Knowing What You Don't Know:
Deep Reading and Fake News

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Introduction:

How Deep Reading Might Help Us Detect Fake News

While writing this thesis, I went to a music festival in Germany and attended a concert of the band "Ok, Kid". One of their songs is called 'Lügenhits'[1], which roughly translates to something like 'lying hits'. Particularly when watching the music video, it becomes evident that the song is a satirical handling of the increasingly widespread claims that the media are not trustworthy anymore. While it is certainly fair to question whether these accusations are accurate or not, it is clear even from this music video that they arise from a state of much confusion and anger. With their song, the band is evidently referring to current political and societal developments in the real world. The repeated references to the phenomenon of 'Fake News' in one way or the other in current pop culture might illustrate the severe impact misinformation and its resulting confusion can have on a society, but also how normal it has become to be confronted by disingenuous content.

However, outside of pop culture, the phenomenon of Fake News in the real world has led to serious consequences. Since 2014, groups of Neo-Nazis have organised demonstrations every Monday night in several German cities. They march under the name "Pegida", shouting terms like 'Lügenpresse' and claiming that the mainstream media has been coopted by the state.[2] It appears that they feel misinformed by, and have lost their trust in, both the media and governmental authorities.

A majority of the members of the AfD, a party currently elected into the German parliament, expresses a similar distrust of the media, supposedly because the mainstream media often publishes news which is very critical of, and perceived to be a threat to, the ideology of that party.[3] Inevitably, there will be a sense of confusion

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[1] YouTube, 'OK KID – Lügenhits', *OK KID*, 31 August, 2018 <https://www.youtube.com/watch?v=AT-x4hkMsQw> (01 July, 2019).

[2] "2014 wird der Begriff [Lügenpresse] schließlich zum 'Unwort des Jahres' erklärt. Da hat er bereits in AfD-und Pegida-Kreisen Karriere gemacht. Seither ist von "Staatsfunk", "System-Medien" und von 'gekauften Journalisten' die Rede, vom 'gleichgeschalteten journalistischen Establishment'". M. Probst, 'Verschwörungstheorie "Lügenpresse", *Bundeszentrale für politische Bildung*, 06 June, 2018 <https://www.bpb.de/lernen/projekte/270428/verschwoerungstheorie-luegenpresse> (01 July, 2019).

[3] "Denn wie die AfD selbst, haben auch ihre Anhänger ein geradezu feindseliges Verhalten gegenüber Medienvertreter_innen jeglicher Art entwickelt."

for the average reader who tries to inform himself. Being confronted with headlines such as "Ex-member of the party Franziska Schreiber: How the AfD disseminates Fake News"[4], the reader might be unsure whom to believe. In this very case, the question is whether he should believe in this article or in the party and media outlets in favour of the AfD. Besides this one, there are unfortunately numerous examples that would illustrate how a reader can easily end up being confronted with completely contrary information about one incident.

The Schreiber article mentioned above was published by one of the state-funded mainstream media channels, the *Süd-Westdeutscher Rundfunk*. It featured an interview with Schreiber in which she explained that, for example, figures about the number of migrants that need to be expected to arrive in Germany had been calculated with the intention to deceive and used by the party to provoke fear, consternation and outrage.[5] This illustrates vividly how Fake News plays with emotions and, by doing so, can lead to a strong sense of polarisation in a society.

Heated discussions between those with different beliefs are further fuelled by so called 'experts'. These cherry-picked scientists are willing to misuse the authority that comes with an academic title and "deny the reality and [therefore] seriousness"[6] of certain topics, for political or financial gains. The aim thereby is to guide people in one direction or the other by claiming, for instance, that there is no such thing as anthropogenic climate change.[7]

Such supposedly well-educated people contributing to misleading and potentially harmful propaganda can also be found outside of the direct world of

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M. Hofmann, 'Medien und die AfD: Mehr als ein Dilemma', *Menschen Machen Medien*, 29, March 2018 <https://mmm.verdi.de/beruf/medien-und-die-afd-mehr-als-ein-dilemma-49723> (01 July 2019).

[4] K. Uschinger, 'Ex-AfD-lerin Franziska Schreiber: So verbreitet die AfD Fake News', *SWR3*, 15 January, 2019 <https://www.swr3.de/aktuell/Ex-AfD-lerin-Franziska-Schreiber-So-verbreitet-die-AfD-Fake-News/-/id=4382120/did=4962902/9g650c/index.html?fbclid=IwAR3A84EbwPiUM76XKH4DyjVUbD23i3vCJKzU2VnvY0M7IzOxRQ2WrspwmSA#utm_source=Facebook&utm_medium=email&utm_campaign=SWR3%2Ede%20like> (30 June, 2019).

[5] Ibid.

[6] A. M. McCright, R. E. Dunlap, 'Combatting Misinformation Requires Recognizing Its Types and the Factors That Facilitate Its Spread and Resonance', *Journal of Applied Research in Memory and Cognition*, 6 (2017), p. 391.

[7] A very popular piece of misinformation shared on social media in 2016 claimed that several thousands of scientists had declared global warming as a deception.
G. Readfearn, 'Revealed: Most Popular Climate Story on Social Media Told Half a Million People the Science Was a Hoax', *DESMOG: Clearing the PR Pollution that Clouds Climate Science*, 29 November, 2016 <https://www.desmogblog.com/2016/11/29/revealed-most-popular-climate-story-social-media-told-half-million-people-science-was-hoax> (30 June, 2019).

politics: consider the heated debates about compulsory vaccinations in recent years and the increasing number of 'anti-vaxxers', who are swayed by the so-called experts opposed to vaccination.[8] The number of people who are placing their trust in a rather narrowed, 'alternative' information sphere that accords with their beliefs seems to be growing. Both trends - the increased number of right-wing activists as well as the decrease in vaccinations - each can have an enormous societal influence.[9]

Fake News, in turn, is a way of interfering with societal developments, as it has, for example, the power to create fear and hatred in insecure times. With the increasing prominence of Fake News in our lives, the "phenomenon of false information and its influence on attitude formation has become highly relevant."[10] One of the concerns expressed in regards to Fake News is thus that it might "precipitate a crisis of democracy by undermining the assumption that members of the democratic society are informed and capable of making rational decisions."[11] This potential threat presented by the proliferation of misinformation justifies and demands academic research.

As will be discussed in the following, the increasing prominence of Fake News is closely connected to digitisation and might even be considered as one of the unintended side effects of digitisation. Another one of these unintended side effects is the loss of Deep Reading abilities. In the following, I will try to present and analyse the ongoing debate about the loss of Deep Reading and correlate this loss with the problematic consumption of Fake News to create an increased awareness about the reader's obligations in an increasingly digitised world.

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[8] "According to a 2013 poll, 37 % of Americans believe that global warming is a hoax, […] 20% believe that there is a relationship between vaccines and autism […]." It appears that conspiracy theories are indeed quite wide spread.
T. Ståhl, J. W. Van Prooijen, 'Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational', *Personality and Individual Differences*, 122 (2018), p. 155.

[9] "Some people are reluctant to vaccinate their children based on widespread misinformation about the vaccine."
NIH: National Institutes of Health, 'Decline in measles vaccination is causing a preventable global resurgence of the disease', 18 April, 2019) <https://www.nih.gov/news-events/news-releases/decline-measles-vaccination-causing-preventable-global-resurgence-disease> (01 July, 2019).

[10] J. De Keersmaecker, A. Roets, "Fake news': Incorrect, but hard to correct. The role of cognitive ability on the impact of false information on social impressions', *Intelligence*, 65 (2017), p. 110.

[11] S. Mo Jang, J. K. Kim, 'Third Person Effects of Fake News: Fake News Regulation and Media Literacy Interventions', *Computers in Human Behaviour*, p. 300.

It is the hypothesis of this thesis that an effective form of knowledge acquisition is crucial for our ability to identify false information reliably. Deep Reading, with its potential for enabling readers to discern the truth from texts, could present a tool for such a knowledge acquisition. The aim of this thesis is therefore to tackle the phenomenon of Fake News by looking at this problem through the lens of Deep Reading, focusing on the inverse relationship between Fake News and Deep Reading, a relationship that has not yet been examined in detail in academic research.

This investigation will begin in chapter one with a detailed explanation of Fake News. I argue that it is important to create awareness of the phenomenon and the nature of potentially dishonest, flawed or at least ill-informed content. Yet before we can become truly aware of the state of affairs, it is important to understand it. Given the excessive use of the term 'Fake News' in recent years, it would be pertinent, first of all, to define it.

Nobody wants to be fooled or lied to and nobody wants to find out that sources which were trusted are actually not reliable or trustworthy. Nevertheless, the crux of the matter, as will be explained in chapter two, *The Post-Truth Era - A Problem of Misinformation in the World,* is that our increasingly polarised society is shifting towards a state in which its individuals blindly trust in voices which echo their beliefs and blindly distrust those which do the opposite, taking no measures to verify the claims of either. This might be one reason for the increased prominence of Fake News.

However, considering its main characteristics and the environment in which it can grow and thrive, it is vital to look at social media as one of the factors paving the path for the proliferation and consumption of Fake News as well, and I will do so in chapter three, *Social Media: Breeding Ground for Fake News*. All three aspects, Fake News itself, social media and the post-truth era are inextricably linked by means of digitisation. Another aspect connected to digitisation, and one which has a crucial influence on our habits of consumption, is the information overload we face in the digital environment. This overload and its implications will be explained in chapter four.

Ultimately, the question remains, how do we best navigate through this world of fraud? There is a vast amount of literature concerning the very topical issue of Fake News. Many authors provide suggestions on how to contain the proliferation of Fake

News, while others are focused on the development of aids or tactics which aim to help the consumer to identify potentially dishonest content more easily.[12]

The answer I will present in the following might be a bit disheartening - as I will argue in chapter five, *Knowledge Is Not for The Lazy*, the responsibility lies fully at the feet of the consumer. In fact, I do not think there is any solution to the issue of Fake News. It has always existed in various forms and under various names, and we must therefore assume that this phenomenon will remain active, affected by and adapted to social changes. One such change, the ongoing digitisation of our world, even demonstrates how certain changes can in fact exacerbate the problem. In any case, it will probably never be eliminated, and we have to accept the existence of Fake News, as well as its effects on our society, for at least the foreseeable future, and we should therefore try to find the best way to deal with it.

More now than ever before, we possess the science and the technology required to identify and analyse potential changes before these are fully entrenched, which gives us the power to make thoughtful proposals regarding more useful behaviour.[13] However, predicting the future remains a difficult task, precisely because we find ourselves in the middle of these changes and are often heavily affected by them. We are experiencing the drastic transition with all the positive and negative effects that come with digitisation, while, at the same time, we are still highly interconnected with and dependent on the analogue world. This dependence on the past naturally leads us to a degree of scepticism in regard to largely unpredictable but ultimately unstoppable changes.

To understand the implications of the potential loss of Deep Reading in this scenario, especially the increased susceptibility of a society to fall for news which contains falsehoods, the cultural importance of Deep Reading will be examined in chapter six. This includes the examination of some of the cognitive skills we can train when reading in-depth, illustrating how the way we read affects the way we think and thus perceive the world, which, in turn, might be of special importance in regard to the consumption of misinformation.

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[12] See for example: S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', *Computers in Human Behavior*, 84 (2018) pp. 103–113.
See also: Lewandowsky, S., et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', *Journal of Applied Research in Memory and Cognition*, 6 (2017), pp. 353–369.

[13] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World* (New York: Harper Collins, 2018), p. 3.

Particularly helpful for the research about Deep Reading were Maryanne Wolf's books and articles. Her book *Reader, Come Home*, in which she wrote a paragraph about the connection between the loss of Deep Reading and the increased susceptibility of a society to fall for false information, was especially crucial for this thesis, as it started the whole process of thoughts presented in the following paper.[14]

The loss of Deep Reading, as discussed in detail in chapter seven, cannot be explained without considering our alternatives. While Deep Reading is apparently in decline specifically because of the digital disruption, the still relatively new digital reading mode matches perfectly with the affordances of the digital environment. However, as I will explain in chapter eight, it does not present a sufficient alternative to Deep Reading.

To conclude, I will summarise how Deep Reading and the skills that come with it can mitigate the personal and societal threats that Fake News presents and that, therefore, Deep Reading remains important and is a skill which should continue to be fostered. First and foremost, this thesis is thus a plea for the necessity of Deep Reading.

1 Drama over Accuracy - The Phenomenon of Fake News

In the following, the term Fake News will be defined, considering the (deceptive) nature of mis- or disinformation, the incentives for the creation of Fake News and the role of the digital environment for the dissemination of Fake News.

Since the presidential elections in 2016 and the presidency of Donald Trump, the term 'Fake News' has rapidly risen in popularity, such that it has now reached the status of a household term. In fact, the term is used so loosely and frequently and in so many different cases that it seems important, first of all, to define it.

Fake News is a subgenre of mis- or even disinformation. Misinformation is information that is "incomplete, uncertain, vague or ambiguous."[15] Disinformation, on the other hand, results from the deliberate dissemination of false information with malicious or ill intent, which is often "likely to be broadly and quickly disseminated, such as information on the Internet."[16] Xichen Zhang and Ali Ghorbani conclude

[14] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World,* pp. 55–56.
[15] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era* (Chicago: ALA Editions: Special Reports, 2018), p. 6.
[16] Ibid.

accordingly that "fake news refers to all kinds of false stories or news that are mainly published and distributed on the Internet, in order to purposely mislead, befool or lure readers for financial, political or other gains."[17] And indeed, while the broader concept of 'Fake News' has always existed under various different names,[18] the manifestation of it under this very name is closely connected to the spread of misinformation over the Internet.

