seldomly asked what media is used for and what problem it solves. Questioning these everyday interactions entails the questioning of media in its original intent – as a tool, or as Marshall McLuhan called it – the extension of man: '*All media are extensions of some human faculty — psychic or physical'* (McLuhan, Fiore, & Agel, 1967).

However, this definition of media by McLuhan is also very similar to attempts of defining technology, which is also often characterized as being an extension of human faculties (e.g. see Ihde 2002). McLuhan uses the terms technology and media interchangeably, which points to his understanding of both of these concepts. *The message*, the cultural or material product that is conveyed, and *the medium* that acts as a conveyor are the same thing as his famous quote "the medium is the message" (McLuhan, 1964, p. 9) embodies. This was criticized by media-scholars like Régis Debray, claiming that McLuhan was "confusing technology itself with its application" paraphrasing Umberto Eco:

> "*[. . .] McLuhan mixes together under the same label of medium the channel or material vehicle of information, the code or internal structure of a language, and the message or content of a concrete act of communication*" (Debray, 1996, p. 71).

There certainly is some analytic use in splitting up this convoluted term of McLuhan, especially when differentiating between (old) analog media and (new) digital media, since their differentiation is inherently technological in nature. Many of the reasons why digital media is even considered as 'new' media lie in the technological advancements of digital information transmission. These advancements provide amongst other things for lossless multiplication and instant transmission of media and therefore enable the near-zero cost of information which enables the attention economy in the first place. Discerning between technology and media then allows for an approximation on the effects a certain technology has on the medial content it is transmitting. McLuhan, who admitted himself that he was not set out to explain but much rather explore (McLuhan & Powers, 1989), might have just observed a process of assimilation of technology and media, which obscures their distinctiveness. In Chapter 7.2, the argument will be brought forth that this is indeed the case and that technology, utilized by the owners of objectified attention capital, is assimilating and imitating medial content.

Having illustrated the close relationship of media and technology, the next chapter will introduce McLuhan's concept of the 'Rules of Media', central to the goal of embedding attention into media theory, which will prove useful to analyze the interplay of technology and the human mind.

5.2. The Rules of Media

> "*Electronic man wears his brain outside his skull and his nervous system on top of his skin. He is like an exposed spider squatting in a thrumming web*" (McLuhan & Powers, 1989, p. 94).

McLuhan's metaphor of 'electronic man' might best explain how media should be understood as the extension of human senses. Electronic media allows people to be present at places all over the world at multiple places simultaneously. The development of the worldwide web even opens up a two-way street for its users, not being confined to participate passively in an event but rather actively shaping it through one's digital presence. McLuhan observed that new technologies tend to follow a certain pattern which he called 'Laws of Media' (McLuhan, 2005). According to these laws, a new technology always produces the following four effects: It 1) enhances or intensifies some human function, 2) obsolesces some other tool or medium, 3) retrieves something from the past, and pushed far enough, reverses or 4) flips into a complementary form (Logan, 2010, p. 39). Robert K. Logan, who researches in the media-ecological tradition of McLuhan, applies these rules to digital media:

1) *Digital new media enhance interactivity, access to information, and two-way communication.*

2) *They obsolesce mass media, like television and newspapers.*

3) *They retrieve community.*

4) *And pushed far enough they flip or reverse into hyperreality or the loss of contact with nature and our bodies.* (Logan, 2017)

This last step, the flip or reversal of digital new media, will be the starting point of the following chapter, demonstrating how the capitalization and the surge in power of objectified attention capital are advancing and profiting from this reversal.

5.3. The Reversals of Objectified Attention Capital

Even though McLuhan didn't get to experience the rise of digital new media, he predicted its emergence and its effects. Extending on the quote above, he wrote:

> *But he [electronic man] is not flesh and blood; he is an item in a data bank, ephemeral, easily forgotten, and resentful of that fact* (McLuhan & Powers, 1989, p. 94).

These data banks he observed back then are now owned by the large global digital companies. The user data they gather is part of their objectified attention capital, serving them to better predict the behavior of their consumers. This technological development of digital new media hints at an even more dramatic reversal according to the laws of the media. As Logan also notes, this second form of reversal is questioning the origin and direction of the extension of man (Logan, 2017). If the original use case of digital media and its infrastructure were to extend the senses of the human body, it seems like this relationship is on the verge of flipping. This would mean that technology is no longer the extension of humans, rather humans must be understood as the extension of technology.

There are two things to note at this point. Firstly, there is no denying that throughout history, technology has always shaped the lives of the people using it, so in a way, technology is always closing a feedback loop that influences its user, like the train shaping the way humans travel or the clock shaping the way they

perceive time. This is also acknowledged by McLuhan:

> *All media work us over completely. They are so persuasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered (McLuhan et al., 1967, p. 26).*

The difference in the case of the reversal of digital new media is the relationship of intention that connects technology to humans. Originally, the intended use of a tool was as a means to an end, where humans were in control over what end should be pursued. Now, the question of whose intention and benefit technology resembles gets more difficult to answer. To be able to answer this question, a closer look upon how this reversal of digital media manifests itself in the business practices of media companies will give some insights into the interests at play and the role of human behavior for these companies.

5.4. Behavioral Surplus

Although the predicament of data-collection by big tech-companies has been eyed upon for some time, Shoshana Zuboff is one of the first authors to deliver a comprehensive picture of the capitalist embedding of data collection and the power these data-banks give to their owners. Using the term 'behavioral surplus' Zuboff describes the practice of companies to extract data from the users of their services (Zuboff, 2019). Whilst that data is partially used to improve services like traffic information, custom-tailored content or health advice it is also precious as a means to build a data set that - with its billions of connected devices worldwide – can draw such precise pictures of human behavior across the globe that it allows the

owner of these data sets to predict future trends to capitalize on them (Zuboff, 2019). As Zuboff writes, the user profile information, including the relationships to other user profiles, is getting more and more comprehensive with every interaction of a connected device, of which there are increasingly many (Statista, 2016).

The algorithms managing these data sets are usually privately owned and outside of the scope of public surveillance. While the structural injustices these algorithms produce will resurface later, another problem is posed by the increasing complexity and self-referentiality of these systems, as Logan citing Douglas Rushkoff states (Logan, 2017):

> *Projects such as IBM's Watson or Google's Machine Learning lab are not augmenting human intelligence so much as creating systems that think for themselves. With every keystroke and mouse click we make, their algorithms learn more about us while simultaneously becoming more complex than we—or anyone — can comprehend* (Rushkoff, 2016, p. 90).

