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# FAKE NEWS: ROOTS, DANGERS, AND POSSIBLE SOLUTIONS

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# INTRODUCTION

Fake News stories are false claims intentionally manufactured and spread, with the intent of deceive those who receive them. Manipulations of the truth with the intent of deceiving is not a phenomenon of our century. Instead, it is something that human beings have been doing since they moved away from the rest of the primate lineages, and maybe even before that. One of the most influential evolution psychologist of the 20th century, Robert Travis, theorized that every communication system among any living creatures is based on deception (2011). The homo sapiens species, in particular, is depicted by Travis as well capable of self-deception, a mechanism used in order to better manipulate the social groups we live in (2011).

However, in recent times, Fake News seems to have become a social and political emergency, object of public debate and scientific studies. The definition given by the Cambridge Dictionary is the following: "false stories that appear to be news, spread on the internet or using other social media, usually created to influence political views or as a joke" (Dictionary.cambridge.org, 2019). Whether or not the person spreading the information is aware that the information that is being spread is false, makes no difference. What matters is that the more the information spreads, the more people are likely to believe it, as they see it coming from multiple sources. This thesis is built on three chapters. The first will focus on what can be classified as Fake News and everything that relates to their process of distribution. I will discuss the concept of cognitive bias, and analyze how their role, in particular the role of confirmation bias, in the very existence of Fake News. In the second chapter I will analyze a few case studies, in order to show the different threats that Fake News pose to our society. In the last chapter, I will focus on the future of the Fake News. I will go over governmental actions and academic studies, in order to understand what is being done and what could be done to protect ourselves.

# CHAPTER 1: WHAT FAKE NEWS ARE AND HOW THEY SPREAD

We can date Fake News, meant as a conscious mean of mass deception with social or political goals, to be at least as old as the First World War. Lies and false information were obviously spread well before that time, however the means of distribution of knowledge were not yet as strong and were not yet being abused so openly. The mass scale campaign of disinformation that most governments led during WWI was without precedent and could be classified as the first case of Fake News as we know them today. People were manipulated in order to make sure that the entire population took part in the endeavor of the war. An example that is still discussed today is that of the so called "Spanish Flu". The name comes from the fact that Spain was the first country to report deaths due to this illness due to lack of war caused censorship. However, the Spanish Flu had probably first appeared in northern France instead (Barry, 2004). Countries at war were hiding

the presence of this illness in order to deny information to their enemies and avoid low morale among their ranks. Spain, who was not at war, had no reason to hide the disease which, as a consequence, took its name from the only country that admitted its existence (Barry 2004).

One of the reasons Fake News stories are so quickly believed and spread, is because they are appealing for those who read them. As I will explain in further details, they tend to be used to enhance pre-existing believes or to awake thoughts that were silent in our minds. Fake News stories are intentionally designed in order to stick in the mind of people through emotions and, if possible, to generate a reaction strong enough to push the reader to share them with other people. How Fake News stories are made appealing is a topic that will be analyzed later in this chapter, however we can look at the examples we already made, in order to have a general understanding of the topic. If we go back to the example of the British propaganda during WWI, we can see how the posters were designed to depict the German soldiers as beasts other than people (Appendix a).

This was done via the intensive use of visual representation, with vivid pictures of beast-like men, gorillas and devils perpetrating cruelties. Even though at that time cognitive science was not as advance as it is today, the world had empirically discovered several effective strategies, that have been explained in the following decades. The mechanism in place in the WWI anti-German propaganda is well explained in the work of Albert Bandura, who defines this dehumanization mechanism as "moral disengagement" (2015). This mechanism, which consists in representing one's enemies as inferiors or parasites, was evident again, to its full tragic potential, during the holocaust (Koonz 2005).

The intensive use of visual representation is something that almost any western citizen should be accustomed to, thanks to the widespread phenomenon of "advertising". In some ways, Fake News and advertising are very similar phenomenon. They both focus on shaping the viewer's opinion by feeding biased information relying on the same psychological principles.

In my opinion this is one of the best ways to understand the basic mechanism of Fake News. False information advertised to the public. But what are this principles? What is it that Fake News and advertising do in order to stick in the mind of the reader and even push him to share what s/he thinks to have learned?

#### 1.1 COGNITIVE BIASES

As already mentioned, Fake News stpries spread so quickly because they are appealing to us, and the reason behind this are Cognitive Biases. It must be noted that Cognitive Biases do not have to work alone. While being exposed to an information, multiple Cognitive Bias could push our reasoning, in one or more directions, at the same time.

Cognitive Biases are systematic deviations form rational judgments or decisions. In order to understand their interaction with the phenomenon of Fake News and how they make us so vulnerable to it, it's mandatory to understand where Cognitive Bias come from and the magnitude of their impact. The discovery of heuristics

and cognitive biases has been for social sciences what quantum physics and relativistic theory have been in the field of physics at the beginning of the 20th century. At the heart of this discovery we find the work of Daniel Kahneman and Amos Tversky, from which we should start our analysis on cognitive bias and heuristics.

The question is: why are our reasoning and decisions prone to be biased? Why did evolution shape the human brain in ways that defy rational thinking? Kahneman theorizes that the brain has two "systems" that we use for taking decisions. The first system is faster and takes shortcuts, it works with "rules of thumb" and is emotionally driven. The second system is slower but more capable of making a case to case analysis discerning the current problem from the many it has seen before, and it is able to perform analytical or abstract thinking. Some studies have linked the second system to the parts of the brains that came last in the evolution of our species and are lacking in most animals (Tsujii, Watanabe 2009). The first system is where biases and heuristics lie, as a heritage of our evolution, helping us decide fast where the newer part of our brain lacks the ability to crunch all the options. According to Kahneman's model, the first system is responsible for all our gut feelings, and all the decisions we make even though we cannot fully understand why they are the right decisions.

Most of those cognitive biases, to which modern language attributes a negative meaning, are the product of the shift in the society people live. This shift from the stone age to huge metropolis has happened in desynchronized times when compared to brain evolution. Evolution times are far longer than the amount of time separating us from the stone age (Lloyd, Wilson, Sober 2011). As a consequence our brain has evolved in order to take decisions in a world with much lower input of data, less time to react, scarcer resources and complete absence of scientific method. Since we are exposed to an enormous amount of information every day, it's impossible for us to fact-check everything. Therefore, our brain unconsciously relies on cognitive biases to assess the validity of external inputs we receive. The same thing could be said for our ancestors, who did not have to with the same amount of information but had no means to assess the truth a posteriori. Our brain necessitates a fast way to decide whether to believe something or not. The "negative" aspects that cognitive bias have today, such as rendering us prone to Fake News, were clearly not a problem when hearsay was the most accountable source available. Those systematic deviations from rational judgement had a place in past society that is almost impossible to fully understand today. As as consequence, there is no scientific consensus on the specific role of specific cognitive biases.