The Internet, for its part, has sped up the creation and dissemination of information tremendously. Information can no longer be vetted or confirmed at the same pace as it is shared. This has paved the path for Fake News while, at the same time, damage is being done by false input more easily than ever before on both an individual and a societal level.[19]

Besides offering an increased dissemination speed, the Internet has contributed to a growing amount of information available as well. Traditionally, news agencies and journalists held the role of gatekeeper, a role we could trust them to perform since they were and are kept accountable by regulatory bodies and handbooks of media ethics. In the digital environment, however, this function is lost, as the traditional channels of news dissemination can easily be circumvented. The audience is given the means to bypass the gatekeepers who, at least to an extent, had been protecting them from Fake News. Instead, the audience can now gain direct access to all information online, both that which is free and that which is guarded by gatekeepers.[20]

There is little to no threshold for publishing anything online as everyone, even laymen, can engage in journalistic activities and produce news. These "citizen journalists"[21] contribute to the saturation of the digital world with information of all kinds, and this information "travels from producer to consumer in a matter of

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[17] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', *Information Processing and Management*, p. 4.

[18] See for example: Yellow journalism. Britannica Academic, Yellow Journalism, <https://academic-eb-com.ezproxy.leidenuniv.nl:2443/levels/collegiate/article/yellow-journalism/77903> (30 June, 2019).

[19] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', *Journal of Applied Research in Memory and Cognition*, 8 (2019), p. 109.

[20] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 111.

[21] M. De Saulle, *Information 2.0: New Models of Information Production, Distribution and Consumption* (London: Facet Publishing, 2015), p. 18.

seconds without being vetted by intermediaries."[22] Naturally, not all of the contributed information is of a high quality. On the contrary, a lot of the information that can be found online is of low or even no quality,[23] and there seems to be a correlation between the increasing amount of Fake News and a significant decrease in the quality of the news sphere in general.[24]

Journalists are struggling to remain relevant and visible in a quickly moving and completely overloaded environment, and they therefore feel forced to reduce the time spent on the research and verification of the news on which they report. Nevertheless, it is fair to assume that most professional journalists try to adhere to the ethical standards of the field.[25]

Stanford University defines Fake News as those "news articles that are intentionally and verifiably false and could mislead readers"[26] and Michael Bronstein et al. describe Fake News as contributing to the formation of inaccurate beliefs by consisting "of fabricated news stories that are presented as being from legitimate sources and promoted on social media to deceive the public for ideological or financial gain."[27] Indeed, intentionality is an important criteria of the creation of Fake News, although not necessarily of any further dissemination by ill-informed intermediaries. Misinformation is often spread based on a two-tier process, with Fake News starting off being intentionally created, but then inadvertently disseminated. The intentionality in creation, however, becomes very evident for content that is designed in a particular style, such that it resembles authentic news websites, showing vividly that the creators are actively trying to fool the consumers.[28] These creators, whether professional or non-professional, follow merely economical and not ethical motives, mimicking the appearance of real news, "but not in organizational process or intent," [29] disregarding editorial norms and standards. Somehow, "[t]he

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[22] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 13.
[23] Ibid., p. 1.
[24] Ibid., p. 10.
[25] See, for example: Reuters, 'Handbook of Journalism: Standard and Values', <http://handbook.reuters.com/index.php?title=Standards_and_Values> (30 June, 2019).
[26] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', p. 4.
[27] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 109.
[28] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 111.
[29] G. Pennycook, D. G. Rand, 'Who Falls for Fake News? The Roles of Bullshit Receptivity, Overclaiming, Familiarity, and Analytic Thinking', *Journal of Personality*, (2019), DOI: https://doi.org/10.1111/jopy.12476, p. 2.

economics of the Internet have created a twisted set of incentives that make traffic more important - and more profitable - than the truth."[30] Following these financial and/or political motives, Fake News is often disseminated "for the sake of earning money from clicks or views, consciously used to mislead and misinform."[31]

Especially on social media platforms, content producers aim to create "traffic" in the form of likes, shares and followers, since the engagement of the users with the content, especially with so called 'clickbait' links, results in revenue for the creator.[32] To increase the engagement, attention seeking or scandalous headlines - common characteristics of Fake News - work especially well, as such content often sparks curiosity and interest in the reader. As a result, web-based information can often be sensational, but in some cases might even be malicious or dangerous.[33]

As well as offering the potential for easy profit, the costs of online publication are relatively low. In fact, the creator need only invest a very small amount of money, and often no money at all, in order to publish information on social media. The financial risk is therefore almost negligible, and as it is much easier to stay anonymous online than in print, a creator of fraudulent content does not even need to be afraid for his reputation.[34]

To fully appreciate the degree of infiltration that Fake News has made into our lives, it is important to understand that Fake News does not always appear in the most obvious of forms. It does not need to be the most scandalous and obscure new story about another famous person, but it can also be, and might even be more often, a small alteration or a contribution to a less 'important' topic.

Consider this example which I found on my very own Facebook feed the other day, which appeared after a friend of mine commented on a curious video clip. It was shared by an influencer and featured an extreme ride in a theme park.[35] The influencer himself shared the video with the comment "Man wtf? How is this even a ride"[36]. But indeed, it is not a ride. The physical forces that would be inflicted on the

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[30] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 12.
[31] Ibid., p. vii.
[32] M. Aldwairi, A. Alwahedi, 'The 9th. International Conference on Emerging Ubiquituos Systems and Pervasive Networks (EUSPN 2018): Detecting Fake News in Social Media Networks', *Procedia Computer Science,* 141 (2018), p. 215.
[33] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.
[34] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.
[35] Facebook, 'Chadoy Leon', 06 March, 2019 <https://www.facebook.com/chadoyleon/?ref=br_tf&epa=SEARCH_BOX> (30 June, 2019).
[36] Facebook, 'Chadoy Leon'.

human body would almost certainly kill every passenger, at least if the sudden extension of the rides' arms did not smash the carriages into the ground first. From a rough glance at the comment section, however, it would appear that about a third of the commentators also believed in the existence of the ride, asking where it could be found or at least condemning it for being extremely unsafe.

Fortunately, not all of the commentators were fooled and some even provided the source of and the link to the original video, which made it possible to check the facts behind the content. The videoclip was, in fact, part of a mockumentary called "The Centrifuge Brain project: A documentary about impossible rides."[37] For those who took the time to search for the source of the video, it would have become evident quickly that the shared clip is part of a bigger satirical project. Those who rely on extraneous fact-checking conducted by other misinformed users, on the other hand, can apparently be easily fooled into believing something rather implausible. Unfortunately, information acquisition on social media is often based on the rate of attention and popularity a post gains, instead of its legitimacy. We blindly trust those who made the post popular in the first place, instead of analysing and fact-checking information ourselves.

The dissemination of this kind of false but rather unimportant information, however, contributes to the normality and acceptance of Fake News in our society. Smaller alterations of the truth are not viewed as important enough to result in indignation, yet although they may seem trivial, they contribute to the increasing sense of indifference with which we are approaching all false information. Most users might consider content such as the fantasy ride as entertaining, but certainly not as harmful or worth a fact-check. However, the real danger of the phenomenon lies within this increasing normality of being confronted with false information. It lies in the general decline of critical thinking and a shift in our expectations about truthfulness, which is making people more easily susceptible for manipulation and will have effects far beyond these seemingly unimportant contributions.

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[37] The ride discussed here can be seen in the video from 5.38 min to 5.58 min.
C. Jobson, 'The Centrifuge Brain Project: A Documentary About Impossible Amusement Rides', *Colossal*, 04 February, 2013 <https://www.thisiscolossal.com/2013/02/the-centrifuge-brain-project-a-documentary-about-impossible-amusement-rides/?fbclid=IwAR0LPGVMX6Bp_rx9sAr2MP3MFQu9ju8rySTd8ACL_Y2zBkfDwoiHotQ_lWM> (30 June, 2019).

2 The Post-Truth Era - "A Problem of Misinformation in the World"[38]

Living in a knowledge society, we rely on the factual accuracy of information we encounter if we are unable to verify it ourselves, as is often the case with traditional news. Despite that, as will be explained in the following, it appears that our society is shifting to a post-truth era, in which people seem to be placing a lower value on accuracy and trustworthiness. They are exhibiting an increasingly affective information behaviour, which, in turn, paves the path for the dissemination and consumption of Fake News.

Few people would argue about honesty being an honourable and generally desirable quality. However, honesty goes hand in hand with trust. There are many cases in life where we simply have to trust others to be honest with us as we cannot research or experience everything on our own. This holds true for the information and news sector, in particular.

In our knowledge-based society, we rely heavily on the retrieval and consumption of information. The information we consume "influenc[es] how we understand and interact with the world"[39] and, therefore, every piece of information, even if it is dishonest, can affect the way we perceive our reality. We must rely on the accuracy of information presented to us in the news and given that "a functioning democracy relies on a well-informed public,"[40] a proliferation of Fake News must be considered a threat to the greater good of our society.

However, the phenomenon of Fake News is not new but just the "latest moniker for an old-age phenomenon."[41] Think of tabloid magazines, for instance, which are often regarded as a flawed source of information but are nonetheless highly consumed. With digitisation and the rise of the Internet, especially social media platforms, and, as explained in the previous chapter, the state of being confronted with false information becoming increasingly normal, it appears as if things have

[38] S. Lewandowsky et al., 'Letting the Gorilla Emerge From the Mist: Getting Past Post-Truth', *Journal of Applied Research in Memory and Cognition*, 6 (2017), p. 419.
[39] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 3.
[40] S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p. 353.
[41] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 19.

changed for our society at a fundamental level. In fact, it seems that we are now living in a 'post-fact' or even 'post-truth era'.[42]

This becomes especially evident when considering the field of politics once more. Political happenings make up a significant portion of the news sphere for two reasons. First of all, these happenings are usually of high importance for our society and therefore easily find a broad and interested audience. Secondly, political decisions are made publicly available by the media outlets and access to information as such is often not given via any other way.

In his article *Why We're Post Fact*, Peter Pomerantsev explains that he gained the impression that "facts seemed to be terribly important during the Cold War. […] When they [the communists] were caught lying they acted outraged. It was important to be seen as accurate."[43] In contrast to that, the public reaction to obviously lying politicians seems rather tame nowadays. It seems as if there has been a shift in regard to trustworthiness or, more accurately, in regard to the value we as a society place on the honesty and trustworthiness of the authorities. This shift is one key characteristic of the post-truth era.

To illustrate this, consider the politician whose name is a permanent fixture in any discussion of Fake News: the current president of the United States of America, Donald Trump. On his first full day in office, Trump asked his press-secretary, Sean Spicer, to give a first briefing to reporters in the White House. On this occasion, Spicer claimed that the media had "deliberately [engaged in] false reporting"[44] about the size of the crowd attending Trump's inauguration procedure. He further claimed that "[t]his was the largest audience ever to witness an inauguration, period."[45] However, photographs and transit data were able to prove that this was indeed not the case and that what the press had been reporting was in fact correct.[46]

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[42] Similar to the term 'Fake News', the term 'post-truth' has gained popularity in recent years. The Oxford Dictionary even nominated 'post-truth' as the word of the year in 2016.
A. Flood, 'Post-Truth' named word of the year by Oxford Dictionaries' *The Guardian*, 15 November, 2016 <https://www.theguardian.com/books/2016/nov/15/post-truth-named-word-of-the-year-by-oxford-dictionaries> (30 June, 2019).

[43] P. Pomerantsev, 'Why We're Post-Fact', *Granta* (20 July 2016), <https://granta.com/why-were-post-fact/> (30 June 2019).

[44] J. Swaine, 'Donald Trump's team defends 'alternative facts' after widespread protests', *The Guardian*, 23 January, 2017 < https://www.theguardian.com/us-news/2017/jan/22/donald-trump-kellyanne-conway-inauguration-alternative-facts> (01 July, 2019).

[45] Ibid.

[46] For any readers interested in finding out about the details of the debate and the proofs that could be found, I recommend taking a look at this investigative report about the incident.
S. Niggemeier, 'Trumps Amtseinführung: "Bildervergleichs-Fake": Postfaktisch sind immer die

Kellyanne Conway, a counsel to the president, when confronted with Spicer's statement in NBS's *Meet the Press* on January 22, 2017, replied with a now iconic euphemism, saying that "You are saying this is a falsehood. […] Sean Spicer gave alternative facts."[47] There was substantial confusion in the media regarding this incident, leaving the reader, if he was not willing to invest more time into research himself, with two options: either believing Trump and his supporters or believing the mainstream-media.[48]

While the 'alternative facts' incident certainly provoked a reaction throughout much of society, the true extent of the notion of 'alternative facts', presented by one of the most powerful men in the world and his office, goes widely unseen and is often simply accepted with a shrug of the shoulders because people no longer expect much else. This reaction itself is shocking, taking into consideration the potential consequences of decisions and statements of the authorities. Considering, furthermore, that fact-checking agencies rate a staggering 78% of Trump's statements as untrue,[49] one can only ask oneself how this society ended up accepting such low standards of truth and electing Trump nevertheless.[50] We must therefore consider the worrying likelihood that this acceptance of dishonesty is due to a lower value we, as a society, place on accuracy and trustworthiness in the modern age.

In this post-truth era, it appears then, that "audiences are increasingly likely to believe information that appeals to their emotions and their personal beliefs, as opposed to seeking and accepting information that is regarded as factual and objective."[51] This shift in our information-seeking behaviour from a cognitive to an affective one is fundamental for the consumption of Fake News.[52] An uncritical,

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anderen', *Übermedien*, 03 February, 2017 <https://uebermedien.de/12490/bildervergleichs-fake-postfaktisch-sind-immer-die-anderen/> (30 June, 2019).