Picking up on the 'spider in its web metaphor' by McLuhan where the medial infrastructure serves as the extension of human senses like the spiderweb extends the senses of the spider, this development of private and non-transparent datasets turns this metaphor on its head. Instead of extending its senses, the spider finds itself in a foreign web that is using the movements of the spider to record and anticipate its behavior, thus extending the web and making the spider its content.

6. The Colonization of the Human Mind

"Scattering something of yourself
everywhere in the world is the best way to conquer:
small colonial areas in the minds of others."
N.N.

There are, however, still some missing links on how exactly this aforementioned reversal takes place, especially in the way the reversed stream of information (technological infrastructure collecting data of humans instead of the other way around) affects the constitution of the human mind.

Using the term of 'colonization' serves the purpose of building upon the already existing theoretical works of Habermas, to later integrate it into his theory of the 'colonization of the lifeworld' (Habermas, 1987). In the following, it will be demonstrated how human intention is substituted by a technological rationale, similarly to the Habermasian notion of colonization:

> "*When stripped of their ideological veils, the imperatives of autonomous subsystems make their way into the lifeworld from the outside—like colonial masters coming into a tribal society—and force a process of assimilation upon it.*" (Habermas, 1987, p. 355).

With the help of the french philosopher Jaques Ellul it will be argued that the subsystem of technology is becoming autonomous and self-augmenting. In this process the following two sections will examine how technology interacts with

the human mind, and - speaking in the terminology of Habermas - assimilates its faculties to its end. Using the framework of the attention economy and its different forms of attention capital, as well as the previously introduced model of the human mind, three different points of contact can be observed: at the level of *attention*, *beliefs*, and *desires*.

6.1. Colonizing Human Attention and Desires

As shown in the first part of this work, human attention can be understood as the main access point to the human mind. Since beliefs and desires are highly contingent on the information that is paid attention to, whoever can influence this choice has a powerful tool at their disposal. To gather the valuable behavioral surplus data to further increase their objectified attention capital, companies like Alphabet, Facebook, Apple, and co. are employing what is called *persuasive design.*

Persuasive design narrowed down to digital technology under the term captology (**C**omputers **A**s **P**ersuasive **T**echnology) is an approach to product design that aims to influence or nudge human behavior in a certain direction (Fogg, 2002). Although captology aims at both, human attention as well as human desires (which makes sense since desires and attention are interacting with each other), the practices themselves can be differentiated. Online notifications, for example, are an instance of obvious attention-seeking. While they can be very useful to stay up to date, they are also used to bring a user back to a platform. Facebook has been quite aggressive with this practice, over time alerting its users about more and more unrelated activities that were happening on the site to gather their attention

(Ravenscraft, 2019). So even if there is no desire on the side of the user to at a given point in time interact with the digital service of Facebook, it still reaches out to try and steer the attention towards its service. There are other examples, too, like the color choice of the notification icons that show up on the home screen of smartphones next to their applications, which are red not because of aesthetic choices: Again, taking Facebook as an example, they first introduced notification icons as being blue, fitting their corporate design but after some experimentation noticed that red was much more likely to lead to user-interaction (Lewis, 2017). Other practices try to, once the user's attention is successfully directed towards one's service, keep it there as long as possible. This is ensured by removing as many interruptions that could cause the user-attention to sway away. An example of this is the endless newsfeed the majority of social platforms have implemented, where new content is progressively loaded while the user is scrolling down the feed. Coming to the end of something and having to actively decide if one wants to continue on the next page necessitates the user to reevaluate their intention and motivation, possibly leading to the decision to focus their attention elsewhere. By removing interruptions like these, cues to stop and reevaluate are minimized, thus maximizing the time a user spends on a platform.

Other more subtle ways of persuasive design commonly target human desires. In the early days of Facebook, the now so famous 'Like-Button' had not been invented yet. Its inventor and developer Justin Rosenstein originally intended it to "*spread little bits of positivity*" (Lewis, 2017) but it was quickly instrumentalized to keep users in a feedback loop, exploiting two deeply anchored human psychological behaviors, the first one being the social nature of humans as the US-American persuasive design researcher Adam Alter notes:

> "*Social confirmation, or seeing the world as others see it, is a marker that*

> *you belong to a group of like-minded people. In evolutionary terms, group members tended to survive while loners were picked off, one by one, so discovering that you're a lot like other people is deeply reassuring*" (Alter, 2017, p. 224).

There are many more such examples, but they all demonstrate the switching of roles that were described in the reversal of digital media. The human intention behind using technology, for example, to connect with friends or read the news, is being overpowered by the logic of functioning of objectified attention capital, utilizing persuasive design to maximize the profits of attention. The intention does not lie with the users of digital media anymore, but rather with digital media itself, cementing this relationship by employing the subversive tools of persuasive design. Recalling Habermas' definition of colonization, the (intentional) goals of media consumers are assimilated with the goals of the owners of objectified attention capital.

6.2. Colonizing Human Beliefs

The colonization of human beliefs adds another layer of influences barraging the human mind. While beliefs are also affected by the (persuasive) presentation of media, they are of course also formed by the actual content.

Starting with the influences of characteristics of digital new media, they can take on many shapes such as videos, text-based articles or an interactive websites, while they share their general embeddedness in the constant and overwhelming stream of competing information. One consequence of this embeddedness is the fast pace

of information that is encouraged by quickly refreshing newsfeeds on social media or news sites in an attempt to conform to the above-mentioned rules of attention (e.g. securing the 'newness' of information to pass the attention filter). What follows is described by the American technology and cognition author Nicholas Carr:

> "*The influx of competing messages that we receive whenever we go online not only overloads our working memory; [. . .] The process of memory consolidation can't even get started. And [. . .] the more we use the Web, the more we train the brain to be distracted – to process information very quickly and very efficiently but without attention*" (N. Carr, 2011, p. 194).

He identifies the digital platforms that are optimizing their appearance to maximize for attention as the culprit for rewiring the brain. The way they present information depreciates contemplation or reflection, and inhibits long-term memory consolidation processes. With this analysis, he draws from the research of the embedded mind hypothesis that analyzes how the environment a person operates in is shaping human cognition. This rather young field of cognitive research is still contested, but if the hypothesis of embeddedness holds, the form of media that is consumed has a lasting effect on the functioning and capacity of the human mind. A rather conservative approach is called the Hypothesis of Embedded Cognition, which is described by one of the American pioneers in the extended mind research Robert Rupert:

> "*According to the Hypothesis of Embedded Cognition (call it HEMC), cognitive processes depend very heavily, in hitherto unexpected ways, on organismically external props and devices and on the structure of the external environment in which cognition takes place*" (Rupert, 2004, p. 393).