In a paper published by Carol Soon and Shawn Goh (2018), from the Institute of Policy Studies at the National University of Singapore, the authors list the cognitive biases and other psychological effects that have, in their opinion, the stronger role in the very existence of Fake News.

# 1.1.1 Confirmation Bias

The first cognitive bias worth mentioning is the so called "Confirmation Bias". Almost every list of cognitive biases related to Fake News will have this bias as its frontrunner, as it is widely considered the one playing the most important role in the effectiveness of Fake News. Confirmation Bias is the tendency of people to believe, seek, and remember information that confirm their pre-existing beliefs and opinions better than information threatening to those beliefs (Soon, Gho 2018). The human brain can deviate from rational judgement as far as misinterpreting information in ways that confirm the individual's beliefs (Rotello, Heit 2014). Working alongside the Confirmation Bias in a negative spiral we find the Dunning-Kruger effect, which is a form of Cognitive Bias that makes a person overestimate one's cognitive abilities (Kruger, Dunning 1999). In simple words, we all feel smarter than we actually are . On one side, this means that when we find information that discredits our beliefs, there are two biases working against it. Confirmation Bias simply make us "dislike" information that differ from our previous ideas, and unconsciously ignore it, whereas the Dunning-Kruger effect makes us think that if something discredits our opinion, it's likely to be wrong or fake. The same mechanisms work in tandem to make us believe Fake News stories which confirm our pre-existing ideas. One further issue that the combination of these two cognitive biases raise is that considering adverse information to be Fake News, in combination to the Dunning-Kruger effect, can make us believe to be generally immune to Fake News. This illusion would feed in our trust for anything that we already agreed with and increase the difficulty of any correction.

# 1.1.2 Continued Influence Effect

Among the cognitive biases discussed by Soon and Goh (2018), the "Continued Influence Effect" is the one that will play the stronger role in the third chapter of this thesis. It refers to the tendency of people presented with false information to insist in relying on it even after it has been discredited (2018). A study from Johnson and Seifert showed that people who had been presented with a piece of information and subsequently told that the information was false, would still answer questionnaires considering as true the initial information (1994). The researchers believe this phenomenon to be caused by a knowledge gap left from the wrong information, that people don't know how to fill. The study showed, in fact, that only providing a plausible alternative would generate permanent correction effects. The mechanism behind it is that when a link of a causal chain is missing, substituting is with a plausible alternative remains in the memory of the individual, who can now picture a coherent story (Johnson, Seifert 1994).

The importance of clear alternatives, as opposed to simple denial, was confirmed in a study by Mayo Schul and Burnstain, where subjects were tested in their ability to remember personality traits (2004). Mayo and her colleagues found that subjects were more likely to misremember unipolar traits over bipolar traits. For instance, according to their results, the trait "not charismatic", which is stored in memory through the negation of the unipolar concept of "charismatic", would be harder to remember than the trait "non messy", which is instead stored by the concept of "tidy".

For these reasons, Lewandowsky and his colleagues consider the creation of an alternative story extremely important in the process of correcting Fake News (Lewandowsky et al. 2012), which will be analyzed, in its practical application, in the third chapter. Lewandowsky et al. go in further detail in explaining what are the elements that make retractions more effective, overcoming the so called "Continued Influence Effect". In their opinion, alongside the presence of an alternative story, the only elements that can make a correction more effective are its repetition an a warning prior the exposure to the initial false statement. Contrary to what one might expect, increased clarity and immediate correction after the exposure to said false statement, seem to be unsuccessful (Lewandowsky et al. 2012).

The studies mentioned so far, explain the cognitive mechanisms that make correction of Fake News harder in some scenarios, and impossible in others. As explained, "fact checking", which refers to the process of proving the falsehood of an information publicly divulged, is does not have a definitive effect on the impact that Fake News has on individuals. Moreover, it has to be noted that plausible alternatives are, unfortunately, not always available. For instance, the made-up statement "President Trump said: <<all woman are dumb>> in 1994" does not leave room to the option of providing a plausible alternative. This statement can be denied, nevertheless plausible alternatives would require shifting the object of this statement onto someone else or to offer a statement from President Trump of the same year, saying something different in the same moment. For obvious reasons it would be almost impossible to do either of those things without manufacturing a false statement ourselves.

# 1.1.3 Reiteration Effect

The third cognitive bias presented by Soon and Goh is the "Illusory truth effect", also known as the "Reiteration effect" (2018). This Cognitive Bias strongly ties Fake News with Social Media and Echo Chambers, which will be discussed later in this chapter. The "reiteration effect" refers to the tendency people have to believe information that are presented multiple times. Contrary to the bandwagon effect, which focuses on the number of people believing in an information, the reiteration effect is only affected by the amount of times that information has been presented. The more people are exposed to a statement, the more it becomes familiar, and familiarity to a statement increases its acceptance (Schwarz et al. 2007).

This cognitive bias is a perfect example of the mismatched evolution of society and brain. It made perfect sense for humans to believe facts that happened often or, were told more often about. It also work as teaching process, making sure that the most important information, repeated by parents with increased frequency, are transmitted to their offspring. Unfortunately, evolution could not have accounted for Social Media. The repeated exposure to the same statement from all the social media contacts, due to the mechanisms of sharing and retweeting, makes Fake News believable in short amounts of time. Moreover, as Soon and Goh explain in the paper, reiteration effect could even cause fact-checking to backfire (2018). Their explanation is that by disproving a statement one is likely to repeat it, therefore accidentally increasing the familiarity of the subject with the said statement (Soon, Gho 2018).

#### 1.2 HOW FAKE NEWS SPREAD

So far we have discussed the general concept of Fake News and explained the psychological biases that are, often unconsciously, exploited in order to make Fake News stories appealing and therefore believed. In this section of the chapter we will focus on understanding the actual means of distribution of Fake News.