[47] YouTube, 'Donald Trump's 'alternative facts", *CBC News*, 22 January, 2017, <https://www.youtube.com/watch?v=H6fWCkwbZcc> (30 June, 2019), 02.57 min.

[48] S. Niggemeier, 'Trumps Amtseinführung: "Bildervergleichs-Fake": Postfaktisch sind immer die anderen'.

[49] Amongst others, *Politifact* keeps track of the false statements made by Donald Trump. See a list of false statements here: Politifact, 'All False statements involving Donald Trump', <https://www.politifact.com/personalities/donald-trump/statements/byruling/false/> (30 June, 2019).

[50] However, the American election system has to be taken into consideration here. It has to be kept in mind that Trump lost the popular vote by nearly 3 million votes.
Federal Election Commission, *Federal Elections 2016: Election Results for the U. S: President, the U.S. Senate and the U.S. House of Representatives* (Washington, D.C., 2017) <https://transition.fec.gov/pubrec/fe2016/federalelections2016.pdf> (30 June, 2019).

[51] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.

[52] Ibid., p. 9.

'mindless' form of consumption, as can be witnessed in the post-truth era, makes a society increasingly susceptible to Fake News, which means that Fake News can bloom in this era.

Some of Donald Trump's statements, for instance, can easily be proven as false. The example given above, Spicer's statement, illustrates how it has become normal to be confronted with lies by both the authorities and the intermediaries who inform us. It even appears as if we are willingly accepting this state of affairs, as, in fact, "Facebook engagement (likes, comments, shares) was [even] *greater* for the most viral fake news stories than the most viral real news stories in the 3 months leading up to the 2016 Presidential election."[53]

However, as Pomerantsev points out, politicians and media have always lied. This is not new. The terrifying change is that, because society is now more resigned to the lies of politicians, they "don't care [anymore] whether they tell the truth or not."[54] We distinguish between truth and falsehood based on a gut feeling and shrug our shoulders about inconsistencies that can have a direct and immense effect on our lives. We are willing to deny objective facts in favour of information that might not be (entirely) correct but at least adheres to or confirms our individual beliefs. In the long run, this generates a vicious cycle in the sense that if we are willing to believe in appealing but potentially false information, more of it will be created and disseminated, which, in turn, makes it more normal to be confronted with it and justifies an unquestioning belief in it. The subtle shifts in our society, which continuously stir us into believing what we want to believe instead of into believing facts, enables a less truth-valuing attitude to become the new normal. Approaching information acquisition with this attitude, the truth and facts appear to not matter (that much) anymore,[55] and naturally, Fake News has become more widespread and virtually inescapable.[56]

Stephan Lewandowsky et al. as well as Pomerantsev consider several possible reasons for us ending up in this post-fact era. The former specify so called "societal mega-trends such as a decline in social capital, growing economic inequality, increased polarization, declining trust in science, and an increasingly fractionated

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[53] G. Pennycook, D. G. Rand, 'Who Falls for Fake News? The Roles of Bullshit Receptivity, Overclaiming, Familiarity, and Analytic Thinking', p. 1.

[54] P. Pomerantsev, 'Why We're Post-Fact'.

[55] Ibid.

[56] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.

media landscape"[57] as contributing to the emergence of the post-truth world. Pomerantsev focuses on the rise of and increasing dependency on technology, as well as an increasing economic and social uncertainty. It can be scary to be confronted with the harsh facts about one's economic future. If there is other information available which, while false, may help a part of a society to cope better with its uncertain future, then this other information will be accepted, simply on the basis that it is more convenient and more seductive.[58]

To justify and defend one's beliefs against opposing voices, the term 'Fake News' can easily be twisted and weaponised since the term carries a rather negative connotation and has the power to degrade statements on the basis of nothing else than that connotation. Ignorantly and falsely, the accusation of Fake News is made against news agencies and journalists; consider the Neo-Nazi example given in the introduction, for instance. This has certainly contributed to the excessive, inflationary use or even systematic misuse of the term in recent years. Through such means, it is possible to legitimise the idea that the traditional sources of news supply should be distrusted, and that readers should disregard information from these sources that, even if factually true, simply does not adhere to their world view.[59]

Researchers at the MIT conducted a study which examined how conspiracy theories, an extreme form of Fake News, spread on Facebook. Ironically, it found that those who try to avoid mainstream media, due to it being supposedly manipulative and so-called 'Fake News', are actually "most responsive to the injection of false claims."[60] To connect this data to the earlier example of Trump's inauguration once more, Spicer called the facts reported by journalists' "false reporting" by following the strategy described above. The term 'Fake News' was used to degrade a fact that did not support the interests of the president. Adam Schiff, a Democratic congressman from California, estimated the scope of the problem, saying that "[i]f Trump can't handle the press on crowd size, just wait until they report on the economy, budget and healthcare … Anything unfavourable he will call a lie."[61] This illustrates vividly

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[57] S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p 353.

[58] P. Pomerantsev, 'Why We're Post-Fact'.

[59] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.

[60] Anon., 'Data Mining Reveals How Conspiracy Theories Emerge on Facebook'*, MIT Technology Review* (18 March, 2014), <https://www.technologyreview.com/s/525616/data-mining-reveals-how-conspiracy-theories-emerge-on-facebook/> (03 July, 2019).

[61] J. Swaine, 'Donald Trump's team defends 'alternative facts' after widespread protests'.

how large our concerns in regards to Fake News should indeed be and how worrying our current shift to a post-truth era actually is.

The whole situation calls to mind Friedrich Nietzsche's maxim which states that there are only interpretations and no real facts in a world in which truth and falsehood are equalled out.[62] This, in turn, legitimises excusing lies as 'alternative facts' "because 'it's all relative' and 'everyone has their own truth' (and on the internet they really do)."[63]

3 Social Media - Breeding Ground for Fake News

In this chapter, the close connection between Fake News and social media platforms will be explored, focusing on people's increasing reliance on social media platforms (as news suppliers), as well as the formation of filter bubbles online, as reasons for this connection. In addition, this investigation will further illustrate the shift in our expectations of truthfulness.

Having one's own truth is closely connected to the ability to express it and social media offers the ideal platform to do so. It might thus be of no surprise that "[t]he emergence and subsequent development of social media platforms have served to exacerbate the problem"[64] of Fake News.

With the rise of the Internet, the way we typically acquire information, including news, has changed tremendously. Over the past years, social media has become the "major platform for online social interaction and information transmission."[65] A study conducted by the *Pew Research Center* in 2018 showed that "[s]ocial media sites have surpassed print newspapers as a news source for Americans."[66] Especially, but not exclusively, the younger users, 18–29-year olds, rely on social media as their major platform for news consumption and use it to seek

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[62] F. Nietzsche, Digitale Kritische Gesamtausgabe Werke und Briefe: Posthumous fragments NF-1886, 7[60], *Nietzsche source*, <http://www.nietzschesource.org/#eKGWB/NF-1886,7[60]> (02 July, 2019).

[63] P. Pomerantsev, 'Why We're Post-Fact'.

[64] M. Aldwairi, A. Alwahedi, 'Detecting Fake News in Social Media Networks', p. 216.

[65] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', p.1.

[66] E. Shearer, 'Social media outpaces print newspapers in the U.S. as a news source', *Pew Research Center, Facttank: News in the numbers* (10 December, 2018) <https://www.pewresearch.org/fact-tank/2018/12/10/social-media-outpaces-print-newspapers-in-the-u-s-as-a-news-source/> (03 July, 2019).

information. Amongst the uncontrolled and unverified information presented on social media, Fake News can inevitably be found as well.[67] In fact, the ease of use, low cost, rapid rate of information flow and provision of access to a mass audience in a "perfect unmonitored environment"[68] all combine to make social media the ideal breeding ground for Fake News to grow and thrive.[69] This is further enhanced by the business model underlying social media platforms, aiming to keep the users on the site as long as possible, which is more readily done with the news people want to see than a more fairly balanced newsfeed.

Mo Jang et al. even define Fake News, focusing specifically on the dissemination of false information over social media, as "misinformation that was fabricated and spread on social media to mislead the audience for political and/or financial gains."[70] Edson Tandoc Jr. et al. even go so far as to say that "[t]he digitisation of news has challenged traditional definitions of news."[71] Think of tweets, for example, which consist of 280 characters at the most, but which gain tremendous importance when written by a person of authority, such as Donald Trump.[72] In that way, social media enables, for example, politicians to vent their opinion directly to their followers rather than having them professionally reported and commented on as news in the traditional sense. As Ryan Holiday puts it in his book *Trust Me, I'm Lying: Confessions of a Media Manipulator*, "[y]ou cannot have your news reduced to 140 characters or less without losing large parts of it."[73]

Given this ideal breeding ground, Fake News is indeed "more popular and widely spread through social media than mainstream media."[74] A massive amount, if not almost all Fake News is distributed over the Internet, mainly on social media platforms. What a society consumes (online) can affect the public's opinion and,

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[67] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 111.

[68] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 13.

[69] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', p. 1.

[70] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[71] E. C. Tandoc Jr., Z. W. Lim, R. Ling, 'Defining „Fake News"', *Digital Journalism*, 6:2 (2017), DOI: <https://doi.org/10.1080/21670811.2017.1360143>, p. 139.

[72] Ibid.

[73] The number has since doubled to 280 characters per tweet. R. Holiday, *Trust Me, I'm Lying: Confessions of a Media Manipulato*r (London: Penguin, 2013), p. 68.

[74] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', p. 2.

unfortunately, Fake News is such a common element of the social media 'news-sphere' that the users' constant confrontation with it can even affect how they interact with real news.[75] "[T]he presence of misinformation [can] cause [...] people to stop believing in facts altogether"[76]; think of the aforementioned vaccination debates, for example or, more generally, the already discussed fallacious claims of objective facts as being 'fake'. However, these claims are not necessarily made by people who know that they are wrong or are even aware of their ignorance. It might be fair to assume that, most of the time, these people actually believe they are right as the echo-chamber of their (digital) environment blinds them to the true state of reality.

The digital environment, especially social media, streamlines the fragmentation of information due to the high level of personalisation that is offered on these platforms.[77] The adaptions necessary for the personalisation of news feeds are conducted by the platform, without the user being aware of it and, more importantly, outside of the user's control. With one's choice of friends, one's likes, shares and clicks, the user, unconsciously, designs his own social media feed. This alignment of content to the user's specific, personal preferences then results in the fragmentation of information and news, in the sense that social media provides a slightly different collection of news stories for each individual. While this fragmentation may seem to suggest that our news environment is becoming more homogeneous, because our biases are constantly confirmed by very similar content, this is only true on an individual level. On a wider level, "the fragmented news era boasts a heterogeneous news environment wherein accounts of one issue, topic or event can differ significantly depending on the source."[78] It is thus only in theory, that this would lead to more choice and the possibility to be exposed to a wider range of perspectives in the news.

However, given the enormous amount of news, including "biased or unbalanced reports,"[79] it is impossible to follow or even find all perspectives, let alone to consider them objectively or at least without bias, even if we actively try to break out of our social media filter bubble. Pomerantsev argues that the creation of a

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[75] X. Zhang, A. A. Ghorbani, 'An overview of online fake news: Characterization, detection, and discussion', p. 3.

[76] S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p 355.

[77] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[78] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 13.

[79] Ibid.

fragmented reality online even, "push[es] us towards, or allow[s] us to flee, into virtual realities and fantasies." [80] As these fantasies actually do seem real to us, it is, in fact, very difficult for a user to even realise that his online reality mostly confirms his own beliefs and that this reality is, potentially, significantly different from the reality others inhabit and believe in.

The financial base of social media platforms is the exposure of their users to advertisements. Therefore, the platforms want their users to spend as much time as possible on the platforms and so naturally they try to create an environment that the user enjoys being in. Accordingly, the algorithms used to design the personal feed will suggest content one "might also like" or content that has been liked by others who also enjoyed something one liked and so on. Users are thereby fed "only things that make [them] feel better, whether they are true or not."[81] Going down this rabbit hole means that every search and every click confirms one's own biases further.

This can lead to a social media user being encapsulated in a filter bubble, which "enables users to be surrounded by like-minded people and information that is aligned with their existing beliefs."[82] Being within a group of peers is a desirable state for most people, and finding such a group and being socially active within it is highly facilitated by the Internet, and, again, especially by social media platforms. The fact that socialising with others in such ways on these platforms is made so easy, might explain their popularity.

However, being in a group of peers with similar beliefs, both online and offline, an 'echo chamber' can emerge.[83] Within an echo chamber, the user experiences a polarising resonance effect.[84] He gains the impression that his own opinion is in fact the opinion of the majority of people.[85] This can be very misleading, as people tend to believe in what they think is widely believed, even though it might actually be only

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[80] P. Pomerantsev, 'Why We're Post-Fact'.

[81] Ibid.

[82] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 8.

[83] A. Thwaite, 'What is the Difference Between an Echo Chamber and a Filter Bubble?', *echochamber.club*, 26 December, 2017 <https://echochamber.club/echo-chamber-filter-bubble/> (03 July, 2019).

[84] D. Helbing et al., 'Will Democracy Survive Big Data and Artificial Intelligence?', *Scientific American*, 25 February, 2017, <https://www.scientificamerican.com/article/will-democracy-survive-big-data-and-artificial-intelligence/> (03 July, 2019).