Compared to information that has enough time to be processed appropriately, the reliance on external media transporting a barrage of information implicates a less consolidated and volatile set of beliefs, since there is so little time to process the onslaught of information. It can also lead to the conviction that since information about almost every happening in the world is available, one can achieve a good representation of global events via electronic media, a view that was already contested before the dawn of the internet by Jean Baudrillard. In his trilogy about the Gulf War (Baudrillard, 1995), he doubted that what was reported on the war by the media was a true representation of what was actually happening. He was not suggesting a targeted misinformation campaign, he was rather hinting at the very narrow window media was able to open into this region, necessarily distorting and reducing the war events.

There is, however, another seemingly paradoxical development happening with the colonization of the human mind. If it should indeed be the case that the roles of 'humans as the consumers of media' and 'media as the providers of content' are switched as proclaimed by Logan, what is it then, that is consumed by humans since there is still content being consumed by them? The answer might seem trivial: They consume themselves.

To illustrate this reversal more clearly, one can imagine this process step by step. Before the reversal of digital media, human consumers of media are inquiring information about an occurrence around the world, looking for information that they can then consume for example in the form of a news article. After this reversal happens, however, it is not the intention of the individual that is decisive for when or what kind of new inquiry for information is made. It is rather the need for data and attention on the side of incorporated attention capitalists like Facebook, that through practices of persuasive design is trying to evoke this need on the

side of the individual. Through previously extracted data, algorithms can display content that is suited and sometimes even individually customized to motivate engagement. In this way, what one consumes is partially the product of one's own previously exhibited and recorded behavior.

This can be observed when for example a person has shown interest in soccer matches in the past and is subsequently presented with content related to this interest. What is rather unproblematic for hobbies like sports, however, is potentially highly polarizing for political interests. Based on this mechanism one is primarily presented with one's own views, however, it can quickly seem like one's worldview is representing a norm, since there is little opposition to face, leading to one-dimensional and homogeneous set of beliefs. This development is generally known as echo-chambers and filter bubbles, and whilst the threat they pose has been widely acknowledged (Barberá et al., 2015), this perspective of role-reversal demonstrates how the structural setup of attention-capitalist digital infrastructure undermines and partly replaces its original function: to provide new information on the request of its users.

6.3. Technological Intentionality?

The previous section demonstrated the human embeddedness in and dependence on media. This again is not a new claim in of itself, since the hypothesis that human experience is only possible through media as been around before (e.g. Luhmann, 2002). However, the relationship between the embedded person and its medial surroundings is changing with the emergence of a kind of ubiquitous form of intention present in digital infrastructure. The American philosopher of science and technology Don Ihde, who in the 1990s already researched the influence of technology on

human cognition, makes use of the term 'technological intentionality' (Ihde, 1990, p. 32). With it, he describes the intended use of a technology that is inscribed in it. For example, a typewriter intends to accelerate the production of typed text. This section will elaborate upon, how different intentions also form different kinds of intentional relationships between humans, technology and the world, thus enabling an intentionality analysis of the relationship between objectified attention capital and human intention.

Building upon the work of Idhe, Peter-Paul Verbeek, a philosopher of technology himself, discerns different relationships of intentionality between technology, the world, and humans. These relationships include for example what Idhe calls 'embodiment relations' for technology that extend the human faculties, meaning technology *through* which the world is perceived. This is the case for technology like a phone, where "*We speak with other people through the phone, rather than speaking to the phone itself*" (Verbeek, 2015, p. 29). Idhe schematizes this kind of relation of perception between humans, technology and the world like this:

$$Human \longrightarrow Technology \longrightarrow World$$

Another type of relationship would be for example the hermeneutic relation, which describes the perception of the world as technology represents it, for example, the way in which an MRI-Scan depicts the human brain. "*Here, technologies form a unity with the world, rather than with the human being using them*" (Verbeek, 2015, p. 29). The schema for this would look like this:

$$Human \longrightarrow (Technology/World)$$

These depictions allow for what Idhe calls an intentionality analysis:

> "*Technologies, by providing a framework for action, do form intentionalities and inclinations within which use patterns take dominant shape*" (Ihde, 1990, p. 141).

There are several more of the types of relationships humans can enter with technology and the world, however, they all have in common that they put humans at the center of intentionality, even if some types of technology preclude some forms of intention. For example, it is (by today's standards) inconceivable that humans would begin to use phones as a means of transportation (although the concept of a smartphone is a good example of how intentionalities of technology can be adapted over time, leading towards multiple new use-cases).

If, however, digital media is understood as a technology and its reversal is considered a possibility, the privileged position of humans is threatened. In this case, a new schema can be deduced:

$$Technology \longrightarrow (Humans/World)$$

Humans and the world merge since the behavioral data that is then extracted by the technological devices employed by big corporations stems from humans interacting with their surroundings. Filling this scheme with the terminology that was devised before, the relation would look like this:

$$Objectified\ Attention\ Capital \longrightarrow Technology \longrightarrow Humans$$

This at first might seem unintuitive since objectified attention capital was defined

as mainly consisting of technological infrastructure. However, a distinction must be made between amassed attention capital that resembles the digital infrastructure and the specific technology that is used in an instance to record data about human behavior. Since this behavioral data is vital to the profitable investment of objectified attention capital, it will utilize and even develop new technological means to this end. This notion of 'technological self-augmentation' is also brought forward by Jacques Ellul, who writes:

> "*At the present time, technique has arrived at such a point in its evolution that it is being transformed and is progressing almost without decisive intervention from man [...] [T]his is a self-generating process; technique engenders technique*" (Ellul & Merton, 1964, p. 85f.).

Although Ellul has been criticized for his understanding of technique, which in his definition engenders almost all aspects of human life, this critique does not apply in this use case, since it only relates to a narrower understanding of technology as digital infrastructure and its sensors in the real world such as connected smart devices.

6.4. Regarding the Economic Embedding of Technology

This reversal of roles poses another problem. While it is not that controversial to ascribe intention in the usage of technology by humans, the attribution of intention to an entity like objectified attention capital in the form of digital infrastructure is more problematic.[2] However, leaving the place of intention empty causes an explanatory gap for the driving force of the emergence and expansion of the 'self-

[2]For a theoretical approach to technological intentionality see e.g. Latour (2017).

generating process', as Ellul (1964) calls it. There is, however, another possibility to find a process that is advancing this process of colonization, that will be addressed in this section.