## 1.2.1 The Role of Social Media

As many would expect, it is mandatory to address the issue of Social Media. Social Media have specific characteristics that make them fertile terrain for the diffusion of Fake News. First of all, they are an environment where very little, if any, fact-checking opportunities. This allows Fake News to often go undetected. Moreover, the use of Social Media is extremely widespread. According to a report from "wearesocial" (Kemp 2018) more than 3 billion people are active users of Social Media, with Facebook alone having more than 2 billions active monthly users (Statista.com 2019). As a consequence the amount of people that can be exposed to a false statement through Social Media with almost no costs is massive. According to the data provided by wearesocial, the average American user spends more than two hours a day on Social Media, covering about 70% of the population (Kempt 2018). This means that roughly 6% of the time of the United States of America is spent on social media, and by factoring in sleep time, I would expect this percentage to go up to at least 10%.

# 1.2.2 The issue of Accountability

Social Media lack accountability. If a well known newspaper repeatedly published Fake News stories, the public would realize it in no time. Fact checking would be perpetrated by the competition, reports would appear on other newspapers and the topic would most likely be addressed by tv news. On the contrary, if a very famous individual was found to be sharing large quantities of Fake News, it would not result in a comparable scandal (unless the said person was a politician). Social Media act as a megaphone that allows us to spread ideas while not being held accountable for what we say. As a result, lack of accountability is of crucial importance. It generates the possibility for Fake News to go undetected, while allowing accounts to share massive amounts of Fake News without consequences.

#### 1.2.3 The Role of Bots

Those characteristics of Social Media make them prone to the use of "Bots". The name bots, an abbreviation of "Software Robots", is mostly used to refer to Artificial Intelligences programmed to mimic human behavior. Bots are a fairly old invention, as in 1950 Alan Turing developed a test to establish a Bot's ability to have a human-like behavior. Bots are not in themselves a negative thing, rather they are a tool, which, as every tool, can be used to improve the conditions of a society as well as it can be used to damage it. Bots have become increasingly present in our lives. It is now common for websites to have chat-bots programmed to welcome the visitor and answer questions, and some smartphones have their own internal Bot, such as "Siri",

present in recent Apple products. Some bots have nothing to do with both Social Media and Fake News, however, some bots are intentionally designed to act on Social Media, and is on those that we should focus.

According to the definition in the article "The Rise of Social Bots", by Ferrara and his colleagues a Social Bot is "... a computer algorithm that automatically produces content and interacts with humans on social media, trying to emulate and possibly alter their behavior" (2014). Social bots can have different uses and not all of them have to be devoted to the spreading of Fake News. As it is done for websites, companies can design them to answer questions related to products or they can be used to collect specific types of content. Bots can be used to advertise a product, by sharing videos of the last model of Nike shoes or of a new restaurant with great first-week deal only a few blocks from our current position. However, as pointed out in the article, they can have harmful effects (Ferrara et al. 2014). Namely, by spreading random content, they might end up spreading unverified rumors. They can become a form of "loudspeakers" for both humans and other bots, some of which could even be intentionally designed to generate misinformation amongst the public.

For those who wonder why bots are not simply ignored by humans or shut down by social media companies, there are multiple explanations. The most important is that bot-managed accounts are not easy to tell apart from real user accounts, at least not for the public. Social-bots are designed to mimic human behavior, and although they have some tendencies that can be spotted, they are designed to pass as human beings. They mimic multiple actions that we would normally attribute to real users: they use hashtags (probably to reach more people), some of them interact with humans by replying to comments on their tweets or posts, they can write in caps lock or use emoticons. As far as social companies go, it's hard to tell whether they would actually have an interest in shutting down bots. According to the data presented in "The Rise of Social Bots", social bots retweet a lot more than regular accounts (Ferrara et al. 2014). This increases the flow of content in the social media by an extremely large amount, with a likely negative effect on the monetary value of "adds space". Moreover, the bot phenomenon is much larger than many would expect and shutting them all down would not only require a great effort in confirming the bot identity, but also cause a strong loss in the number of active accounts for social media. A research form the same authors showed that between 9% and 15% of twitter users could be bots (Varol 2017). Losing them would mean losing 9 to 15 percent of the most active users on the social media while at the same time needing a substantial amount of workforce to shut them down.

#### 1.2.4 Echo Cambers

Another widely discussed topic regarding Fake News and Social Media are the so called Echo Chambers. Echo chambers on social networks are the natural result of the unfollow/unfriend mechanism. Due to the so called "homophily", people tend to follow likely-minded individuals whereas they might decide to cut their connections with those who share unpleasant content. For this reasons, social media users will not only pay more attention to opinions they agree with, they will also be presented with opinions they already share in a much higher proportion when compared with contrasting ideas. This has the effect of partially isolating individuals from those who have different opinions. According to the Pew Research Center (Matsa, Shearer

2018), two thirds of American adults get some of their news from social media (mainly Facebook). This means that less known events that do not make the front page of newspapers or get on air time on tv news are known to the majority of the population through a biased environment. As a consequence, a liberal will be less likely to come across events that would support the cause of a republican candidate. Moreover, due to the frequency bias, the more people are presented with biased versions of the reality, the more they become likely to believe them. This echo chambers, in which individuals tend to be presented over and over with the same biased opinions result in a polarizing effect on society, that will be discussed more deeply in the second chapter.

# **CHAPTER 2: WHY AND HOW FAKE NEWS ARE DANGEROUS**

Francis Bacon used to say: "Knowledge is Power". Everyone has heard this quote at least once, maybe in a movie or book. But why is it said to be power? Without turning this chapter in an infinite philosophical digression, for the sake of clarity I will limit myself to assume that knowledge is a tool in the decision making process. Lack of knowledge forces us to make blind decisions, which is something that we generally want to avoid. A blind decision can be approximated to being forced to place a bet on a football match without knowing the the teams playing, the odds or the payoff. What Fake News does, is give us false information to work with, depriving us from the possibility of guessing right. Fake News gives the public wrong information that are later implied in the cognitive processes that leads an individual to his or her final decisions. If the decision to be made regards the choice of restaurant for a date, being fed wrong information is unpleasant, but it will probably not result in harmful consequences. If the incorrect, incomplete or even entirely false information regards politics, health care or another topic of high relevance, the consequences can be far more dire.

In this chapter I will present a few case studies in which Fake News has been used in order to shape public opinion in topics of great relevance, actively causing harm to societies or individuals.

#### 2.1 THE DIFFERENT HARMUFL EFFECTS OF FAKE NEWS

In this chapter, I will describe three main phenomena - polarization of society, manipulation of public opinion, and creation of a smokescreen that hides the truth from the public - that fuel the spreading of Fake News and explain them using real life examples, Then, I will present a few case studies in which Fake News have been used in order to shape public opinion in topics of great relevance, actively causing harm to societies or individuals.