[85] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

believed in a rather narrow group of like-minded people.[86] Eventually, this leads to the creation of an "ideological homophily in online networks, [in which] misinformation seems indisputably accurate to social media users."[87]

The effect is reinforced even further through several other mechanisms. First of all, the concept of social media relies on the "deep-seated and compulsive need to be liked,"[88] another factor that might contribute to the popularity of these networks. This need is so influential that it has even reshaped how people read and share their information. "[P]eople read mainly 'for the sake of a feeling of belonging' rather than for personal enlightenment or amusement."[89] Through sharing something, and thereby informing others, "[u]sers seldom verify the information that they share,"[90] but rather follow their "need for instant gratification."[91] Gratification can be given via comments and, most importantly, "likes". Inevitably, this results in a further cultivation of the filter bubble, as the chances are higher that other users, who are part of one's own filter bubble and therefore will see the shared content, will like content that aligns with the general beliefs within that bubble. This, in turn, leads to increased polarisation and misunderstandings with people outside this somewhat closed up environment.

Moreover, gaining attention becomes more important than the content or the subjects presented.[92] If users do not care about the content, the accuracy of it becomes less relevant as well. It is given a lower degree of priority than the potential (positive) attention that can be generated with the post, which, again, makes social media an ideal base for Fake News to be shared mindlessly and without due diligence.

Another reinforcing aspect coming into play here is the fact that, once we have encountered a piece of information, no matter how implausible it seems at first, we become more likely to believe in it if we are confronted with it again.[93] The "repetition facilitates rapid and fluent processing, which is then taken to imply that the repeated

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[86] S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p 361.

[87] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[88] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 11.

[89] N. Carr, *The Shallows: What the Internet is Doing to Our Brains* (New York, London: Norton & Company, 2010), p. 107.

[90] E. C. Tandoc Jr., Z. W. Lim, R. Ling, 'Defining „Fake News"', p. 139

[91] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 10.

[92] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 10.

[93] D. Kahnemann, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).

statement is true."[94] Being repeatedly confronted with inaccurate information in our echo chambers thus leads to Fake News stories being spread quickly as well as unthinkingly among like-minded groups.[95]

In such an environment, there is little incentive to question one's own beliefs. People feel as if they were right "without the need for reasoned argument of rigorously collected and analysed evidence."[96] This "truthiness",[97] relying on emotions rather than reasoned argument, also carries the danger of reasoning only for the sake of backing up one's own emotionally shaped beliefs. Users seek out and make use of information "that already concurs with their existing mental models, prior knowledge, and memories, as opposed to seeking information from a variety of potentially conflicting sources."[98]

Social media also enables the user to escape the reality of existing opposing beliefs, as in the closed sphere of a 'chamber' or a 'bubble', other beliefs are simply not displayed. Thus, "it is very easy for people to avoid distasteful, upsetting, or just incongruent information while in their social media filter bubbles."[99] Therefore, and as it "becomes permissible to believe whatever one wants,"[100] it becomes increasingly difficult to change flawed beliefs once they are set. Being caught in a so-called confirmation bias, we "embrace information that confirms [our] view, while ignoring, or rejecting information that casts doubt on it."[101] We cannot analyse information objectively then and "contrary evidence fails to find traction"[102] or even backfires and corrected or opposing views even strengthen the existing flawed beliefs. In a filter bubble, this confirmation bias becomes somewhat self-perpetuating.

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94 G. Pennycook, D. G. Rand, 'Who Falls for Fake News? The Roles of Bullshit Receptivity, Overclaiming, Familiarity, and Analytic Thinking', p. 2.

95 S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

96 A. M. McCright, R. E. Dunlap, 'Combatting Misinformation Requires Recognizing Its Types and the Factors That Facilitate Its Spread and Resonance', p. 390.

97 N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.

98 Ibid., p. 8.

99 Ibid.

100 S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p 361.

101 S. Heshmat, 'What Is Confirmation Bias? People are prone to believe what they want to believe', *Psychology Today*, 23 April, 2015 <https://www.psychologytoday.com/us/blog/science-choice/201504/what-is-confirmation-bias> (30 July, 2019).

102 Especially political misconceptions are often resistant to explicit corrections. S. Lewandowsky et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', p 361.

Being exposed only to opinions and information which mirror our current beliefs furthermore results in a selective kind of information-seeking, as users might be unaware of the amount of different and perhaps more accurate perspectives on a specific topic. Becoming aware of the existence of such bubbles and chambers is therefore a very important first step, but even then "information-seeking and use in such a fraught environment [remains] stressful."[103]

Another troubling issue which contributes to these difficulties is that Fake News, in the form of electronic text or content, is easily modifiable and very fluid compared to analogue texts. This impermanence of electronic text results in a missing sense of closure for the authors and creators of text, as changes remain possible at any later point in time, even after publication. Nicholas Carr expressed his worries about this in his book *The Shallows: What the Internet is Doing to Our Brains*, writing that, "[t]he pressure to achieve perfection will diminish, along with the artistic rigor that the pressure imposed."[104]

This, in turn, has an effect on the reader as well. Written words can be mistaken for reality, as they seem fixed yet are in fact no longer so in the digital world. The written word holds an authority that the spoken word rarely ever has. Once something is written down, it seems trustworthy. In the times of Fake News and post-truthness, this can delude people.[105] On top of that, a false statement will remain digitally archived and can be reposted and modified over and over again; even if it becomes corrected at one point, this correction might not remain evident for long.[106]

Moreover, particularly on social media platforms, there are no standards for citation. The traceability of content, meaning the ability to analyse who wrote what and when and to trace back where a specific piece of information comes from, is therefore excessively hindered. Nevertheless, news articles that are shared online often gain high levels of attention and credibility, even if there was only little or in some cases even no verification done, and their validity had not been vetted.[107]

To illustrate this, the following example might be considered. The night before New Year's Eve 2017, a German Facebook user, who had previously posted and

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[103] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 7.
[104] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 107.
[105] M. Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (Cambridge: Icon Books, 2008), p. 74.
[106] Studies have shown, that, in fact, Fake News is often consumed more deeply than real news, which means that it remains vital in the digital orbit for a longer time.
[107] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 11.

shared content which suggested a resentment of foreigners, wrote a new Facebook entry, claiming that four young migrants had caused the death of his dog. The post, which explained that the dog had become frightened after being attacked with fireworks and tragically was run over trying to escape the threat, was liked 65,000 times, shared 38,000 times and commented on 30,000 times within the first three days of its posting.[108]

At a time when the migration crisis in Germany was at its peak, the discussions in the comment section were heated, and many people expressed racism and hatred. However, many commentators insisted that the post was fake, staged as demagoguery, as hate-speech. At first, this second scenario seemed very likely. The author of the post showed a prior resentment toward foreigners, the story did not contain any specifics about the location and therefore seemed quite vague and, most importantly, the story had been copied and slightly adapted regarding the names and details and had been reposted by other users. Due to that, not only other Facebook users, but even professional journalists, who thought themselves to be in the right in accusing the author of using a fake story to incite hatred, posted premature statements, in which they attacked the author. In the end, however, it turned out that the re-postings were, in fact, the fake entries, and the police in Hamburg confirmed that there had been an accident and that the original author had been involved in the investigations.

However, as the post provoked so many extreme reactions in such a short time, finding out the truth became increasingly difficult.[109] This example demonstrates how the nature of social media, with its filter bubbles, polarised viewpoints, and ease of information dissemination and manipulation, is making it increasingly difficult for people, even professionals and experts, to distinguish between fake and real news.

[108] S. Niggemeier, 'Hund mit Böllern in den Tod gejagt? Die Geschichte eines vermeintlichen Fakes', *Übermedien*, 02 January, 2018 <https://uebermedien.de/24070/hund-mit-boellern-in-den-tod-gejagt-die-geschichte-eines-vermeintlichen-fakes/> (30 June, 2019).

[109] S. Niggemeier, 'Hund mit Böllern in den Tod gejagt? Die Geschichte eines vermeintlichen Fakes'.

4 Information Overload

In this chapter, the enormous amount of unfiltered information we are facing online, and the consequences thereof will be discussed. We are fairly adept in the mere perception of many superficial strands of information; however, this is only possible at the expense of the quality of our reading process and the analysis of information, which makes us increasingly susceptible to accepting false information as true.

The identification of Fake News is further impeded by the enormous level of information overload resulting from the ubiquity of text online.[110] A study conducted in 2009 by the *Global Information Industry Center* in California found that the average American spent about 12 hours per day consuming information from various sources, absorbing 100,500 words which correlates to about 34 gigabytes of information a day.[111] To set this in comparison, the thesis you are currently reading consist of about 24,000 words. However, this comparison is not entirely fair. There is a crucial difference between mindless consumption, which is the mere perception of information, and the active decision to read something, bringing up the patience to follow a long argument. Given the fast progress we are experiencing with all things digital, it is fair to assume that the amount of information we consume has risen significantly over the past decade and shifted further to online consumption, compared to 2009, where the main source for information was still the TV and hence merely visual, non-textual information consumption.

In such an overloaded digital world, it becomes increasingly hard for the reader to identify trustworthy sources.[112] As there is so much information to consider, we, as consumers, often do not take enough time to properly read and analyse the individual contributions.[113] Our mindset has fundamentally changed in that regard from a "calm, focused, undistracted, linear mind that want[s] and need[s]"[114] to a mind that "dole[s] out information in short, disjointed, often overlapping bursts, the

[110] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 88.
[111] R. E. Bohn, J. E. Short, 'How Much Information? 2009 Report on American Consumers', *Global Information Industry Center, University of California, San Diego*, December 2009, <http://group47.com/HMI_2009_ConsumerReport_Dec9_2009.pdf> (03 July, 2019), p. 7.
[112] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 3.
[113] Ibid., p. 2.
[114] N. Carr, *The Shallows: What the Internet is Doing to Our Brains,* p. 10.

faster, the better."[115] This, naturally, leads to rather brief and shallow reading in daily situations, which neither encourages diligent fact-checking nor Deep Reading.[116]

However, when we do not decide to check every bit of information, as was the case for many users who followed the dog incident as well as the fantasy ride, we become more susceptible to false input. Due to these constant streams of information - the bursts of text we are bombarded with online and which we passively consume - we quickly reach the limit of our working memory. The information overload therefore results in a cognitive overload, which, in turn, forces us to simplify and process information as rapidly as possible. As a result, we read in increasingly brief bursts. This leads to a trade-off between our need to know something and our need to save and gain time. The ability to distinguish the relevant and correct information from the massive amount of irrelevant or even disputable input suffers severely from this trade-off. As Carr words it, the digital information overload makes it "increasingly difficult to distinguish signal from noise."[117]

Unfortunately, the two main reasons for cognitive overload are also the main affordances the digital world brings with it: firstly, extraneous problem-solving, by relying on others to inform us and, secondly, a divided attention, the lack of constrained thought in a disrupted digital world.[118] Despite that, living in this disrupted world is becoming increasingly normal. The *digital 2019 report* revealed that the average user spent 6 hours 42 minutes online. In other words, for more than a quarter of our life we are online. The majority of the people using the Internet also make use of social media platforms, such as Facebook and its correlated Messenger, Twitter, Instagram, YouTube and WhatsApp. On these platforms, we spend an average of 2h 22min per day.[119] With the information overload almost forced upon us on these platforms, we have to actively decide that we want to allocate our time to select our sources carefully and read critically.

As pointed out in the previous chapter, the information flow, its velocity and intensity are regulated by the Internet, but especially the social media platforms. Thereby, "[m]edia are not just channels of information. They supply the stuff of

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[115] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 10.
[116] This will be explored further in chapter five, *Knowledge Is Not for The Lazy*. See also: Ibid., p. 73.
[117] Ibid., p. 125.
[118] Ibid.
[119] S. Aleksander, 'How Much Time Do People Spend on Social Media in 2019?', *techjury* (8 March, 2019), <https://techjury.net/blog/time-spent-on-social-media/> (03 July, 2019).

thought, but they also shape the process of thought."[120] What we read influences what we think and the quality of what we read is therefore highly important. It should thus be of no surprise that the disrupted digital world, which is influencing our attention span and depth, also influences the quality of our thoughts. As our cognitive patience shrinks, the quality of our thoughts decreases simultaneously.[121] In other words, when our attention is being chopped into shorter intervals, this is "probably not good for thinking deeper thoughts."[122]

To avoid feeling overwhelmed, we unconsciously try to find methods to navigate through the stream of information. One of these methods is, for example, the so called 'satisficing'.[123] This means that we are indeed seeking for information but decide to rely on the first source that provides us with an acceptable answer to a question or problem. As soon as we find a source which seems trustworthy enough that a check seems to be dispensable, we will rely on it, even though (we know that) the quality or quantity of the information is not actually sufficient. If we only search for a satisfying, 'just good enough' answer, we will occasionally fall for false information. Satisficing even takes place in 'professional' information acquisition, in an academic setting. A content-based text search often grants short, fragmented text insights, provided by software like, for example, *Google books* that might seem sufficient to answer our request, but by no means live up to the standards academic research demands.[124]

Another method for dealing with the abundance of information is the so called 'information avoidance', which describes that a "purposeful decision [is] being made about what information is disregarded, evaded, or rejected in order to maintain existing states of belief."[125] By avoiding challenging or complex information, information which only appears outside of our filter bubbles and echo chambers, we actively contribute to the foregoing development of the post-truth era and the proliferation and consumption of Fake News.

Methods like the ones just explained can be used as filters, helping a user to navigate through the information overload. They are convenient and do not require a

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[120] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 6.
[121] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 92.
[122] Ibid., pp. 72f.
[123] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 9.
[124] A. Van der Weel, *Changing our textual mind: Towards a digital order of knowledge* (Manchester, New York: Manchester University Press 2011), p. 174.
[125] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 8.

lot of time or effort and are therefore a preferred option for many. However, none of these methods will be a sufficient solution for a user who is interested in being reliably informed.