To reveal beneficial feedback loops in the process depicted above, it must be embedded into the larger picture of the capitalist mode of production. The process depicted above illustrates objectified attention capital employing technology to extract behavioral data from its consumers. This enables two subsequent processes. In the first sub-process, the extracted data is utilized to anticipate and refine the future technology employed to gather more data. This process in itself, however, is not sustainable, since as it stands right now it represents a closed loop that only turns human attention into behavioral data, which does not suffice to gather the material resources to keep this process running. A company like Alphabet, for example, could not survive if their business model consisted only of collecting data and turn the into free services. The second sub-process changes that by selling parts of the same data and attention that are gathered to outside parties via possibilities for advertisements or access to the data sets themselves. This guarantees a steady stream of income and embeds the behavioral extraction in the capitalist mode of production. Different owners of objectified attention capital compete via their comprehensiveness and composition of their data sets, which urges them to expand their technological instrumentarium, perfecting their means of extraction and only being obliged to incorporate human needs when they overlap with their fight for economic survival. It still holds that in a way rather intangible technology in the form of algorithms, data sets, and digital infrastructure is advancing more tangible technology like smart devices, thus augmenting itself. However, the driving force behind this process is the logic of capital accumulation and its fight for survival on the market.

A similar process was already described by Theodor W. Adorno and Max Horkheimer in their theory of the culture industry. Talking about the standardizing role of technology in the culture industry, they wrote:

> "*A technological rationale is the rationale of domination itself. It is the coercive nature of society alienated from itself. [. . .] This is the result not of a law of movement in technology as such but of its function in today's economy. The need which might resist central control has already been suppressed by the control of the individual consciousness*" (Horkheimer & Adorno, 2002, p. 95)

Concerned with the rationale of technological progress and who is in charge of it, they are not presupposing a driving force that is inherent to technological self-augmentation. It is the 'function' technology holds in a (capitalist) economy, in which technological progress is merely a symptom of profit-seeking. Accordingly, it is interesting to note their mentioning of the 'control of the individual consciousness', which in their view plays a central role in the success of the culture industry, posing a similar notion like the aforementioned concept of colonization of the human mind. Only if the consumer does not expect more from cultural content like movies or music than the standardized culture industry is able to provide, does this system keep running. Digital media and the extraction of behavioral surplus data adds a new quality to this containment of individuals in the culture industry. As the aforementioned colonizing tendencies show, the digital tools of content tailoring and data extraction are achieving a very similar goal of managing expectations and forming a medial culture that fosters the generation of profit. In this regard, digital media can be seen as a refinement in the instrumentarium at hand to align human expectations with the medial content available, putting technological rationale in place of human 'need' or intention.

7. The Colonization of the Lifeworld

The previous chapter laid out the colonizing forces of technology and media on the human mind. It further examined a possible driving force behind the accumulation of attention capital and its subsequent monopoly over technological progress. However, whilst very profitable, the human mind is not the only frontier of objectified attention capital.

In a speech at the ADL 'never is now' summit that quickly went viral, the comedian and actor Sacha Baron Cohen accused Facebook and other social media platforms of running the "*greatest propaganda machine in history*" (Cohen, 2019). He warned against the algorithmic filtering of content also mentioned here and the threat these platforms pose to the democratic process, mentioning the foreign interference in the US presidential election in 2016. But he also made another important point, which could easily be dismissed as entertaining rhetoric, but at least matches the importance of foreign election interference in a democracy. At the beginning of his speech, he mourned that the success of his jokes as a comedian was threatened since they rely on a common understanding of truth.

> "*When I, as the wanna-be-gangsta Ali G, asked the astronaut Buzz Aldrin "what woz it like to walk on de sun?" the joke worked, because we, the audience, shared the same facts. If you believe the moon landing was a hoax, the joke was not funny" (Cohen, 2019).*

The problem of a lack of common grounds, however, is much more severe than jokes losing their humor (which Cohen acknowledges). The prevalence of fake news and the proclamation of polarized parts of societies that cannot relate to the

same world-experience can also partially be traced to how attention capital and the attention economy operates. The sharing of the same facts by people who can then communicate and deliberate over their opinions is a vital part of what Habermas calls the 'lifeworld'. This concept of his is strongly linked with his theory of communicative action. For Habermas, communication and understanding between actors are only possible when they share a common conception of the spatiotemporal and social environment they are communicating in (Habermas, 1987). This includes a conception of hierarchies, cultural norms, language as well as a similar conception about the material world.

In the case of Cohen's jokes about the moon landing, successful communication would entail the common conception that the US-American moon landing actually took place. If this reference-frame of the lifeworld is not shared, communication fails. This, for example, is the case if people do not agree over the factuality of the moon landing, but this also happens when their lifeworld becomes more and more personalized and self-referential. If medial content increasingly follows the logic of the reversal of objectified attention capital, making consumers of media consume themselves, the possibility for common ground becomes smaller and smaller. This mainly happens through personalized news media that largely informs the worldview of an individual, through tailored advertisements filtering products and experiences a consumer is exposed to as well as cultural goods that will shape the cultural and social ambitions of the consumer. On-demand video streaming could stand as an example of this process. Of course, it has its upside, but it also fragments the shared lifeworld of a given society. Having all the content in the world on the press of a button does away with shared mass-experiences. A problem, which can already be observed on the family level, where it is feasible to have the whole family sitting in the same room, but each family member consumes their own, custom-tailored content. This fragmentation is the first of two

ways how objectified attention capital and its technological tools are colonizing and fragmenting the lifeworld.

The second one goes in tandem with Habermas' conception of the colonization of the lifeworld. He observes an uncoupling from and subsequent colonization of the lifeworld by what he calls system or steering media, which will be elaborated upon in the next section (Habermas, 1987). In the systemic world of steering media, instrumental rationality of bureaucracies and market-patterns replace the need for communicative negotiation. Habermas mainly mentions money and power as examples for steering media. Regulations by states or the economy are no longer controlled by or emergent from communicative action, but rather by their rationalized logic of functioning. Since these systems are often used to mediate processes in the lifeworld, they tend to overtake and colonize aspects of it, replacing previous (more flexible but also more effortful) communicative action by stratified and rationalized but therefore less flexible institutions like the market.