# 2.1.1 The probelm of Polarization

Polarization is a centrifugal shift in the ideology of people on a specific topic, increasing the support for radical positions to the detriment of a more moderate approach. The result will be a society that is more starkly divided on the topic. This phenomenon is occurring in many liberal democracies and is strongly tied with some of the effects described in the first chapter (Somer, McCoy 2018). Polarization is a direct effect of the very existence of Fake News and Echo-Chambers (Azzimonti, Fernandes 2018). As previously stated, the creation of echochambers creates isolated environments where news are shared with biased perspective and language. The

confirmation bias creates very fertile ground for Fake News which, in a polarized society, can potentially result in escalation. The constant exposure to one-sided false "scandals" naturally leads the people to be more and more convinced of the validity of their position. This can pull individuals with a moderate position towards radicalism. A moderate republican who believes that the "Bowling Green Massacre" actually occurred will probably be more inclined to radicalism than the same man who has never been exposed to similar lies.

As previously stated, polarization is a direct consequence of Fake News and of its means of distribution, Echo-Chambers. This centrifugal effect occurs regardless of the intentions of those who produce the Fake News. The phenomenon would be present even in absence of proper Fake News, as the biased language and the uneven amount of partisan information would probably be enough to push individuals towards the extreme of their ideology. The presence of Fake News has the effect of enhancing this polarization.

# 2.1.2 The issue with Manipulation

Manipulation of public opinion is a fairly simple category. When people write articles supporting conspiracy theories on flat earth, or make confused reports on the effects of vaccines, the intention behind it is to have an impact on other people's belief. Believing in the Fake News one is spreading does not, unfortunately, diminish their impact. Once the lies are in the open they start to trigger our cognitive biases and someone is likely to believe them.

Naturally, people have always been lied to, and there was always someone who attempted to manipulate part of society. I would not consider this as a fair excuse to accept the phenomenon of Fake News. Particularly in a time where, in theory, knowledge could be extremely accessible thanks to the incredibly high levels of internet penetration in most regions (Kempt 2018). Instead, we witness tools that could be used to elevate our societies, used to spread lies and discredit scientific knowledge, causing both physical and cultural damage. In my opinion, the main issue with Fake News used to manipulate societies is that they can have the power to derail the beliefs and actions of those who would otherwise believed the truth. Later in this chapter we will see how some people actively attempt to manipulate public opinion to their advantage.

# 2.1.3 The Smokescreen Strategy

In contrast with polarization, which is mostly dependent on Echo-chambers, the smokescreen that was mentioned at the beginning of this chapter is a specific result of Fake News. The constant exposure to lies makes it harder for people to believe the truth (Soon, Gho 2018). Knowing that anything you read could in fact being Fake News, and reading every day opposite versions of things that should be facts has different effects.

According to Soon and Goh, the very existence of Fake News, pushes people to step aside and "disengage from the public discourse" (Soon, Gho 2018). The excessive exposure to Fake News pushes people to ignore the facts they are presented with, as the truth is perceived to be something hidden and beyond their reach.

The chaos of Fake News clashing with other information and the general insane amount of information that people do not have the time to fact-check independently can create a sort of smokescreen through which people are unable to see the truth. However, sometimes this "smokescreen" on the truth is the very purpose behind the production of Fake News. A frequent example of this smokescreen strategy is witnessed when great economic interests are at stake and scientific evidence is almost undeniable. Large companies sometimes activate in order to manufacture a controversy that does not exist. When the public is about to believe a very uncomfortable truth, some companies are willing to go the extra mile in order to create enough chaos to push the public to basically give up on a topic that seems unknowable. One example is the so called "tobacco strategy", described by Oreskes and Conway in the book "Merchants of Doubt" (2010). In their book they explain how tobacco companies in the United States reacted to the scientific consensus on the harmful effects of smoking, spreading disinformation with the purpose of confusing the public on the damage to health caused by cigarettes.

#### 2.2 CASE STUDIES

# 2.2.1 Fake News and health: The Tobacco Industry Research Committee

The tobacco industry created and funded a private organization called the Tobacco Industry Research Committee (TIRC), which produced research that contradicted the scientific consensus (Oreskes Conway 2010). At the same time, the industry collectively hired a public relations company who published selectively the results of their research. In 1954 the TIRC published a paper entitled 'A Scientific Perspective on the Cigarettes Controversy'. The very fact of talking about a controversy made the public uncertain about the truth(Oreskes Conway 2010). After all, if there is a controversy, it means that there is no absolute truth yet, and we are allowed to pick sides. With the selective publishing of private research the TIRC is pointed as one of the main causes for the long time that took to the public and the institutions to adjust to the truth.

Is crucial to separate this smokescreen effect from the direct manipulation. In one case people do not understand what to believe in and therefore stop believing altogether, while in the second case people are convinced by a lie. This means that the smokescreen creates a condition of uncertainty under which people are somewhat inhibited from taking action, favoring the continuation of the "status quo". Therefore I believe that we can expect this expensive technique of disinformation to be used by powerful industries in order to contrast scientific discoveries that would cause economic losses. Manipulation on the other hand, is something we are more likely to see in politics, due to its nature. Manipulation pushes people to take action or demand changes in a specific direction. A clear example would be the case of state propaganda in WWI. As stated in the first chapter, governments needed their people to go the extra mile, in order to have any chance of winning the war. For this reason, government used mass media to shape the way their own people viewed the world. They attempted to manipulate their own people in the areas they thought would bring the biggest success.

#### 2.2.2 Fake News and Democracy: The 2016 US Presidential Elections

As it may be expected, the 2016 US Presidential Elections scandal has to be one of the examples considered. The objective damage caused to society does not consist in the election of President Donald Trump, but rather in the way in which the rules of democracy were at least bend, if not broken.

The 2016 US Elections scandal is comprised of multiple issues, some of which relate specifically to Fake News.

According to CNN (2018), official US sources admitted the existence of multiple cyberattacks against the Democratic National Committee and candidate Clinton's staff. Even though is hard to understand the extent of the influence that those hackings had on the elections, the very existence of these attacks is a threat to democracy as we have come to know it in the western world. Some might argue that the United States themselves have in the past tried to influence the result of other countries elections. While I would personally deem this assertion as true, I still believe that we should be extremely alarmed by the involvement of widespread Fake News through Social Media as a mean for election meddling.

According to a research conducted by Dov Levin, United States and Russia/USSR have meddled with 117 elections between 1946 and 2000 (2019). If these are the results achievable without a systematic use of bots and Fake News, we should be worried of what could be done if multiple countries initiated a policy of meddling in the elections of other countries. In particular, I believe we should refrain from committing the naive mistake of underestimating the potential of Fake News and its evolution.