5 Knowledge is Not for The Lazy

What has been discussed so far, the shift of society into a post-truth era, the decreasing quality of information found online, and the modern-day phenomenon of information overload, all contribute to the difficulties readers might experience in identifying Fake News. In the following, some of the measures proposed to tackle the consumption and circulation of Fake News will be introduced, leading to the conclusion that, despite all aids, it remains the reader's responsibility to guard himself from false information through the development of a critical consumption manner.

> [People] just keep passing stuff around. Nobody fact-checks anything anymore. Separating truth from fiction takes time, information literacy, and an open mind, all of which seem in short supply in a distracted, polarized culture.[126]
>
> Jennifer Howard, *The Internet of Stings*

The 'dog incident' illustrates vividly how complicated the handling of actual or supposedly Fake News can be. Even if a user makes himself more aware of the threats of his environment and even if he is self-reflected and well-informed, it can remain difficult to detect false information.

In a study conducted by the *Pew Research Center* in 2016, 88% of Americans expressed confusion about basic facts of current events due to Fake News, and some of them furthermore admitted that they had shared political Fake News online and thus had contributed to the widespread consumption of it.[127] Only 39% of the study participants were confident about their ability to identify Fake News.[128] As this study was based on a self-assessment, however, at least some of the participants might simply have been overconfident.

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[126] J. Howard, 'Internet of stings', *TLS: The Times Literary Supplement*, 30 November, 2016 <https://www.the-tls.co.uk/articles/public/internet-of-stings/> (03 July, 2019).

[127] A. Mitchell et al., 'Many Americans Believe Fake News is Sowing Confusion', *Pew Research Center, Journalism & Media* (15 December, 2016) <https://www.journalism.org/2016/12/15/many-americans-believe-fake-news-is-sowing-confusion/> (03 July, 2019).

[128] Ibid.

It appears that the root of the problem lies in our ability, or lack thereof, to identify Fake News, which is influenced by living in the post-truth era, by the general information overload we are facing in the digital world, and by the decreasing average quality of information found online. As Tandoc et al. point out, Fake News is "co-constructed by the audience, for its fakeness depends a lot on whether the audience perceives the fake as real."[129]

It seems fair to assume that the phenomenon of Fake News itself is probably as old as human communication, or at least as old as reported news. It may have simply reached a more severe state due to the recent societal and technological developments. Given its eternal presence, however, it seems very likely that it will not diminish in the foreseeable future and we will thus need to find an efficient way to deal with false information (in the digital environment) or at least find a way to confine it, regardless of the difficulty of such a task.

Over time, several approaches to minimise the impact of Fake News have been discussed, interventions that "target specific mechanisms putatively contributing to belief in Fake News,"[130] such as the mechanical tracking down of the root sources of deliberately disseminated false information, the use of bot control, and automated fact checking.[131] Lewandowsky et al. proposed a "technocognition"[132] approach, "combining psychological principles and technological innovation to combat the growth of misinformation."[133] Other strategies entail the use of "warning" banners, which would indicate that a specific story might be altered or fabricated.

However, studies have shown that all of these tools can only have a limited impact. The way some of these tools work is that they detect and filter fake content, making suspicious content irretrievable via common search engines.[134] While worries have been expressed that Fake News can potentially pose a threat to the democratic order, I would argue that filtering results and, even worse, leaving that process of

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[129] E. C. Tandoc Jr., Z. W. Lim, R. Ling, 'Defining „Fake News"', p. 148.

[130] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 115.

[131] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 103.

[132] Lewandowsky, S., et al., 'Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era', pp. 353–369.

[133] A. M. McCright, R. E. Dunlap, 'Combatting Misinformation Requires Recognizing Its Types and the Factors That Facilitate Its Spread and Resonance', p. 393.

[134] M. Aldwairi, A. Alwahedi, 'Detecting Fake News in Social Media Networks', p. 216.

filtering to automated and cryptic algorithms is equivalent to censorship and can thus not be a viable or sufficient solution either.

Besides these concerns, the "warning" labels have been criticised widely as well. It seems as if sometimes they even have a contrary effect, as Fake News which is not labelled under such a banner can appear more legitimate.[135] Another issue regarding these banners arises from the strong economic connections between social media platforms and certain tabloid magazines or dishonest news suppliers, such as the German tabloid magazine *BILD*, published by the Axel Springer company and Facebook. [136] If users had the opportunity to flag the outlets' false content collectively, these economic connections would suffer. In general, it might be fair to assume that tech giants, such as Facebook, prioritise financial rather than ethical interests and will not amend their algorithms to serve any other benefit. Facebook will probably remain committed to staying as neutral as possible, denying cooperation in regard to opinion-forming measures, such as banners, to avoid being seen as biased from any side. [137]

Another strategy often proposed is the one of a sufficient literacy education. The literacy approach follows the route of education, trying to enable individuals to "discern fact from fiction"[138] by making use of a metaliterate approach.[139] Metaliteracy "encourages participants to be active in the construction and distribution of knowledge"[140] and can thus be adapted to the possibilities citizen journalists and users are offered in the online social media world. A term used in this context is 'media literacy'. This term incorporates far more than just information consumption via reading, but instead encapsulates the conscious, thoughtful and reflective consumption of information from all mass media framing popular culture, including television and radio.[141]

However, reading is an essential part of our media culture as well. Part of this educational approach could therefore be the emphasis of Deep Reading skills, which

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[135] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[136] S. Niggemeier, '"Fake News" und der blinde Fleck der Medien', *Übermedien*, 18 January, 2017 <https://uebermedien.de/11899/fake-news-und-der-blinde-fleck-der-medien/> (30 June, 2019).

[137] A. M. McCright, R. E. Dunlap, 'Combatting Misinformation Requires Recognizing Its Types and the Factors That Facilitate Its Spread and Resonance', p. 394.

[138] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[139] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 18.

[140] Ibid., p. 19.

[141] Ibid., p. 18.

would foster both critical thinking and a broad background knowledge as well as the ability to consider other perspectives than one's own. Previously, studies were conducted focusing on some of the skills that are being applied within Deep Reading, such as Thomas Ward and Philippa Garety, who suggested interventions designed to interrupt the proliferation of Fake News and increase analytical thinking,[142] or Burcu Gürcay-Morris, who focuses on the benefits of increased actively open-minded thinking.[143] Deep Reading can, amongst its other benefits, train these skills all at once and make them applicable for a reader in daily life.

It should nonetheless be acknowledged that the literacy approach has been criticised as well, mainly for shifting the responsibility mostly onto the reader.[144] On the other hand, other measures that can be taken to tackle the amount of misinformation in circulation, such as those mentioned above, suffer from limitations in terms of achievability and scope. Therefore, in order to feel as protected as is currently possible, the responsibility for guarding oneself from false information should fall back to the reader in any case. If a reader wants to break out of his confirmation bias, he has to take on the responsibility to do so himself. Making the reader aware of this obligation and enabling him to seek and find reliable information on his own is the only viable strategy currently proposed, empowering every individual with the chance and the freedom to decide for himself how to acquire information and what to consume.

All too often, the naïve assumption is made that Internet users are familiar and proficient with technological tools and know how to search for and properly consume information.[145] However, while it might very well be the case that Internet users, especially amongst the younger generation, are well versed in the technology and the tools they are using, identifying manipulated information is an entirely different skill.[146] Therefore, educating society accordingly is vital. Only then will readers be able to take active control of their consumption manners and be equipped with the

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[142] T. Ward, P. A. Garety, 'Fast and slow thinking in distressing delusions: A review of the literature and implications for targeted therapy', *Schizophrenia Research,* 203 (2019), pp. 80–87.

[143] B. Gürçay-Morris, *The use of alternative reasons in probabilistic judgment* (Pennsylvania: Department of Psychology, University of Pennsylvania, 2016).

[144] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 104.

[145] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 10.

[146] See for example research about middle-school students struggle to identify content as advertised if it was presented as "sponsored content".
S. Lewandowsky et al., 'Letting the Gorilla Emerge From the Mist: Getting Past Post-Truth', p. 421.

strategies needed to cope with an increasingly fraudulent and bloated information environment in order to find legitimate sources.[147]

An essential part of this required education must be in the teaching of a critical information behaviour. The way we consume media determines both the likeliness of our falling for Fake News as well as our individual ability to identify Fake News, as "a knowledge of information behaviour and critical information evaluation skills can aid in combatting the effects of fake news."[148]

A critical media consumption behaviour, as discussed by Cooke, can enable a reader to find sources and analyse information intelligently, critique it, and discern its legitimacy.[149] Becoming a critical consumer, and potentially seeing through some of the confusion created by Fake News in the media, entails "[be]ing curious, asking questions, respecting facts, and evaluating sources"[150].

If we do not try to look beyond our comfort zone and do not interact with opposing beliefs, but rather try and avoid such information, we cannot hope to understand the whole scope of a discussion or topic since we cannot possibly follow or even acknowledge all perspectives presented. If, instead, we try and consider several points of view and seek a variety of information on a topic, this can result in a more objective, complete picture, making our mental schemas more flexible and enabling us to consider new and complex information more easily.[151] We should thus try to rely on our own analysis to avoid being fooled and make a deliberate decision to actively avoid information that seems flawed.

This could furthermore have a broader influence on the nature of the information sphere in general. As consumers, we have the power to shape content creation. We decide what we want to read, in terms of both length and content.
If we try to detect and avoid Fake News and be selective with the information we decide to consume, less of it will be disseminated as it becomes economically less rewarding to produce such content. We should thereby also consider that nothing actually comes for free. When we consume 'free' news, we still pay a price,[152] it is just that the cost is obscured from view. Through such consumption, we give away our

[147] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 20.
[148] Ibid., p. vii.
[149] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 2.
[150] Ibid., p. 16.
[151] Ibid., p. 18.
[152] R. Holiday, *Trust Me, I'm Lying: Confessions of a Media Manipulator,* p. 68.

data and our time and, in the worst case, are manipulated to believe in something and take actions accordingly.

If a more critical consumption manner were to proliferate amongst readers (again), if we did not hesitate to invest money and time rather than opting for the most convenient route, then those news agencies and journalists who earn themselves a reputation for producing only high quality content and accurate information would be given greater consideration and, due to reinforcing snowball effects, be read by more and more people (again). However, we should always critically analyse information, even if it comes from such supposedly trustworthy sources.

Unfortunately, a consumption behaviour of this kind is very time consuming, which is why this strategy goes against all the current societal and technological developments explained above. In the following chapter, Deep Reading as part of a metaliteracy education will be discussed as a strategy to increase one's ability to detect Fake News. At the outset, it has to be acknowledged that Deep Reading as a task is very time consuming and rather effortful as well. It is hence not a convenient or easy approach, but rather, as will be shown, an investment that has the potential to deliver substantial returns in the long run.

6 The Cultural Values of Deep Reading

The underlying hypothesis of this thesis is that an effective form of knowledge acquisition is crucial for one's ability to identify false information more reliably. As will be argued in the following, developing a Deep Reading attitude can enable a reader to build such an effective mode of information acquisition. Deep Reading requires and trains one's empathy. It relies on and fosters a broad background knowledge as well as critical thinking. The subchapters herein will argue that all three of these cultural values can contribute to a decreased susceptibility to false information.

The term 'Deep Reading' was coined by Sven Birkerts in his work *The Gutenberg Elegies* in 1994. He described it as "the slow and meditative possession of a book."[153] Amongst others, Wolf has expanded the research about this reading manner, focusing

[153] S. Birkerts, *The Gutenberg Elegies: The Fate of Reading in an Electronic Age* (Leipzig: Faber & Faber, 2006).

on its development in an increasingly digitised world. Wolf defines Deep Reading as a "slow, immersive process in which a reader requires time and cognitive space to engage in deep thought."[154] This more comprehensive definition should indicate quite clearly that reading in-depth demands a "serious commitment from readers."[155] It is not a passive exercise but rather an active decision to engage with a text and, overall, this makes it a rather difficult skill to learn.[156]

When we are reading, our brain has to invest a lot of power into the mere decoding of letters as well as the assignment of an interpretation.[157] Comprehending a text in the first place is by no means an easy task. To do so, readers "must engage in an active construction of meaning, in which they grapple with the text and apply their earlier knowledge as they question, analyse and probe."[158] The development of this ability takes time and effort.

Furthermore, when we are attempting to read in-depth, we need to intensely focus on the text and disengage our "attention from the outward flow of passing stimuli in order to engage it more deeply with an inward flow of words, ideas, and emotions."[159] This is because Deep Reading is a cognitively highly demanding procedure, which "requires great amounts of attention, effort, motivation, active imagination, and time."[160] It might thus be no surprise that it is a slow process and one which is only available for expert readers who have a high automated decoding rate.[161]

The status of an expert reader, however, can be reached by anyone who is willing to invest the required time and effort into practising. Once we get used to a difficult task by practising it, we typically get better at it and it becomes easier to focus on it. And this focus is vital for reading practice, since it is a practice of the "unnatural process of thought [which demands] sustained, unbroken attention to a

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[154] M. Wolf et al., 'The Emerging, Evolving Reading Brain in a Digital Culture: Implications for New Readers, Children with Reading Difficulties, and Children without Schools', *Journal of Cognitive Education and Psychology,* 11:3 (2012), p. 236.

[155] M. Mackey, 'The Survival of Engaged Reading in the Internet Age: New Media, Old Media, and the Book', *Childrens Literature in Education* 32:3 (2001), p. 168.

[156] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 74.