7.1. Objectified Attention Capital as a Steering Medium

In the case of the attention economy, objectified attention capital can be both viewed as an attribute of power as well as of money. As was demonstrated in the colonization of the human mind, objectified attention capital is a highly suggestive infrastructure, influencing many aspects of human life. So, if the steering medium 'money' is colonizing the lifeworld by taking over the valuation of the prosperity of a state expressed in the GDP, a similar process can be observed for objectified attention capital. Instead of qualitatively determining if medial content is good or bad, the 'like-system' that many social platforms have in place quantifies that feedback and makes it extractable for data-collection and valorization.

This incentivizes people to not relate to each other via the qualitative medium of commenting (which already is a highly restrictive medium, since it precludes many aspects of for example body language), people are communicating via the pre-composed message that the 'like' resembles. It's mainly on the grounds of quantifiable metrics like these that algorithms decide what kind of content gets spread. Adapting one's behavior to conform to these metrics precisely resembles what Habermas calls colonization of the lifeworld.

7.2. Objectified vs. Institutionalized & Incorporated Attention Capital

The colonizing tendencies of objectified attention capital are also observable in the realm of attention capital itself. Embodying an already objectified version of incorporated attention capital, institutionalized attention capital is prone to be taken hold of by objectified attention capital. An example can be found in so-called 'verified accounts' on social media. It is a way of media corporations to verify the identity of a prominent person using their service, thus building trust with their users. It is most commonly marked with a small icon next to the username which signifies that followers of a certain account or profile can be sure not to follow an imposter (Lips, 2018). These verifications often come with certain perks for the account that is verified, as for example a separate news feed on Twitter that lets you connect with other verified accounts more easily (Worthington, 2016). It's a win-win situation for both people of public interest that can mitigate some risk of having an online presence, as well as online platforms, that can thus attract more prominent people and subsequently more users to their platform. However, in this process, this step of verification and the institutionalization and objectification

of attention capital is fully reliant on the policy of the corresponding platform provider. And their rules to become and stay verified are rather opaque and arbitrary, as this excerpt of the Twitter FAQ demonstrates:

> "*In accordance with the Twitter Terms of Service, Twitter may remove the verified badge and verified status of a Twitter account at any time. A verified account may also lose its verified status if changes to the profile settings modify the account's original purpose. Previously verified accounts may not be eligible to have badges restored.*" (Twitter Help Center, 2019).

The vague language and lack of transparent rules shows just how much leeway and therefore control Twitter preserves for itself.

Another instance where this control over institutionalized attention capital by objectified attention capital becomes visible is in the realm of content moderation. Since more attention is given to the spread of hate speech online, several states have brought forth legislation to contain it. In the case of Germany, the 'Network Enforcement Act' was devised (NetzDG, BGB), which holds social media corporations responsible for the content that is published on their platforms. But at the same time, the law leaves it to said corporations to determine if reported questionable content is in accordance with federal law. In this case, a task that law enforcement conventionally presides over, is now delegated to the owners of objectified attention capital. This privatization of executive powers was also criticized at the time (Hiller, 2017), but the law still passed, transferring these powers from institutionalized to objectified attention capital.

This shows that there is an expansive tendency of objectified attention capital observable that tries to take over roles of institutionalized attention capital and thus gets to instrumentalize this function for its own accumulative gain. Now the

question remains, if there is a similar tendency observable in the relationship of objectified towards incorporated attention capital?

The quality of incorporated attention capital makes it difficult to objectify. As was explicated in its definition above: "*Incorporated and therefore internalized capital can, therefore [...] not be passed on by donation, inheritance, purchase or exchange at short notice*" (Bourdieu et al., 1983, p. 187). Bearers of incorporated attention capital have the ability to create and follow complex social and cultural patterns that they know their followers value. This is very difficult for technological infrastructure to simulate, since, for example, traits like creativity cannot be simulated by artificial intelligence yet, as even companies on the bleeding edge of technology like IBM admit: "*Creativity may be the ultimate moonshot for artificial intelligence*" (IBM, 2019). This does not mean, however, that there are no attempts at simulating or controlling incorporated attention capital by its objectified relative.

Objectified attention capital manages to flip the roles of consumers and media, leading to the consumer consuming themselves. So even if objectified attention capital does not create the actual content, it still steers the attention of the media-consumers to certain content. Another form of control objectified attention capital has over its incorporated relative is its ability to set the framing of medial content. This is the case for example on platforms like Twitter or TikTok, where on Twitter, posts are limited to 280 characters (Tsukayama, 2017) and on the video platform TikTok the maximum video length is 60 seconds (Zhou, 2019). But partially controlling and limiting the realm of incorporated attention capital is not the same as the colonizing tendencies laid out before, and as will be shown in section 8.4, under the right political and economic circumstances the workings of incorporated attention capital can keep the power of objectified attention capital in check. To

illustrate why keeping the power objectified attention capital in check, four major repercussions of the current political end economic embedding of objectified attention capital will be brought forth in the next chapter.

8. Four Repercussions of the Workings of Capitalized Attention

This chapter will undertake an assessment of the repercussions of objectified attention capital, looking at four areas adversely affected. However, these areas at the same time pose promising grounds for action against colonizing tendencies, where with the analytical instruments of this work, necessary adjustments to the way digital technology is socially and economically embedded can be devised.

8.1. The Attentional Formalization and Decline of Public Debate

This section will focus on the repercussions of digital media as a self-augmenting and colonizing system upon the public sphere – a vital part for a functioning democracy. The analysis will again be based upon Habermas' conception of the public sphere and his observations about its structural transformation (Habermas, 1991).

In his work 'The Structural Transformation of the Public Sphere', Habermas observes a shift from a culture debating to a culture consuming public (Habermas, 1991). He traces the dissolution of the many clubs, salons and other loci that defined the bourgeois public sphere of the 17th until the early 19th century, where current matters used to be discussed mostly by wealthy men.

"*In the course of our century, the bourgeois forms of sociability have found*

> *substitutes that have one tendency in common despite their regional and national diversity: abstinence from literary and political debate*" (Habermas, 1991, p. 163).

He states that the remaining places where discussions about public matters are led have been commercially formalized and optimized for consumption. Especially new media, under which at the time he subsumed radio and TV, in his view discourages active participation and disagreement (Habermas, 1991).

This poses a problem for his concept of the public sphere, since this commodification of the cultural content of the public sphere precludes the communicative and deliberative momentum needed for it to pose as a control mechanism for state power (Habermas, 1991).

In the early days of the internet and digital media, it was thought that this one-directionality and consumer-centricity of media could be overcome, hoping for a thriving public sphere. Today, the largest digital social platforms are seen as a cause of a detrimental debate culture, where hate speech, polarization and fake news are on the rise. Understanding these effects with the concept of attention capital enables an analysis of these occurrences to answer the question, why privately-owned digital platforms are threatening instead of supporting and advancing debate in the public sphere and thus the democratic process.