# 2.2.3 The increasing threat of Fake News: DeepFakes

The attacks to democracy by lobbies or foreign countries described so far are a direct consequence of the advancement in technology and psychology. As explained in the first chapter, lies always existed, and it was the only the technological advancement of mass media, that gave birth to the phenomenon of Fake News as we know it. Before the internet, it would have been much harder for a foreign country to make an active use of Fake News to meddle with elections and it would be extremely naive to believe that there will not be other "improvements" in the field of Fake News in the next years, some of which could be predicted.

So far we have not heard of scandals regarding fake public speeches, however, we should start to look out for them. The reason behind this is that technology has now crossed the threshold required to manufacture videos enough to fake a public declaration by a politician.

A stunning example of this issue is the PSA (Public Service Address) made by Jordan Peele (BuzzFeed.news 2018). The video begins with former president of the United States Barack Obama saying: "We're entering an era in which our enemies can make it look like anyone is saying anything at any point in time". The sync between words and lips movement is perfect and it would be impossible for the average citizen to realize that the man talking is not the former president. In the video Peele makes Obama says increasingly unrealistic things, until the video shows that the man talking is in fact Peele himself.

The content and scope of the video are clear. Peele wants the public to realize the extent of what Fake News can do, to make voters understand the importance of reliable news sources. In my opinion, the PSA is perfect as much as it is upsetting. As explained in the article by BuzzFeed.news (Mack 2018), the extent of the abuse of this technology is dreary. The article mentions websites reporting Fake News stories of the Pope endorsing Donald Trump during the 2016 election, explaining how a video of that instead would have probably had a much stronger effect.

The English paper "The Guardian" has discussed the technological advancements in relation to Fake News, calling this next generation of entirely manufactured information "Deepfakes" (from the account name of a Reddit user) (Shwartz 2018). The term is now being used to refer to photos and videos that are being digitally altered or even entirely manufactured. The article reports that the technology used, the generative adversarial network (GAN), can be used to manufacture data from similar data. In practice, GANs who have access to pictures of Barack Obama could manufacture an entirely new photo of the former president that has in fact never been taken, placing him somewhere is has never been with someone he has never met. According to the article this technology is extremely flexible and can be use to alter video or "generate new audio from existing audio", therefore mimicking the voice of a well known individual (Shwartz 2018).

The applications of this technology raise two issues. For clear reasons they make it almost impossible for the average user to distinguish an actual public speech from Fake News, meaning that Social Media users could easily be fooled by one of those Deep Fakes. Secondly, they create a need for new technologies able to differentiate between manipulated and original video. Professor Hany Farid, from the University of California, reports how machine learning techniques are becoming increasingly faster in circumventing forensic detection (Shwartz 2018). Tribunals, Newspapers and Social Media will have to confront themselves with the reality of Deep Fakes, and they will need effective tools to detect them.

The magnitude of the impact of Fake News on society is undeniable, and while we can hope that democratic government will refrain themselves from using them as a tool, we already know that an international Fake News conflict is unavoidable. Russia has already attempted to meddle with US elections and the Brexit referendum. While there is absolutely no proof of countries using Fake News to slow down each other economies (promoting market inefficiencies or economically ineffective laws), I personally expect this to happen.

# 2.2.4 Fake news and economy: Glutenfree and GMOs

Incorrect beliefs that cause market inefficiencies are not as dangerous as those who incentivize people to disregard their health care, or to make wrong political decisions. However, one of the possible disservices caused by Fake News is that of slowing down our economies.

This can happen in different ways. The most common is by influencing consumer behavior. Fake News can be used as a powerful, cheap tool of advertising. Once a share of the population buys into the Fake News

campaign it becomes increasingly easier to feed the lie, as a consequence of the reiteration and confirmation bias discussed in chapter one. Fake News campaigns could be therefore used to create a new inefficient demand in the market, capable of slowing down the economy with no real benefits for the consumer. An example for this is the common Fake News-powered misconception that everyone should only eat gluten-free food. While only about 1% of the population suffers from celiac disease, 25% of Americans reports consuming gluten-free food (Mintel 2015). According to Mintel, more than half of them reports eating gluten-free food for health concerns (2015). Of course there are those who try to stimulate the trend and pray on it, such as the Glutenfree Society. The Glutenfree Society website features alarming posts and videos (Glutenfreesociety.org 2019). Its main claims are that gluten sensitivity can't be tested with antibodies reaction and that gluten can be the cause of roughly 200 different disturbs, including both common (such as migraines or feeling tired) and allarming ones (such as diabetes or multiple sclerosis) and a fair share of disturbs that are not even known to most people. This case is somehow similar to the TIRC case in the sense that there is an attempt at manufacturing a scientific controversy where there would instead be consensus. Producers with interests are trying to misinform the public on matters of health care in order to increase their sales. The main difference is that in this case the Glutenfree society, with many others, sell a miraculous change in life quality. The Glutenfree Society offers a variety of services, selling genetic testing for the price of \$385, lectures and a "Glutenology health matrix" for those who sign up (for a total cost of \$69) and a variety of vitamins and "ultra pure proteins" which, in their ultra-pureness, are somehow chocolate and vanilla flavored (Glutenfreesociety.org 2019). The US market value of gluten free products was reported to be at 4 billions in 2016 and is expected to grow up to more than 7 billions by 2020 with no expected amount of people actually needing to avoid gluten for health reasons (Statista.com 2019). Billions of dollars are spent chasing an unneeded fantasy instead of actually increasing the quality of the food produced.

The harm to economy coming from Fake News extends even further. Consumers over the age of 18 tend to be voters in western democracies, and while direct democracy is not very common, politicians who want to be re-elected tend to align themselves with public opinion. In Italy we can find a perfect example of this issue, as the misinformation about GMOs, enhanced by Fake News stories on their dangers and results, led to the destruction of 381 hectares of organic crops (Defez 2014). In his book Roberto Defez describes the series of events following the distribution of corn sacks with content of GMO seeds higher than 0.9%(the maximum threshold for a product to be considered GMO free in EU). Following a declaration from the Health Care assessor who guaranteed that none of that corn (designed to be eaten by both humans and animals) would be used as bran in farms of Piemonte, the governor Enzo Ghigo ordered the destruction of 381 hectares of crops (Defez 2014). The expected contamination of the crops destroyed was between 0,11 and 0,02%. Those quantities correspond to 13% and 2% of the maximum threshold, low enough for the food to be considered organic.