[157] Ibid., p. 64.

[158] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', *Educational Leadership,* 66:6 (2009), p. 34.

[159] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 65.

[160] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 34.

[161] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 63.

single, static object."[162] Specifically, our decoding abilities will improve and our vocabulary will increase. New information and words that we encounter in a text will be compared with our previous knowledge to help us understand the text fully. As we acquire new input while reading, our knowledge is consequently broadened through reading. We learn how to take on new perspectives and feel empathy while also engaging in a critical rethinking of our reality. All of this contributes to an overall more advanced reading comprehension, while the aforementioned skills can also be utilised in areas outside the world of reading.

To illustrate this, consider the effects that learning a foreign language can have. Being able to communicate is not only helpful when meeting natives but can bring several other benefits as well. For example, the more languages we are familiar with, the easier it becomes to learn another one, especially if they are all part of one language family. Learning new languages can, furthermore, help us to acquire a broader vocabulary and can therefore be an aid to understanding foreign or as of yet unknown words we encounter randomly.

In a similar sense, being able to deep read alters our brain structure and strengthens the connections between our analogical, inferential, empathetic, and background knowledge, much of which had originally been acquired during prior reading experiences.[163] These cognitive processes can even be reflected neurally, as studies have shown that "all four lobes and both hemispheres of the brain […] contribute […] significantly to this extraordinary act"[164] of Deep Reading, affecting the way we think with the quite literal shaping of our brain structures.

If we foster the development and strengthening of these cultural values, such as being empathetic, for example, along with the practice of Deep Reading, it can help us to make sense of and navigate our world, as the "active process of thoughtful and deliberate reading"[165] enhances our textual as well as social comprehension.

Thoughtful reading, however, requires us to reach a certain level of concentration. Once we are not distracted anymore and sufficiently focused on the words in front of us, which permits us to properly utilise the interpretative power of our mind, we begin to think deeply, allowing our thoughts to fully materialise and

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[162] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 64.
[163] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 61.
[164] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 34.
[165] R. Nordquist, 'A Guide to Deep Reading', *ThoughtCo*, 28 February, 2019 <https://www.thoughtco.com/what-is-deep-reading-1690373> (01 July, 2019).

develop and go well behind the words themselves.[166] Deep reading is equivalent to deep thinking, then, and in that way, Deep Reading not only contributes to knowledge building, but may even be the main tool of knowledge acquisition in the first place.[167]

An effective form of knowledge acquisition is crucial, subsequently, for our ability to identify false information reliably. When readers are enabled through Deep Reading to make use of all their "cognitive and linguistic capacities to 'go beyond the wisdom of the author' to generate their own best thoughts"[168], they are empowered to fully rely on themselves again. Instead of outsourcing the process of thought and fact-checking to extraneous sources, a reader can trust himself to think and analyse current events and the corresponding news accurately.

While in-depth or Deep Reading is often applied to the reading of scientific texts or sometimes even serious journalism, it is typically used less often for reading literary fiction, poetry and non-fiction. In fact, it might well be questioned whether news is ever read 'deeply' for daily information acquisition by a non-academic reader. The point here, however, is less about how to read an individual article and more about whether we have the ability to read in-depth in general, as well as whether we can make use of the skills acquired while Deep Reading to develop a Deep Reading attitude in our daily lives.

If we are enabled to do so, Deep Reading can then indeed be useful for both daily reading and the deep analysis of a text. In fact, the acquisition of empathy and thereby perspective taking, the accretion of a broad background knowledge, and the ability to think critically and reflect upon every piece of information we encounter are highly important in regard to identifying Fake News. In the following, these three processes will therefore be examined in further detail.

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[166] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 123.

[167] M. Kovač, A. Van der Weel, 'Reading in a post-textual era', *First Monday*, 1 October, 2018, <https://firstmonday.org/ojs/index.php/fm/article/view/9416> (17 November, 2018).

[168] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?', *Thrive Global*, 30 November, 2016 <https://medium.com/thrive-global/the-deep-reading-brain-and-the-good-life-3f9ec5e5a4c0> (30 June, 2019).

6.1 Empathy

Perspective taking is one of the crucial dimensions of Deep Reading and especially interesting in regard to Fake News.[169] Wolf describes perspective taking as "one of the most profound, insufficiently heralded contributions of the deep-reading processes."[170]

Feeling empathy for others basically means that we are able to "pass over" into the perspective of others by understanding someone else's point of view without necessarily sharing it. This, in turn, is crucial for the objective evaluation of information, as it allows us to see beyond our own biases and enables us to stay open-minded towards new or different beliefs.

Wolf argues that reading, as opposed to watching movies, for example, is especially important for this empathy building, as it enables us to "immers[e] into articulated thoughts of others."[171] When reading a fictional book, we have to become imaginative, more so than when watching a movie. We thereby train, over and over again, our ability to experience others' lives, their thoughts and feelings, through the story. Books, and text in general, can therefore "help us understand the perspective of others"[172] and can work "as an antidote to the fears and prejudices many people harbour, often unknowingly."[173] Perspective taking "forces us to examine our own prior judgements and the lives of others,"[174] which can help us to reflect upon ourselves and thereby experience personal growth. This can be helpful for online communication with other users, especially those whom we do not know and whom we do not see during the communication process.

Empathising can enable us to acknowledge the somewhat isolated version of reality presented to us in our social media filter bubbles. Rather than simply accepting this reality as given and rigid, we can then try to be empathetic in order to become aware of "the inevitable burdens that typify most human existence whatever our age: fear, anxiety, loneliness, sickness, love's uncertainties, loss and rejection, sometimes death itself."[175] Everybody can relate to some or all of these 'burdens' and they can therefore connect us as being part of the shared human condition. Moreover,

[169] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 46.
[170] Ibid., p. 42.
[171] Ibid., p. 47.
[172] Ibid.
[173] Ibid.
[174] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 48.
[175] Ibid., p. 46.

they are often the driving force behind our reactions to the world. Consider once more the 'dog incident' from chapter three, *Social Media: Breeding Ground for Fake News*, and the vast amount of hate comments this post provoked. These comments, most likely, resulted out of an irrational fear of being mistreated or at least less well treated than others, in this case refugees.

It is not necessary to fully understand every perspective, but we can at least try to leave our "past assumptions behind" and to deepen "our intellectual understanding of another person,"[176] who probably has beliefs that are very different and thus potentially rather challenging to our own. Empathy is exactly that: "the notion that it's possible to connect with someone else even though they're very different from you." [177] Only if we are willing to consider other perspectives or at least acknowledge them, can we become aware of the full scope of a problem, enabling us to identify false statements and analyse the quality and accuracy of the content we are confronted with.

Losing the ability of perspective taking is thus "a formula for unwitting ignorance, fear and misunderstanding, that can lead to the belligerent forms of intolerance."[178] Ignorance and fear, in turn, increase our susceptibility to accepting false information that feeds into our existing beliefs and confirms our worries. Unfortunately, however, it seems as if "there has begun an unanticipated decline of empathy among our young people."[179] Wolf proposes that this might be related to our increasing immersion in and dependence on the online world and thereby our "losing track of [...] real-time, face-to-face relationships."[180] Following this assumption, the digital environment does not only impose a threat to the Deep Reading manner, but also makes us increasingly harsher and less empathetic. This illustrates vividly the inverse relationship between the rise of digitisation and an increasing susceptibility to the dangers of Fake News, as well as the loss of Deep Reading and a decreasing engagement in its cultural values.

[176] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 53.
[177] Ibid., pp. 47f.
[178] Ibid., p. 47.
[179] Ibid., p. 50.
[180] Ibid., p. 50.

6.2 Background Knowledge

It has been established that how and what we read has an influence on how we think.[181] In addition to that, the quality of our thoughts is influenced by our background knowledge.[182]

Knowledge cannot evolve if we do not continuously add to our background knowledge, and by the means of (deep) reading, we can do so.[183] With everything we read, we add information to our "essential building blocks of knowledge."[184] Thereby, background knowledge exceeds the mere reading process by far, being essential for every act of communication. Over time, our knowledge accumulates, and we become increasingly better at comprehending and predicting what we read and understanding our world, as we are enabled to draw connections between pieces of information more easily.[185]

Relying on others' background knowledge, "we *always* omit a great deal of information needed to make sense"[186] of what we want to express when communicating with others. When we read a text, not all information is made explicit either, because the author assumes a certain level of background knowledge on side of the reader.[187] In case of the creation of Fake News, however, an author might intentionally decide to not share all information openly with his readers, aiming to deceive them. In that case, if the reader lacks a sufficient background knowledge, he might be unable to connect crucial details and end up being confused or even mislead more easily.[188] In other words "[i]f writers frequently omit information needed to build causal connections between sentences, that implies that having a lot of knowledge will be a big help in successful reading,"[189] as well as in the analysis of the accuracy and truthfulness of the information presented.

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[181] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.
[182] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 53.
[183] Ibid., p. 56.
[184] Ibid., p. 54.
[185] D. T. Willingham, *The Reading Mind: A Cognitive Approach to Understanding How the Mind Reads* (San Francisco: Jossey-Bass, 2017), p. 114.
[186] Ibid., p. 116.
[187] This level of 'expected' background knowledge varies depending on the targeted audience. Think of a children's book in comparison to a scholarly monograph, for instance.
[188] D. T. Willingham, *The Reading Mind: A Cognitive Approach to Understanding How the Mind Reads,* p. 117.
[189] Studies testing the reading abilities of students as well as their general knowledge have shown that there is an interdependency between reading results and background knowledge. Ibid.

The broader one's background knowledge, the easier it becomes "to discern what is true."[190] With practice, we can draw "analogies to infer, deduce, analyse, and evaluate our past assumptions- all of which increases and refines our growing internal platform of knowledge."[191] Consequently, the faster analysing information and fact-checking happens, the broader our background knowledge becomes.

Based on one's prior knowledge and experiences, every individual develops a mental schema, which dictates whether we want to accept or reject the information that we encounter.[192] On the basis of "intertextual and generic judgements,"[193] for example, we can decide to disregard information, when it appears to be flawed. Given the tendency in the digital environment to read short texts, in a shallow manner, for short periods of time, the question might arise whether the content we are consuming online can even "provide us sufficient background knowledge [...] for the particular demands of life in the twenty-first century."[194]

With the transition from Deep, mostly paper-based reading to Digital Reading, we are moving from being "expert readers with uniquely personal, internal platforms of background knowledge to a group of expert readers who are increasingly dependent on similar, external servers of knowledge."[195] The issue in the post-truth era, however, is that we are confronted with an increasing amount of unadjudicated sources. If we rely too early in life on extraneous sources of knowledge we might at least slightly alter the connection between what we read and what we know.[196] Relying on the ability to simply look up everything at any given point in time, we run the risk of impeding ourselves from accumulating a broad background knowledge. Without a sufficient background knowledge, however, Deep Reading processes will be deployed less often. We will then move less often outside the boundaries of what

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[190] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 56.

[191] Ibid., p. 60.

[192] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 6.

[193] M. Mackey, 'The Survival of Engaged Reading in the Internet Age: New Media, Old Media, and the Book', p. 172.

[194] This tendency might correlate with the nature of the Internet itself. Before the information explosion, short texts were an affordance of the digital world (hypertext). Furthermore, this seems to open up the question as to whether the full benefits of Deep Reading can be taken advantage of in the digitised age. Although this question is beyond the scope of this thesis, it may represent a productive line of further research. M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 55.

[195] Ibid.

[196] The degree of this alteration on a neural level, however, is debatable. See: R. W. Clower, 'Screen reading and the creation of new cognitive ecologies', *AI & Society*, 06 February, 2018, pp. 1–16. DOI: <https://doi-org.ezproxy.leidenuniv.nl:2443/10.1007/s00146-017-0785-5>.

we already know, as we will lack the base "to grasp new information and interpret it with inference and critical analysis."[197]

The ability to critically analyse information on the basis of our prior knowledge, on the other hand, allows for the bridging of knowledge gaps. No matter how broad our background knowledge, it can never cover every topic. Nevertheless, if we are skilled at analysing new information due to knowing a lot about the world already, it becomes easier to estimate the legitimacy of this new information. With a certain level of proficiency reached, it is perfectly legitimate to make use of external servers of knowledge to seek further information and consciously try and fill in our knowledge gaps. If we lack this basis, however, we might "become increasingly susceptible human beings who are more and more easily led by sometimes dubious, sometimes even false information that we mistake for knowledge or, worse, do not care one way or the other."[198]

The Mathew-Emerson effect comes into play here, which describes that

> those who have read widely and well will have many resources to apply to what they read, those who do not will have less to bring, which, in turn, gives them less basis for inference, deduction, and analogical thought and makes them ripe for falling prey to unadjudicated information, whether fake news or complete fabrications. Our young will not know what they don't know.[199]

Having access to the Internet at all times, we might be fooled into thinking that we already possess knowledge of what we need to know.[200] However, being able to search for information does not equal knowing something. If, in contrast, we know what we do *not* know, and if we furthermore know how to actually retrieve and use sufficient information (online), then the internet as the gateway to virtually everything can be a great aid for sustained knowledge acquisition. Yet if we are complacent and rely on our ability to look something up, in case we feel unsure, we will become increasingly dependent on external sources of information instead. We cannot then be confident about what we claim to know anymore either.

Moreover, it appears that on the one hand, we rely on the Internet, but on the other, we do not even make full use of its capacities. The Internet offers the possibility to access further information instantly, such as vocabulary, for example.

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[197] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, pp. 55f.
[198] Ibid.
[199] Ibid., p. 56.
[200] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 35.