Even if the part of the 'one-directionality' of commercialized media in Habermas' analysis does not hold true anymore for digital media, other parts of it still do. His diagnosis of the 'formalization' and 'commercialization' of the cultural and political debate goes hand in hand with his concept of the colonization of the lifeworld. As was demonstrated in the third chapter of this work, the rules of attention are gatekeeping the public sphere. These rules are exploited by objectified attention

capital, acting as a steering medium to guide this attention in ways that make it suitable for data extraction as well as economically profitable. This entails a formalization of the cyber-spaces where most political discussion takes place. As shown, the owners of objectified attention capital have a tight grip upon the digital infrastructure and media that are used for online communication. On the side of content creation, they set the rules on how content can be presented (e.g. through character-limitations or not allowing text at all but only videos and images) and on the side of content consumption, they filter for the content they deem most profitable for their business-model. Through this tight net of content-control, spaces that could be used for open and free debate, where only the 'forceless force of the better argument' (Habermas, 1990) counts, is tainted by economic interests that are built into their foundation. So even if a bi-directionality of communication is enabled by digital platforms, it is held hostage by the interests of objectified attention capital, forcing the debate in exploitable straight-jackets and thus undermining its emancipatory possibilities. In this way, Habermas' observation still stands when he argues that even the discussion of political events is being turned into a consumable experience.

This is also reflected in the reversal of the roles of media and consumers since by participating in these formalized and commercialized discussions, former consumers are now the producers of digital media content who are then consuming themselves. In doing so, they adhere to the principles of objectified attention capital during production and consumption of medial content, giving objectified attention capital more opportunity to extract value in form of data and attention. The emergence of terms like 'post-truth politics' substantiate this analysis. The problem with fact-checkers employed to mitigate fake news, however, is that they are also dependent on the rules of attention and the algorithms of objectified attention capital. This means, that even if a piece of misinformation is corrected later

on, it is unlikely that this correction will reach the same echo-chambers and filter-bubbles that the original piece of information was shared in, simply because the content correction does not overlap with the profit-driven conditions to maximize user attention.

8.2. Filtering for Outrage: Repercussions for Democracy

This formalization and subsequent decline of public debate has dire consequences for the democratic process. Today, the decline of public debate is framed by terms like hate speech and polarization that are seen as partially responsible for populist movements across several western countries.

In the example of Donald Trump's successful election campaign described in section 3.2, outrage was one of the main characteristics of his medial presence. Technology ethicist and ex Google-employee James Williams identifies moral outrage as a pivot point in how digital platforms are shaping discourse online (Williams, 2018). He notes that while outrage might have been a beneficial trait in earlier human evolution, the connected world amplifies outrage to dangerous levels.

> "*In the past, when we lived in environments of information scarcity, all the world's moral transgressions weren't competing for our attention every day. According to a study in the US and Canada, less than 5 percent of the population will ever personally experience a truly moral misdeed in real life (Hofmann, Wisneski, Brandt, & Skitka, 2014). However, in the era of smartphones, if anyone experiences a misdeed, then everyone potentially experiences it*" (Williams, 2018, p. 72).

So, one factor in a perceivably more outrageous world is just the quantity of

available information. However, outrage is also a powerful tool to generate attention. Mirroring the 'rules of attention' brought forth in chapter 3of this work, the anger that is connected to outrage is, as Williams writes, a high-arousal emotion (Williams, 2018), which incentivizes profitable user-interaction and makes outraging content more likely to be promoted by an algorithm.

Citing Martha Nussbaum, Williams notes that the feeling of outrage is closely connected to feeling morally superior (Williams, 2018). Sometimes moral outrage can be an appropriate reaction, for example in the case of sexual abuse. However, Nussbaum notes that the main goal of this kind of outrage is "*lowering the status of sex offenders and raising the status of good people like herself*" (Nussbaum, 2016, p. 30). While sometimes moral outrage is very well justified and in some cases can lead to structural changes, it poses dangerous grounds for a liberal democracy. Although the meaning of the term populism is disputed, one of the most widely agreed upon conceptions stems from the political philosopher and historian Jan-Werner Müller, who is concerned exactly with this emergence of a moralistic mode of functioning for democracy. He understands populism as

> "*a particular moralistic imagination of politics, a way of perceiving the political world that sets a morally pure and fully unified [. . .] people against elites who are deemed corrupt or in some other way morally inferior*" (Mueller, 2016, p. 19).

By reproducing the worldview of its users either through affirmative or outrage inducing content, objectified attention capital polarizes the electorate. This is facilitated by the social fragmentation that is also observable in the public sphere and caused by the colonization of the human mind and the lifeworld as laid out in the previous chapter.

Müller goes to argue that these moral discrepancies cause a delegitimization of the political opponent. This delegitimization poses the grounds on which populists build their claim to power upon, by opening up an 'us vs. them dynamic' where only 'us' has morally legitimate grounds to be part of the people who should be politically represented.

> „*In addition to being antielitist, populists are always antipluralist: populists claim that they, and only they, represent the people. Other political competitors are just part of the immoral, corrupt elite, or so populists say, while not having power themselves; when in government, they will not recognize anything like a legitimate opposition*" (Müller, 2016, p. 19).

Since liberal democracy is highly dependent upon tolerating different views and protecting the rights of political minorities, the fragmenting tendencies introduced by objectified attention capital are threatening its foundational pillars.

It should be noted, however, that explaining current populist developments around the world with only medial influences would certainly fall short as a comprehensive analysis of the problem. There are several other major dynamics fueling populist movements, such as economic globalization or climate change, and addressing a single one of them will not suffice. Still, the analysis of what kind of political discourse is facilitated by the logic of functioning of objectified attention capital does shed light on the question of why hate speech and a general polarization of the electorate are on the rise. Since large parts of political communication takes place on these platforms, addressing these fundamental flaws should be an absolute priority for any liberal democracy.

8.3. Biases and Discrimination in Attentional Big Data

The substitution of human intent by objectified attention capital as a driving force of technological progress aggravates and perpetuates the underrepresentation of women, non-white people as well as sexual and other minorities.