#### 2.3 "POSITIVE" INFLUENCE OF FAKE NEWS

Someone might argue that Fake News could be used as a tool "for the greater good" as a follow up to the concept of nudging. The idea of nudging was first divulged by Thaler and Sunstein and refers to the idea of creating a context that encourages people to make optimal decisions (2008). Thaler and Sunstein suggest that choice architecture (the way in which choices are presented), should work on cognitive bias in order to nudge people i the right direction. As this paternalistic view of humanity would still let people free of making their own choices, it has been referred to as "libertarian paternalism". Fake News could be a stronger implementation of the same philosophy. They could be used as a waking call for pressing issues that are not being addressed fast enough, such as global warming. However, while I consider nudging a positive method to improve the efficiency of societies, I personally believe that trying to harness Fake News "for the greater good" would be both unethical and ineffective. The public would soon stop believing in anything they read and it would become increasingly hard to show a true scientific consensus.

# **CHAPTER 3: HOW TO CONTRAST DISINFORMATION**

In this third chapter I will try to analyze the future of the phenomena of Fake News, focusing on both on practical solutions and possible consequences. I will describe what is being done as of now in some countries to limit the damage that Fake News is causing, as well as study the results of those actions. Subsequently I will present the findings and opinions of academic sources who have taken a position in what should be done to address this matter.

The ideas in this chapter are to be considered in the context of has been discussed so far. The issues presented in Chapter 2 have to be tackled in ways that can be considered effective according to the mechanisms that spread Fake News explained in chapter 1. In other words, when trying to contrast the effects of Fake News, one must not forget that Fake News stories are not creatures of reason, dismissible with mere fact-checking and logic. Fake News appeals to the part of our brains that is less capable of rational thinking, and that part of our brains is the one that defensive measures against Fake News have to consider as their primary target.

#### 3.1 Government Action

It is in France that we can find the most interesting case of "War" waged against Fake News, or as the government described it "Combating the manipulation of information", with the open intent of "defending democracy". True to their revolutionary history, the French government made an extremely strong move in order to protect its country and its long standing democratic history from Fake News. On November the 20th

2018 the French Parliament passed a Law that allows candidates to make a legal request for specific news to be removed, prior the injunction form a judge. This law requires in particular a strong effort from Social Media companies, who now have several obligations, both from a censorship and transparency perspective. According to gouvernment.fr, digital platforms "must report any sponsored content by publishing the name of the author and the amount paid" (2018). This measure has the clear objective of spotting potential meddling with the elections form lobbies or foreign states, who could have the interest and the resources needed to sponsor high-impact Fake News. In addition, the French Broadcasting Authority has been entrusted with the power to "suspend and stop the broadcasts of television services that are controlled by foreign states or are influenced by these states, and which are detrimental to the country's fundamental interests" (Governament.fr 2018).

The ideological impact of these measures is titanic. On paper, the State has entitled itself to decide on what is true or false, to censor foreign input of television and has dismantled privacy in the Social Media area. This kind of state behavior has been heavily criticized by western countries in the last years when enacted by countries such as China or Russia. As it could be expected, the reaction by the opposition has been very stark, the bill has been accused of being a restriction of the freedom of speech and some have gone as far as foreshadowing the infamous "thought police" (Fiorentino 2018), the from Orwell's dystopian world of the book "1984". And even though the appointed judges should limit themselves to banning news that are manifestly fake and that could compromise the outcome of an election, the degree of trust required in the system remains extremely high.

On the other hand one must make the necessary comparisons and weight the protection from the manipulation of information against the risk of an abuse of this law to suppress the critic. In other words, one must be practical. Elections that can be meddled with by a foreign country are not democratic, and one of the fundamental roles of a democratic State, is that of protecting its democratic nature. Moreover, the measures tackling the secrecy of sponsored content are, in my opinion, extremely democratic. I believe that individuals should have the right to know who is sponsoring the information they are exposed to. This would at least give them the possibility to guess the credibility of the source.

#### 3.2 Paladins of Science

As of today, France is the only western country that has adopted strict measures against Fake News. For this reason, some intellectuals believe it to be upon them to wage war to disinformation. Of course there are several experts who once in a while give their contribution, writing books or appearing in interviews, to show the truth behind common misconceptions. Some of them however seem to have made it their personal crusade to stand up against Fake News. They constantly address the public from the spotlight, in the hope of changing people's perception. One example of this behavior is Professor of Microbiology and Virology Roberto Burioni. His style of communication places him in stark opposition with anyone who shows anti-scientific behavior. The core of his mission, and what he is known for, is his campaign against vaccine skepticism. Burioni snaps

harshly at those who divulge wrong information about vaccination, with the clear intent of humiliating them. His style has been widely criticized, even from those who side with him in the battle for science and information (Coccia 2018). Placing himself in antagonism with those he wants to convince, Burioni contributes to make scientists, academics, and professors unpopular among the masses. The fact that many of his discussions take place on Twitter contributes to the inefficiency of his crusade. The length limit and the fact that anyone can share his opinion on the topic make of Twitter an awful instrument to inform people, creating polarized discussions after which people have no reasons to change their minds. While informing, and perhaps even entertaining, for those who are already on his side of the topic, there is enough research in communication and "debunking" to realize that his crusade is probably doing more harm than good to his cause.

# 3.3 Fact Checking: President Trump vs The Truth

The most intuitive and practiced response to Fake News is of course fact checking, term that refers to "the process of checking that all the facts in a piece of writing, news article, speech etc. are correct" (Dictionary.Cabridge.org 2019). The idea behind this activity is to present real and documented facts to the public, giving people the opportunity to correct their misconceptions.

This type of response has been attempted by several American newspapers, also through their websites, since the presidential elections of 2016. The focus has been specifically on false claims made by president Donald Trump. According to the Washington Post, who keeps the scores on his website, by February the 3rd, in 745 days of mandate president Trump had made 8459 false claims, for an average of over 11 false or incorrect assertions a day (2019). The situation is tragicomical to say the least. In order to navigate the ocean of Fake News told by president Trump, The Washington Post had to set up an archive where they could be sorted by source (Twitter, News Conference, Interview etc.) and/or by topic (Economy, Immigration, Environment etc.). The most repeated false claims are also highlighted with their respective fact checking, and so is the number of times they were made (with dates specified). The Washington Post is joined in his fact checking activity by other newspapers such as the New York Times, the Toronto Star, and even the notoriously Republican Fox News (even though the latter does not have a comprehensive list of the president's false statements).