However, it seems that readers often do not actually seek additional information while reading a text online.[201] Apparently, we are being fooled into feeling well-informed only because we have theoretical access to virtually all knowledge. This theoretical access has generated a lack of self-awareness that we do not, in fact, know everything, and this problem is compounded by the fact that we do not even make sufficient use of the sources we rely on.

Again, it appears that the digital environment stands in an inverse relationship towards the development of the cultural value of background knowledge.

6.3 Critical Thinking

> A great many people think they are thinking
> when they are merely rearranging their prejudices.[202]
>
> Attributed to William James

While none of the three explained dimensions of Deep Reading are isolated processes, their interdependency with one another becomes especially evident for critical thinking.

The above-mentioned phenomena of the filter bubble and the echo chamber illustrate vividly how "[p]eople are often unable to reinterpret or reattribute information when this information is inconsistent with their existing knowledge structures."[203] It is "far too easy to become attached to and protective of one's viewpoint, and to rule out other perspectives,"[204] compared to intentionally overcoming one's own biased heuristics.[205] However, critical thinking, especially the ability to be critical about oneself, can facilitate "the active reflection of one's intuition [...] and a rational adaption thereof."[206]

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[201] Studies have shown that students "typically underuse opportunities" as such.
M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 34.

[202] J. Greene, J. Haidt, 'How (and where) does moral judgement work?'
Trends in Cognitive Science, 6 (2002), p. 517.

[203] S. Mo Jang, et al., 'A computational approach for examining the roots and spreading patterns of fake news: Evolution tree analysis', p. 111.

[204] b. hooks, *Teaching Critical Thinking: Practical Wisdom*
(New York, London: Routledge, 2010), p. 10.

[205] In fact, it seems that people are often too lazy to apply analytical processes and therefore turn to heuristic processing.
T. Ståhl, J. W. Van Prooijen, 'Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational', p. 156.

[206] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 108f.

hooks establishes that "[c]ritical thinking involves discerning the who, what, when, where and how of things - and then utilizing that knowledge in a manner that enables you to determine what matters most."[207] Critical thinking requires us to be actively engaged. Similar to perspective taking, actively open-minded thinking involves the thinker's deliberate search for alternative explanations and the willingness "to reconsider his own beliefs"[208] before making an inference.

Critical thought furthermore relies on our background knowledge. When reading a text, for instance, we can "evaluate the author's underlying assumptions, interpretations, and conclusions,"[209] based on our prior knowledge. That being said, it is important to understand that knowledge does not "revolve around information."[210] In other words, collecting information, as for example searching for something on the Internet, does not equal knowing it. After we encounter a piece of information, it requires the use of our "deepest critical and analytical skills, and to internalise personal knowledge through the prodigious use of memory, and long effort,"[211] to transform that information into knowledge. Critical analysis is thus a crucial step in our process of knowledge acquisition.

Critical thinking furthermore consists of "reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth."[212] Critical thinkers will "apply these skills to their reading"[213] and thereby aim "to understand core, underlying truths, not simply that superficial truth that may be most obviously visible."[214] To be able to find the underlying truth and understand the whole scope of an incident, it can be reasonable to resist our gut feeling, our intuition which can produce erroneous or biased reactions. Such a cognitive reflection can not only lead to people being

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[207] b. hooks, *Teaching Critical Thinking: Practical Wisdom*, p. 9.
[208] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 108f.
[209] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 62.
[210] M. Wolf, *Proust and the Squid: The Story and Science of the Reading Brain*, p. 220.
[211] Ibid.
[212] D. T. Willingham, 'Critical Thinking: Why Is It So Hard to Teach?', *Arts Education Policy Review*, 109:4 (2008), p. 21.
[213] R. Paul, L. Elder, *The Miniature Guide to Critical Thinking: Concepts and Tools*, (Tomales, California: Foundation for Critical Thinking, 2006).
[214] b. hooks, *Teaching Critical Thinking: Practical Wisdom*, p. 9.

"more sceptical about religious, paranormal, and conspiratorial concepts,"[215] but can also help with the identification of Fake News.[216]

In fact, Bornstein et al. established the notion that a reduced engagement in analytical reasoning might indeed "cause individuals to believe broadly in the implausible."[217] Therefore, the assumption can be made that interventions which foster analytic thinking can reduce the risk of falling for Fake News.[218] Deep Reading, as a skill that trains critical thinking, can be proposed as one of these interventions which can empower us to identify misinformation and thereby to read and think independently and freely.[219]

Amongst the population, however, differences in the ability to identify misinformation can be spotted "based on the differing cognitive ability or an unwillingness to engage in analytical thinking."[220] In other words, Bronstein's claim suggests that the ability to identify misinformation does not depend only on the reader's willingness to take time and effort over an analysis, or, as proposed here, over Deep Reading, but also to a certain degree on his overall cognitive abilities.

Besides that, Gordon Pennycook et al. furthermore established that those who use their smartphone to retrieve information perform worse on analytic thinking tasks.[221] It appears in this case, then, that digitisation, again, can impede the development of critical thinkers. Just like Deep Reading itself, critical thinking is endangered in a world in which people are increasingly willing to let digital tools think and make decisions for them.

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[215] G. Pennycook et al., 'Everyday Consequences of Analytic Thinking', *Current Directions in Psychological Science*, 24:6 (2015), p. 425.

[216] G. Campitelli, M. Labollita, 'Correlations of cognitive reflection with judgements and choices', *Judgement and Decision Making*, 5:3 (2010), p. 182.

[217] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 109.

[218] Ibid., p. 108.

[219] b. hooks, *Teaching Critical Thinking: Practical Wisdom*, pp. 8–10.

[220] M. V. Bronstein et al., 'Belief in Fake News is Associated with Delusionality, Dogmatism, Religious Fundamentalism, and Reduced Analytical Thinking', p. 109.

[221] G. Pennycook et al., 'What makes us think? A three stage dual process of analytic engagement', *Cognitive Psychology*, 80 (2015), pp. 34–72.

7 The Loss of Deep Reading

Deep Reading is a difficult task which requires commitment and effort and, as will be discussed in the following, the loss of this skill seems to be a potential unintended side effect of digitisation. The affordances and possibilities of the digital world seem to stand in harsh contrast to the requirements of Deep Reading, the reasons for which will also be a feature of this chapter. The decrease in quality of attention in the digital environment, impedes both Deep Reading as well as comprehension and retention of information, both of which are necessary for an effective knowledge acquisition.

We are currently at "an important juncture in our intellectual and cultural history, a moment of transition between two very different modes of thinking,"[222] as our society is transitioning from a literacy- and word-based culture into a far faster-paced digital- and screen-based one.[223] Due to the rise of digitisation, we have entered the "golden age of access and participation,"[224] with the Internet developing into the communication and information medium of choice within a very short time.[225] However, this new digital environment also has its downsides.

To begin with, the digital environment puts an emphasis on "efficient, massive information processing; flexible multitasking [as well as] quick and interactive modes of communication."[226] Along with that comes an increasing immersion of people in speedy digital experiences. This emphasis of the digital environment, however, is "less suited for the slower, more time-consuming cognitive processes that are at the heart of what we call deep reading."[227] Turning towards digital immersion, we unknowingly sacrifice the time needed for slower, analogue processes, such as those explained previously.[228] Deep Reading as a skill is thus "potentially endangered by the digital [culture]."[229]

In fact, the substantial information overload that the digital world imposes on a reader comes with game-changing issues, as it makes us change the way we acquire information entirely. When facing this immense information overload, it is very

[222] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 10.
[223] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 39.
[224] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 9.
[225] Ibid., pp. 2f.
[226] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 32.
[227] Ibid.
[228] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 8.
[229] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 32.

tempting to turn to more easily readable texts, which are less dense, less intellectually demanding or less challenging towards one's own beliefs. "When access is easy, we tend to favour the short, the sweet, and the bitty,"[230] instead of choosing the more effortful way of reading through a long and complex text. This can evoke "[t]he illusion of being informed by a deluge of eye-byte-size information [which, in turn,] can trump the critical analysis of our complex realities,"[231] and represents the basis of our being fooled by false information.

This is further impeded by the "instant emotional gratification"[232] we often experience online. Think of the previously discussed filter bubbles, for instance, which can restrain a reader from taking on the responsibility of analysing a complex reality (himself). It does not then seem an overstatement to say that, in a digital world, "we neither seek nor want honesty or reality [anymore]. Reality is complicated. Reality is boring. We are incapable or unwilling to handle this confusion."[233]

That being said, the issue is not only one of preference, but also one of ability due to both differing interpersonal abilities and due to the loss of personal abilities. As explained above, lengthy or complex texts require a reader to really focus his attention on the reading process. However, the digitisation, or, more precisely, the time we now spend reading on screens and digital devices, seems to have had a negative effect on our overall attention quality.[234] Facing the problem of digital overload, reading is "rarely continuous, sustained, or concentrated; [...it's] rather one spasmodic burst of activity after another."[235] Therefore, following a sustained text has become increasingly difficult for us. This holds true even more so if we attempt to read such texts in-depth, as Deep Reading and, along with that, deep thinking, certainly do not benefit from a shortened or chunked consumption.[236] Rather, the opposite is the case, as Deep Reading requires "a calm and attentive state of mind."[237]

In fact, it appears that, overall, the affordances and possibilities of the digital world present a rather harsh contrast to the requirements of Deep Reading. The digital world is "characterized by speed and efficiency, multi-tasking and attention

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[230] T. Cowen, *Create Your Own Economy* (New York: Dutton, 2009), p. 43.
[231] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.
[232] R. Holiday, *Trust Me, I'm Lying: Confessions of a Media Manipulato*r, p. 201.
[233] Ibid.
[234] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 39.
[235] Ibid., p. 73.
[236] Ibid.
[237] N. Carr, *The Shallows: What the Internet is Doing to Our Brains,* p. 220.

switching, and a growing reliance on external platforms of knowledge."[238] With digitisation increasingly infiltrating all parts of our lives, we are inevitably but imperceptibly adapting to these affordances. "The more we use the web the more we train our brain to be distracted - to process information very quickly and very efficiently but without sustained attention."[239] Consequently, our brain is less able to apply the "considerable attention, time, and effort"[240] required for Deep Reading.

Allocating this time, however, is "critically important."[241] When we want to read something in-depth, we have to actively decide to "expend the extra milliseconds needed to maintain deep reading over time."[242] Yet as this is highly demanding, it might not be very surprising that people, unconsciously, will try and avoid Deep Reading processes if they gain the impression that there is a simpler alternative way to acquire information. And in the digital world, we are presented with these easier and seemingly sufficient ways. All information, at all times, is virtually just a click away. Everything is easily accessible and readily available, and we do not have to put any effort into the process of information retrieval.[243] As a result, a reader might gain the impression that there is no "need to go beyond the information provided."[244] This, in turn, is making us increasingly dependent on the Internet as well as increasingly susceptible to Fake News.[245]

Apart from a more shallow consumption manner, the convenient access to information can moreover imperceptibly derail a reader's focus and thus contribute to the decreasing quality of attention.[246] When reading online, we tend to do numerous things on the side, as distractions are present as an inherent element of digital devices.[247] Furthermore, when reading in the digital environment, we might consider following hyperlinks instead of reading the text in a linear matter. A reader has to make more "navigational choices, while also processing a multiplicity of

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[238] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.
[239] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 194.
[240] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.
[241] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 38.
[242] Ibid.
[243] There is more information available "via [a] smartphone than any single library has ever contained."
R. E. Miller, 'On Digital Reading', *Pedagogy*, 16:1 (2016), p. 154.
[244] M. Wolf, *Proust and the Squid: The Story and Science of the Reading Brain*, p. 225.
[245] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 92.
[246] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 34.
[247] R. B. Imel, *Digital Reading vs. Paper Reading: Does Mind Wandering Mediate Comprehension Differences?* (California: UC Riverside, 2008) <https://escholarship.org/uc/item/82n4z6wj>, p. 20.

fleeting sensory stimuli [...]", compared to reading on paper. This "[r]equires constant mental coordination and decision making, distracting the brain from the work of interpreting text or other information"[248] and can impede the identification of potential misinformation. Although it might feel like we are multitasking and being productive, this is not actually the case since multitasking implies intentionality and productivity rather than distraction and procrastination. This form of consumption actually impairs the use of our full cognitive abilities.[249] Distraction as such, especially frequently repeated distraction, sacrifices the ability that makes Deep Reading possible and impedes the comprehension and retention of information.[250]

Unfortunately, our brain is betraying us in this regard. "The natural state of the human brain, [...] is one of distractedness."[251] From an evolutionary biological perspective, that makes a lot of sense, as only with a constantly shifting attention can we become fully aware of our surroundings. However, we are not dependent on hunting and collecting anymore, but rather base our survival on knowledge and technological progress. In that regard, it is useful to be able to fully focus our attention on one task. But as this goes against our natural brain wiring, it can also be thoroughly demanding to commit to the act of sustained Deep Reading in the first place. To overcome the natural resistance of our brains, we need to be particularly vigilant against the temptations of (digital) distractions and have to decide actively to focus on reading (in-depth) against the environmental pressure in the digitised world, in which it seems as there is never enough time to fully engage with anything.

This feeling of missing time, however, can result in superficial research as well as superficial reading. To illustrate this, consider the following numbers: the average user spends about 19 to 27 seconds looking at one (web-)page before moving to the next one. This includes the time the page will require to load. It is impossible to read and understand something properly in this time.[252] When consuming information on such a superficial level, we do not actively read anymore but only absorb the information mindlessly; we revert to being "mere decoders of information."[253]

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[248] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 122.
[249] K. Cherry, 'How Multitasking Affects Productivity and Brain Health', *verywellmind*, 16 March, 2019 <https://www.verywellmind.com/multitasking-2795003> (30 June, 2019).
[250] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 122.
[251] Ibid., p. 63.
[252] Ibid., p. 136.
[253] M. Wolf, *Proust and the Squid: The Story and Science of the Reading Brain*, p. 74.