In her book 'Invisible Women' Caroline Criado-Perez gives an overview, how the under- or misrepresentation of women in data sets is affecting their everyday lives and are structurally disadvantaging them compared to men (Criado-Perez, 2019). She notes, that especially for technological innovation, the underlying datasets are heavily biased towards men, putting the male physiology and even psychology as the norm. For example, the data sets digital voice-assistants are trained upon are dominated by male recordings, making them more susceptible to the speech patterns of men (Tatman, 2016). What sometimes are just minor inconveniences, however, quickly turn into structural imbalances on a societal level. A recent case of these biases became apparent with the release of Apple's new credit card. Shortly after the service became available, there were several reports of married couples who shared all their finances where husbands had gotten a much higher spending limit than wives, hinting at a flawed algorithm that assumed higher financial trustworthiness for men (Vigdor, 2019).

Biases like these not only disadvantage women, but groups that deviate from the white, male and able-bodied norm in general. For example, the algorithms employed for facial recognition by the police in Detroit produced a heavy racial bias. Since it was trained mainly on white men, it struggles to keep people of different gender and race apart, leading to non-white non-males being more likely to be suspected for crimes they didn't commit, simply because of the algorithmic results being inaccurate (Siegel, 2019). There are many different and important

aspects to this bias-problem of databanks, including policy decisions and cultural traditions. What the attentional analysis of this thesis enables, however, is a new understanding of the goal digital infrastructure and innovation is striving towards and how this is contributing to this problem. Having identified the weakening of human control over objectified attention capital, its technologies and its influence on the human mind, it can be modeled how these injustices are reproduced. To an extent, these biased datasets will act like self-fulfilling prophecies, since they are basically building a medial world upon these biases that is then consumed and translated into the individual lifeworlds. If women are depicted as care-takers and men as financially trustworthy entrepreneurs, this will affect the aspirations of consumers who are easily influenced, especially of children, reproducing these biases.

The colonizing tendencies will then possibly aggravate the efforts to alleviate these biases, since they won't be experienced by all people who fit the norm. If the attentional filtering algorithms of objectified attention capital are biased, the information they are going to present to different groups of people will also be structurally different. This makes successful communication between the groups in the Habermasian sense less likely, since their medial lifeworlds will increasingly differ from one another.

8.4. The Struggle for Human Autonomy

There is, however, one connecting element that all of these repercussions hold in common and that the analysis of this thesis allows to account for: the ongoing struggle between capitalized objectified attention and human intention over human autonomy.

There are varying accounts of the concept of autonomy, but a central conception many of them share is that to be considered autonomous, one has to be the author or agent of one's actions, free from external intention (Buss & Westlund, 2018). The threat that objectified attention capital poses to human intent, that is to say to their authorship of their actions, became most apparent in the application of Ihde's intentionality analysis of digital technology, where humans became an end to the means of objectified attention capital. One example where this reversal of the roles of humans as a means to a technological (or subsequently economic) end and the compromise of human autonomy becomes apparent is in the application of persuasive design. Its application is considered successful precisely when it manages to override human intention and persuade individuals to do something they did not intend to do originally. In behavioral economics, this is also known as 'nudging' (Cass Taylor, 2008). As long as the intentions of the person or institution and the targeted individual or group align, this can have mutually beneficial effects. However, as was demonstrated in section 6.4, this is not the case for the goals of objectified attention capital and the intention of the users of digital media. This is reflected by the reversal of roles of objectified attention capital and the consumer, prioritizing the ends of the former (data and profits) over the (manifold) ends of humans, or framed differently: the fight of human intention vs the interests of objectified capitalized attention.

Its repercussions also become visible linguistically, as Williams notes. He asks, what we 'pay' when we 'pay attention'. His answer could seem rather trivial, but hints at the importance of the decision:

> "*You pay with all the things you could have attended to, but didn't: all the goals you didn't pursue, all the actions you didn't take, and all the possible yous you could have been, had you attended to those other things. Attention*

is paid in possible futures forgone" (Williams, 2018, p. 45).

This shows that the stakes in this decision what one attends to are already rather high. However, it gets more daunting thinking about not deciding at all and letting external instances take control over one's mind and life. The threat in these external influences does not lie with the pure existence of external factors on the human mind, but much more with the specific logic of functioning and the force with which objectified attention capital is barraging the human mind. It is the feedback loop of its economic embedding, that makes the influence of objectified attention capital so problematic. Although it is difficult to speak of an 'intention' of objectified attention capital, the influences it exerts on the human mind are steering it in a certain direction of fragmentation, isolation, and polarization. Objectified attention capital does not 'intend' to do this, but on its hunt for economic profits, these repercussions are tolerated or even embraced. It is this systemic nature of these repercussions that reproduces and perpetuates itself and is thus so dangerous in its effects on social institutions and human autonomy itself.

8.5. Reclaiming Autonomy

Since the main scope of this work is to put forth an analysis of the relationship between humans and digital technology, only a rough outline will be given for some steps to reverse the reversal of digital media, mitigating its colonizing tendencies and thus reclaim autonomy. Countering the detrimental repercussions of objectified attention capital thus boils down to reclaiming one's attention by being intentional in one's decisions. Understanding the - through its economic embedding inherent - tendency of digital technology to colonize the human mind and subversion of intention is a critical first step towards reclaiming autonomy.

The differentiation between the three kinds of attention capital can function as anchor points for how this reclamation could look like. Firstly, alternatives to the profit-bound owners of objectified attention capital must become available. There are some attempts to build non-profit open-source platforms already, such as Wiki Tribune Social, a project by Wikipedia co-founder Jimmy Wales (BBC News, 2019). However, these projects have mighty opponents, deposing over much more attention capital, which will make it difficult to attract attention for themselves and build up their user base. This means that a fair playing ground must be established through politics, limiting the attentional tools of objectified attention capital and making people aware of the repercussions their consumption of these services has.

Secondly, institutionalized attention capital needs to be strengthened and freed from the control of objectified attention capital. This could be enabled by publicly monitored news-outlets like state-run broadcasters that ideally are not dependent on making profits. This will ensure that the informational gatekeeping of the public sphere does not filter information only based on their attentional value, but also according to criteria like balanced reporting and tending to matters that in an economically competitive setting would not enter the public sphere. Of course, no one can be forced to consume public media outlets, but countries where the public media infrastructure is present like Germany show, that they have considerable audiences (Weidenbach, 2019). The benefit of these public broadcasting institutions also entails a higher chance of shared medial experiences, which could lead to a sounder basis for public debate and less sensationalist outrage mongering. Of course, just because its state-run does not guarantee truthful and high-quality content. However, at least there is the possibility of intentional participation by the broader public instead of the tight economic control of (attentional) market mechanisms.