Logic would dictate that once a person has found out the truth behind a false statement, or has been given a warning from a trusted news source, that person would change his or hers own personal beliefs. Unfortunately science has shown us that human behavior, while following predictable patterns, does not strictly follow what logic would dictate. Cognitive biases play a key role in determining those patterns, and being aware of them, as well as of the research behind them, allows us to understand what actually happens when a person's beliefs are exposed to fact checking.

As anticipated in the first chapter, the continued influence effect holds a crucial part in the response to Fake News, alongside the reiteration effect. The presence of the continued influence effect, renders mere fact checking ineffective, as most people will still behave as if their beliefs had not been proven wrong. Of the three methods to increase the effectiveness of retraction, the only two available in fact checking are the repetition of the retraction and the presentation of a reasonable alternative, and they are not always available, nor employed. For instance the format of the New York Times Trump's Lies on its Dec. 14 2017 updated version could even be more likely to convince people of the false statement than of their correction (Leonhardt, Thompson 2017). Someone who has already been exposed to a false statement and visits the website will be exposed once again to the initial statement with a correction in a lighter text color. There is no continued repetition and the alternatives are often not detailed and do not cover the "gap of knowledge" that generated the continued alternative effect. If the missing link in the causal chain is not addressed, individuals exposed to the Fake News are likely to retain it as part of their knowledge (Lewandosky et al. 2012). In the following example:

"As you know, I've been a big critic of China, and I've been talking about currency manipulation for a long time. But I have to tell you that during the election, number one, they stopped." (China stopped years ago.)

# Appendix (b)

The objective behind Trum's statement is that of convincing the people that he made the People's Republic of China interrupt their currency manipulation only by running for president. The correction does not provide an alternative, explaining the reason for which the currency manipulation of the Yuan was interrupted. What this fact checking accomplishes is the repetition of the false statement, likely to make it more familiar to the reader, triggering the so called "reiteration effect".

Moreover, in multiple fact checks, the correction of the New York Times Trump's Lies list has the form of a "there is no evidence" statement (Leonhardt, Thompson 2017).

Again, this correction clearly does not consist in an alternative story but only in a label to be attached to the initial statement, which can be lost during recollection (Wilson, Park 2008). As if this was not enough, lack of evidence does not make a statement false, which leaves its credibility in the hands of confirmation and worldview bias (which consists in the tendency of people to believe facts believed by people with the same political alignment, similarly to a selective bandwagon effect).

For the sake of the reader it is important to clarify that some of the corrections made by newspapers follow the conditions explained by Lewandowski et al.. For instance, this correction on the Washington Post website for the second most repeated Fake News by president Trump (128 times) is an excellent example on how to provide effective fact checking.

"Tax cut, regulation cuts by far the most that anybody's ever got, biggest tax cuts"

#### FACT CHECK:

Trump's tax cut amounts to nearly 0.9 percent of the gross domestic product, meaning it is far smaller than President Ronald Reagan's tax cut in 1981, which was 2.89 percent of GDP. Trump's tax cut is the eighth largest tax cut — and even smaller than two tax cuts passed under Barack Obama

#### (Appendix c)

In this case the correction is not only provided alongside an alternative story that people can easily understand and remember (Trump's tax cut is the 8th largest), but it is also repeated multiple times: "far smaller than Reagan's", "8th largest" and "smaller than two tax cuts passed under Barack Obama".

While it can be argued that is not always possible to provide corrections in this format, this should be the gold standard for newspapers, politicians and activists who are looking to fight Fake News by "debunking" them one by one.

#### 3.4 Potential alternatives

So far we have seen what is being done to fight the effect of Fake News and considered the effectiveness of the methods already in place. We will now move on to an even more theoretical realm, taking into account scientific research and considering how the discoveries done so far on the topic could be applied to reduce the effects of disinformaiton.

In a joined article published by Science in June 2018, 16 different authors share their take on how Fake News should be stopped, making a public call for an interdisciplinary approach (David et al. 2018). In the article they describe the two paths that can be undertaken in order to fight Fake News. The first stance is that of "Empowering the individual" (David et al. 2018). The objective would be that of providing the single user with the abilities and knowledge necessary to recognize and ignore Fake News. The second approach presented consists of fighting Fake News by shaping the battleground to our advantage (David et al. 2018). For the reasons explained in the first chapter, Fake News thrives in this current state of Social Media platforms. However, this stance could change. Changes in the algorithms of Facebook, Google, or Twitter might reduce

the impact of Echo Chambers and bots, while enhancing the voice of trusted news sources. The result would be that of making Social Media a less favorable environment for Fake News stories to proliferate.

Some attempts at finding out how to empower the individuals have already been made on one of the battlefields where Fake News and truth clash the most: Anthropogenic Global Warming.

In the case of Global Warming the type of disinformation spread falls in the "smokescreen" category. As for the TIRC case, the climate change deniers spread the lie of "lack of scientific consensus", transforming objective facts in a debate (Collomb 2014), so that people feel like they have the right of picking sides and choose who to believe. At that point, once the public feels entitled to make its own choice, The complexity of the topic makes it easy prey for the overkill effect every time a scientific explanation is compared with Fake News stories or with oversimplifying arguments (such as Trump calling out for Global Warming after the extreme cold recently experienced in the US).



To this, one can add the partisanship of the public, also known as the Worldview bias, which pushes people to align on unrelated topics with those they agree with on other topics. This last bias is one that is purposely abused by climate change deniers, such as Marc Morano, who tries to portrait Global Warming as an alarmist left-wing theory (2018).

In a conference named "From AI to Fake News: Media & Emerging Risks" held in New Orleans on December the 4th 2018, researcher Lauren Lutzke from the University of Michigan presented some data (Lutzke et al. 2018), yet to be published, on a simple action to help people spotting Fake News on Global Warming on Facebook. In her study, presented as "Structured Introspection: Can a simple intervention help people identify Fake News about climate change on Facebook", the participants were shown a Facebook post with false information about Climate Change and divided in three groups (T) subject to different anti-Fake News treatments. In the first group T1, participants were asked to think carefully to what they were about to read and evaluate the validity of the information. In T2, people were asked to the importance of five different attributes about online news, among which credibility of the source and plausibility of the information(which

lacked in T3). In T3, they were presented with three attributes to use in judging the validity of the information and had to propose on their own the extra two of the criteria of evaluation. Since T2 showed the best results in being able to detect Fake News, the researchers believe that teaching people a few specific criteria of evaluation would be more effective than letting them find their own method or simply warning them(Lutzke et al. 2018).