The reader, however, can nevertheless gain the faulty impression of being well-informed, which, naturally, falsely legitimises this type of information acquisition.[254] Unfortunately, this shallow reading behaviour spills over into the analogue world as well, generally affecting "our capacity for concentration and contemplation."[255] If this becomes the new and accepted way to read, the potential that the "superficiality bleeds over into other activities such as deep reading and analysis [...],"[256] rises, which would result in Deep Reading being lost to us entirely. "Our ability to make the rich mental connections that form when we read deeply and without distraction remains largely disengaged"[257], when reading quickly and shallowly.

It appears therefore, that one of the unintended side effects of digitisation is indeed the loss of Deep Reading. Moreover, it seems that we, as a society, have been largely unaware of this loss and its possible implications for the longest time.

8 Why Digital Reading Is Not a Sufficient Replacement

In the following chapter, Digital Reading will be introduced, since it is the one reading manner highly adapted to the affordances of the digital environment. The reasons for this will be explained, as will the skills which Digital Reading can offer. Being well versed in Digital Reading can be beneficial in some cases; however, as will be argued, it cannot work as a sufficient replacement for Deep Reading.

> Try reading a book while doing a crossword puzzle;
> that's the intellectual environment of the Internet.[258]
>
> Nicholas Carr, *The Shallows*

With the gradual loss of Deep Reading, our reading manners are shifting to other forms of consumption. We spend less time and attention on Deep Reading and more time skimming a text to merely fill out knowledge gaps.[259] However, even in the digital world, we need a specific set "of executive, organizational, critical, and self-

[254] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 137.
[255] Ibid., p. 6.
[256] M. Weller, *The Digital Scholar: How Technology Is Transforming Scholarly Practice* (London: Bloomsbury Academic, 2011).
[257] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 122.
[258] Ibid., p. 126.
[259] M. Wolf, 'Skim reading is the new normal. The effect on society is profound', *The Guardian*, 25 August 2018, <https://www.theguardian.com/profile/maryanne-wolf> (17 November, 2018).

monitoring skills to navigate and make sense of the information."[260] 'Digital Reading', as a process highly adapted to the affordances of the digital environment, can foster these skills.

When reading digitally, we often skim through text. We tend to browse "horizontally through titles, content pages and abstracts"[261] with an astonishing speed, and in doing so we read rather superficially, as described above. The digital environment also supports a non-linear style of reading. Following hyperlinks or using an automated keywords search, when seeking for only the "pertinent information of interest,"[262] allows for quick jumps between different text passages.

Skipping through this "fluid, multimodal"[263] digital environment, a reader can "become immersed in a subject [...] which opens the door to great distractions,"[264] as opposed to consciously immersing oneself in reading one specific (analogue) text, since when immersed in these texts we are not as heavily surrounded by distractions.[265] Immersive Reading happens when a reader really gets lost in and carried away by a text, and this often comes with a significant emotional involvement. A very evident example of this is in fictional stories, with which we (often) engage easily and which are mostly read for entertainment. Immersive Reading as such is cognitively way less demanding than Deep Reading is. Accordingly, the purpose and outcome of Immersive Reading is significantly different from that of Deep Reading.

However, digital immersion affects the way we absorb information in a different way than that of analogue immersion. When we are caught in the grips of the digital world, skimming through a text, it is not uncommon for us to end up only considering headings or emphasised sections instead of reading and analysing the whole text. Such a reading manner, however, impedes an "active process of thoughtful and deliberate reading,"[266] resulting in a less dense reading comprehension and reduces our ability to form thoughts exceeding the text itself.[267] It therefore increases the risk of falling for a source that eventually turns out to be rather implausible or inconsistent when read fully. It can furthermore happen that,

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[260] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 34.
[261] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 137.
[262] Ibid., p. 9.
[263] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 35.
[264] Ibid.
[265] M. Kovač, A. Van der Weel, 'Reading in a post-textual era'.
[266] R. Nordquist, 'A Guide to Deep Reading'.
[267] M. Wolf, 'Skim reading is the new normal: The effect on society is profound'.

via this less thorough process, we draw wrong conclusions from incomplete sections of information, for example.[268]

Moreover, empirical research has shown that readers "may not comprehend complex or lengthy material as well when they view it digitally as when they read it on paper."[269] Most people read faster when they read on a screen. We pay less attention to texts we read on screen and, naturally, this leads to a loss of comprehension. Readers seem to lose the overall point of a text when they read digitally. Generally, the reading performance onscreen appears to be less satisfying, when it comes to deep comprehension and the analysis of the material.[270]

However, it is important not to overstate the case. Digital reading is not necessarily doomed. Indeed, it can be beneficial in a different regard than Deep Reading. It can "mold a mind [to become] adept at effectively finding, analysing, and critically evaluating and responding to information across several modalities."[271] A person who practises Digital Reading extensively will potentially increase skills "such as multitasking, [...] immediate information gathering and quick attention shifts, rather than deep reflection and original thought."[272] As Carr points out, these are skills our modern society demands, as "our work and social lives come to center on the use of electronic media."[273] Digital Reading, therefore, has all rights to exist, and being well versed in it might indeed be very useful in many cases.

Moreover, a reader who develops sufficient digital literacy skills will also be more likely to find trustworthy sources online, as being "deeply literate in the digital world"[274] includes the ability to analyse the accuracy of digital information. Both Immersive Reading and Digital Reading have their field of use and should, by all means, be applied and practised within that field.

However, in the context of Fake News, immersing oneself in a story holds the potential danger of getting carried away by invented realities whilst one is skimming through it. This is because Digital Reading often results in a rather superficial

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[268] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 9.
[269] N. S. Baron, *Words Onscreen: The Fate of Reading in a Digital World* (New York: Oxford University Press, 2015).p. 151.
[270] See "screen inferiority" as discussed by P. Delgado et al., 'Don't throw away your printed books: A meta-analysis on the effects of reading media on reading comprehension', *Educational Research Preview*, 25 (2018), p. 34.
[271] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 35.
[272] Ibid.
[273] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 140.
[274] N. A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*, p. 18.

consumption and analysis of a text, one which focuses on keywords rather than on the attempt to fully understand an argument on a deeper level.

It is certainly possible to survive without Deep Reading and it might well be argued that indeed many people have already lost Deep Reading from their skill set. However, the sophisticated process of Deep Reading and its cognitive outcome cannot be replicated on the same level with either a digital reading manner or with an immersive one. "Nothing replaces the unique contributions of [Deep Reading] for the development of the full panoply of the slower, constructive, cognitive processes."[275]

Conclusion:
Against All Odds - Deep Reading Is Still Vital

> Deep Reading contributes to the development of the "capacity to discern what is good - and just and true - at any moment, under all the circumstances of our lives.[276]
>
> Maryanne Wolf, *The Deep-Reading Brain and the Good Life*

"What we read, how we read, and why we read change how we think [...]"[277] and it is therefore important to consider how we analyse and use information. In regard to Deep Reading and Fake News, it is crucial that we recognise that there is a choice to either take the time to consume information deeply or, instead, to refrain from using this critical process. However, in not recognising this choice we "run the risk of digesting information without questioning whether the quality or prioritization of the information available to us is accurate and free from external motivation and prejudices."[278]

Whether we engage more in deep reading or not, this will have an effect on our future, on our culture and on the whole process of information acquisition. The potential loss of Deep Reading thereby affects more than the mere process of decoding letters and interpreting the words: it also poses a threat to the cultural values supported best by Deep Reading. Should Deep Reading be lost, our cognition will imperceptibly alter according to the affordances of the digital medium. "The quality of our attention will change,"[279] and so will the "comprehension for

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[275] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 36.
[276] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.
[277] M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 2.
[278] Ibid., p. 57.
[279] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.

complexity." [280] Wolf argues that, "[o]ver time, there will be downstream effects on the quality of our background knowledge and of our understanding of others, which is the basis for seeking the "good" and discerning the "truth" of whatever we read [...]."[281] If we lose these abilities, we lose the capacity to "go beyond the limits of past thought and past prejudices,"[282] which would make us the "the worst of fools,"[283] actively paving the path for Fake News.

Given the overall importance of Deep Reading for not only information, but also knowledge acquisition, losing it entirely would indeed be tragic, especially for coming generations. It is one thing if expert readers let their Deep Reading abilities diminish during their lifetime and turn to other ways of consumption. It is quite another thing to risk the loss of Deep Reading entirely due to the failure to pass these skills onto the next generation.[284]

The cultural value of reading manners, and the influence they have on our society, might be illustrated best by considering the following scenario envisioned by Miha Kovač and Adriaan van der Weel. One of the possible outcomes of a changing reading manner could be the division of our society between the 'elite' - which is able to afford Deep Reading time-wise and financially, and can subsequently benefit from it - and those who cannot afford it and therefore have to seek short texts or even non-textual alternatives.[285]

Looking back in history, this would not be the first formation of such an elite. Deep Reading as a common practice became popular with Gutenberg's invention and the resulting proliferation of literature and literacy. Reading something repeatedly and quietly was considered to be a highly intellectual task, and with reading not being accessible for everyone, a reading elite could form. Considering the current societal and technological developments inverse to the affordances of Deep Reading, some scholars express the worry that such a reading elite might re-emerge, and that the few

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[280] M. Wolf, 'The Deep-Reading Brain and the Good Life: What is "deep reading"?'.

[281] Ibid.

[282] Ibid.

[283] Ibid.

[284] In his essay "On Digital Reading, Miller poses the questions "Can you learn to read without rereading? Can you learn how to think without experiencing thought?" The scope of this thesis does not really allow to delve into this. However, I think these are crucial questions anyway, considering that we might give up even more than what has been explored in this paper.
R. E. Miller, 'On Digital Reading', p. 156. See also: M. Wolf, *Reader, Come Home: The Reading Brain in a Digital World*, p. 62.

[285] M. Kovač, A. Van der Weel, 'Reading in a post-textual era'.

centuries of mass reading might just have been a historical anomaly.[286] The formation of a reading elite, however, cannot be a desirable outcome for those who advocate a functioning democratic order. A reading elite as such would be equal to a knowledge elite, in which everybody would have the right to participate, but realistically only those who have the financial means and the access to a corresponding education would be able to participate in reasoned decision making.

Another possible outcome of the current changes is the formation of methods of reading and knowledge acquisition, that will enable the broad mass of people, not only a small group, to inform themselves sufficiently. Readers could, for example, develop a "both/and"[287] reading manner, combining Deep Reading and the speed of online multitasking, to become deeply literate across the boundaries of several media. This, in turn, could possibly lead to a new way of thinking; a "bi-lateral reading brain capable of the deepest forms of thought,"[288] regardless of the medium.

While the future remains unforeseeable, it is fair to predict that our forms of information acquisition will definitely develop over time. "Whether one embraces this change or decries it, the fact remains that it is well under way and that it is irreversible."[289] Digitisation obviously plays a crucial role here. However, it is not intrinsically 'bad'. In fact, there is no good or bad side, simply developments, that we will need to accept and adapt to in one way or another.

However, there are undeniably better and worse ways to adapt. One way to adapt is to modify our meaning of knowledge so that it meets a lower standard of truth. Another is to soften our regard for well-informedness. The dangers in such approaches to adaption should be obvious. Instead, the far better approach is to capitalise on our awareness of the current declining trend in Deep Reading in order to prevent it from being lost entirely.[290] To this end, we should build our awareness of what exactly is at risk, of what we would lose if Deep Reading were to disappear. Therefore, education on this topic is key.

Just like "[m]ost aspects of reading"[291], Deep Reading "need[s] to be explicitly taught."[292] It is crucial to educate society about the implications of the potential loss

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[286] N. Carr, *The Shallows: What the Internet is Doing to Our Brains*, p. 107.
[287] M. Mackey, 'The Survival of Engaged Reading in the Internet Age: New Media, Old Media, and the Book', p. 169.
[288] M. Wolf, 'Skim reading is the new normal: The effect on society is profound'.
[289] R. E. Miller, 'On Digital Reading', p. 153.
[290] Ibid., p. 156.
[291] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 35.
[292] Ibid.

of Deep Reading, particularly in regard to our increased exposure to false information. It is equally important, however, to encourage "explicit instruction of deeper comprehension processes in online reading"[293], as well as the "formation of the deep-reading processes"[294] in the analogue world. With an adequate education, it might even be possible to convey the joy that Deep Reading can bring by increasing "people's awareness of the value of that imaginative silence [of Deep Reading] in a noisy and bustling world."[295] In the end, however, it is up to the individual reader to decide how and what to read. Deep Reading is not a panacea, but rather one possible tool that could be deployed by those interested in looking beyond misinformation.[296]

Lastly, it remains to be said that substantial cultural changes almost always provoke worries and resistance in the present. However, looking back, centuries later, we realise that these changes set the groundwork for the world we live in today. As for now, with the decline in Deep Reading, and the increase in Fake News, I cannot help but wonder what people in the future might think about the lasting cultural changes these trends may produce.

[293] M. Wolf, M. Barzillai, 'The Importance of Deep Reading', p. 36.
[294] Ibid.
[295] M. Mackey, 'The Survival of Engaged Reading in the Internet Age: New Media, Old Media, and the Book', p. 167.
[296] S. Lewandowsky et al., 'Letting the Gorilla Emerge From the Mist: Getting Past Post-Truth', p. 421.

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