Extending this model of public broadcasting to public social media platforms could also be a worth-while endeavor. Algorithms would not have to be optimized for user attention. Instead, these sites could foster intention by giving cues to the consumer about what they would like to consume or if they actually want to consume something at all.

Thirdly, with non-profit and open source platforms like Wiki Tribune or state-run social media, the role of incorporated attention capital would become much more important. If in this world, where the objectified attention capital belongs to democratically controlled institutionalized attention capital, incorporated attention capital becomes much more important. Since no single person or team with aligned interests can decide over what content to promote and what content to filter out, the playing field becomes more even for different actors. Of course, there will still be differences between people being able to afford expensive production equipment and personnel and someone in their bedroom with a cheap camcorder. However, as the early days of the internet proved, there is demand for both. And a cheaply made video could attract more attention than an expensive production. And since the business model of platforms like these should not rely on advertisement, the expensive production also can't skew the competition by just promoting their content to more users. Or in the words of McLuhan, the message will gain in importance over its medial embedding.

Of course, the presented picture where media follows intention instead of attention is highly idealized. But it illustrates how the concept of attention capital can act as rather nuanced cornerstones to devise a medial environment that is a means to human ends, instead of the other way around.

9. Conclusion

The scope of this work was to first conceptualize a theory of the role of attention in digital media and embed this theory into existing literature in order to examine the effects of digital media on the human mind. In the first part including chapter 4, it was shown that attention is a key resource for media corporations and thus poses an appropriate and promising foundation of analysis into the logic of functioning of digital media. In the framework of the attention economy, the concept of attention capital was established as a main focus of analysis and distinguished between incorporated, objectified and institutionalized forms of capitalized attention. In this context it was argued that human attention is central to what Jürgen Habermas calls the public sphere, implying that individuals who can most effectively instrumentalize their attention capital dispose over powerful tools to sway the public and gather a political following. However, these tools are distributed disproportionally, with objectified attention capital being mostly in the hands of wealthy individuals and corporations since its material nature makes it easy to buy for economic elites.

The second part starting with chapter 5 focused mainly on the form of objectified attention capital, linking McLuhan's theory of a reversal of media and Habermas' concept of the colonization of the lifeworld. In doing so, it was demonstrated that the embeddedness of digital media in the economics of profit-seeking leads to a reversal of the roles of media and consumers, shifting intent and control away from its users into an autonomous, capital-driven subsystem. This subsystem feeds upon the extraction, valorization, and selling of data and employs several tactics to maximize the attention humans pay to its extractive technologies. This process was

analyzed in the Habermasian conception of colonization, since the way objectified attention capital secures attention has far-reaching effects upon the constitution of the human mind. By filtering information and presenting them in a certain way optimized to maximize user attention, objectified attention capital is assimilating the expectations of its consumers, undermining their critical questioning whether the goals of objectified attention capital and their services actually align with their own intentions.

In chapter 8, the third and final part of this thesis, four areas where detrimental effects of objectified attention capital could be outlined. Firstly, through its tight control over the ways in which online communication takes place, the logic of functioning of objectified attention capital formalizes and commercializes public debate that predetermines the form and content of what is publicly discussed.
This plays into the second detrimental effect of objectified capitalized attention, the moral polarization of public debate that subsequently contribute to populist tendencies through morally delegitimizing political opponents. For a liberal democracy that is anchored in minority rights, this worrying development, however, seems to become the norm in political discussions on digital social platforms. Since the power of objectified attention capital is mainly based in its big data sets, the biases of these data-sets are also leading to two different effects that are both discriminating against groups of people. First, as authors like Criado-Perez demonstrated, a lot of the data new digital products and services are based upon are biased towards white men. This leads to other groups being disadvantaged in using these services, possibly compromising their work performance or their health.
The second way in which these data sets discriminate is by systemically reproducing already existing social prejudices. Since the data that technological innovation is based upon is extracted from a world where social discrimination is rather apparent, products like image-search or banking-services based on this data will

reproduce these biases.

Finally, and most pressingly, the fourth repercussion resonating with the previous three was identified with the undermining of human autonomy. One of the core matters of concern of this work was to illustrate the systemic subversion of human intent to assimilate it towards the goals of objectified attention capital in its conquest for profit. With the extractive and manipulative possibilities of digital technology present in everyday human life, digital media poses a new quality of external control over human life. This reaches from small everyday decisions of e.g. deciding how to spend one's lunch break, to questions of societal importance, such as how political discourse should be shaped. Giving this kind of control to unsupervised giant international corporations that themselves are tied up in the conquest for economic gain seems foolish but is exactly what happened since the dawn of digital media. Only slowly, governments, as well as consumers, seem to catch up, especially since detrimental repercussions like hate speech or loss of privacy become more tangible. However, having identified the colonizing tendencies of objectified attention capital also allowed to devise some strategies to mitigate these developments.

The analysis of the colonizing forces facilitates individual actions to first understand the raison d'être of many medial platforms and devices and subsequently take precautions and question the intention of digital devices as well as one's own intent in using them. It has also been demonstrated that even tough digital media can be prone to evade human control, the colonizing forces are not inherent to digital media, it is rather its economic embedding that enables the necessary feedback loop to sustain itself and thus enable a decoupling from human control. This makes the economic embedding of digital media an obvious ground for action and there are already attempts of non-profit platforms using these techniques to mit-

igate some of the detrimental repercussions brought forth in this work. However, as long as objectified attention capital is held in few and private hands with little regulation, it will pose a strong competitor in the fight over human attention. Therefore, the second line of action should be the political regulation of the techniques and technologies employed by objectified attention capital like persuasive design, as well as the close monitoring of the algorithmic application of extracted data. The actions of the owners of objectified attention capital are creating and governing large parts of the world, so far with minimal democratic oversight and participation. In the process, they even undermine already existing institutions of democratic participation and emancipation with technologies that are getting out of control. The power these corporations hold needs to be acknowledged, not only by the people affected through their actions but equally by the people responsible for them. The concept of attention capital - especially of objectified attention capital and its colonizing and self-augmenting tendencies - can help to understand the power of the tools they are employing, possibly making them second guess if they truly understand what their actions entail and if they are still in control.

Circling back to Goethe's poem of the sorcerer's apprentice, the lesson it teaches can just as well be applied to digital media. Even though it might make life a bit more convenient, one should first make sure what these conveniences entail and if one is able to control its forces, or one might end up like the apprentice:

"*Wrong I was in calling*
Spirits, I avow,
For I find them galling,
Cannot rule them now."

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