In the first chapter I referred to lack of accountability as one of the most prominent traits that turn Social Media into fertile terrain for Fake News. This issue was addressed by a Psychology professor, Regina Rini (2017).

According to professor Rini, people should be held accountable for what they say. Rini focuses in particular on the dynamic of "a retweet is not an endorsement". In her article "Fake News and Partisan Epistemology", she explains that the norms currently in place allow people to share statements, ideas and Fake News without being held accountable for it (Rini 2017). Her solution is both social and technical. In her view we should aim at a social norm that holds people accountable for what they say, although she specifically clarifies that punishment or condemnation are not in her suggestions. She believes that it could be possible for Social Media Platforms to hold their own users as accountable, by keeping track of the news shared that are subsequently disproven by third party fact-checking (Rini 2017). Stories that have been disproven would be "flagged as disputed", and a link to the correction would be provided alongside the original post. According to Rini, users who often share stories that are discovered to be "Fake News" could even suffer from lack of credibility on their future posts (2017).

Some parts of Rini's solution would seem to solve some of the difficulties encountered so far. Flagging every false information as "disputed" would allow the efficacy of fact checking to be enhanced by the first criteria presented in Lewandoski's work: "warnings at the time of the initial exposure to misinformation". Moreover, her idea that this solution would create a social substrate which holds people accountable for what they say is extremely appealing.

At the same time, unfortunately, her solution presents a very serious issue. It would imply, in practice, that a third party organization would be entitled to discern what is true from what is false. While people could conduct individual research on the stories "flagged as disputed", I do not believe that this would be the case. In my opinion, Social Media users would assume "disputed stories" to be false, or they would limit themselves to ignore them. The opposite, with the same result, would apply to non-flagged stories. Every piece of information that users see as "non-flagged" will raise little concern in the average user, who would assume its validity.

Moreover, the amount of work necessary to fact-check every popular post on every Social Media would be incredibly large, and the risk of mistakes (both intentional and unintentional) would be far too great for this method to be effective.

A further issue with this solution would be timing. It is true that people who are exposed to debunked Fake News would be less likely to believe them, however, this could create a sense of false security, increasing the user's trust for "non-flagged" stories. According to the research quoted so far, I do not believe that a user exposed to the Fake News, would experience true correction after the "flagging" of a false statement. Moreover, the user might not encounter that story again, meaning that the only time he was exposed to it, the story was still be considered as true. As far as those who shared the incorrect information on their profiles, I believe they would be more likely to simply hide or delete the flagged post, which does not constitute a correction in their memories or their beliefs.

While Rini's solution might not be as effective as one would have hoped, I believe that the general concept of accountability is one that should be worked on. As of now, politicians all over the world are not being held accountable for the stream of Fake News they provide. In 1998 President Bill Clinton was impeached for having lied about his personal relationships. While it is true that he had made a sworn statement on the topic, and president Trump never swore an oath on his 8459 lies, I still believe he should be held somewhat accountable for it.

Others have tried to follow the road of accountability to reduce the impact of Fake News. In a workshop held by the Information Society Project at the Yale Law School and the Floyd Abrams Institute for Freedom of Expression (2017), one of the debated ideas was that of reducing the protection that intermediaries have in the legal field of defamation. This varies from country to country; however, the goal is to allow someone who was the target of Fake News to seek remedy through legal action. The idea behind this solution is that Social Media companies would try to find a remedy for Fake News in order to avoid incurring legal action. This solution found poor consensus among the participants, as most addressed the impossibility for Social Media platform to "police" every statement and the risk of forcing them to decrease transparency.

## CONCLUSIONS

In conclusion, while the spread of disinformation is not a discovery of our century, we should beware of the consequences that technological advancements can have on Fake News. The studies on Cognitive Biases allow us to understand what does and what does not have a long term effect in the confutation of Fake News, and we can hope that future studies will bring to light easier ways to prevent disinformation form harming our societies.

While there are some promising studies and ideas, it does not seem that we have found already a clear and direct solution to the problem of Fake News. At least not from a scientific perspective. While the academic research procedes, I believe we should monitor the effects of practical solutions already in place. In particular,

we should focus on the results brought by the independent "fact checking campaign" carried on by US newspapers and the "light state censorship" currently in place in France. The two measures are a response to very different problems, even if both related to Fake News. One is focused on protecting citizens from the lies of their own government, whereas the other is aimed at protecting the integrity of the electoral process. President Donald Trump seems to have lost both support (losing the mid-term elections) and credibility (according to the New York Times), however we have no proof of that being linked with the fact checking. Concerning France, the law only applies during elections, and as a consequence, we will have to wait for any proof of its effectiveness.

However, if any of those measures proved to be effective, I believe that governments and news sources should follow up on them. The long-term solution to Fake News will probably be a more effective education, and we can hope that citizens will in time learn how to recognize them. However, we might not have that time. With Fake News currently harming health, economy and undermining the integrity of our democracy, we have to be ready to make the necessary adjustments to at least reduce the impact of disinformation on our societies, while we work on a definitive solution.

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# **Appendix:**

a)



b)

negotiation." (Much of the price cuts were planned before Trump.)

APRIL 29 "As you know, I've been a big critic of China, and I've been talking about currency manipulation for a long time. But I have to tell you that during the election, number one, they stopped." (China stopped years ago.)

APRIL 29 "I've already saved more

Screenshot of: Leonhardt, D. Thompson, S.A. 'Trump's Lies' *The New York Times* [Online].

Available at: https://www.nytimes.com/interactive/2017/06/23/opinion/trumps-lies.html (Accessed: 5 Feb. 2019)

#### Most repeated claims



"Tax cuts, regulation cuts by far the most that anybody's ever got, biggest tax cuts."

#### **FACT CHECK:**

Trump's tax cut amounts to nearly 0.9 percent of the gross domestic product, meaning it is far smaller than President Ronald Reagan's tax cut in 1981, which was 2.89 percent of GDP. Trump's tax cut is the eighth largest tax cut — and even smaller than two tax cuts passed under Barack Obama.

#### REPEATED 128 TIMES:



Screenshot of: The Washington Post 'Fact-Checker' [Online] Aavailable at:

https://www.washingtonpost.com/graphics/politics/trump-claims-

database/?utm term=.91a3ef6a2515 (Accessed 7 Feb. 2019)

d)



Screensht of: Pierre-Louis, K. (2019) 'Why Is the Cold Weather So Extreme if the Earth Is Warming?' *The New York Times* [Online] Available at:

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# RIASSUNTO IN ITALIANO

#### Introduzione

#### Da quanto esistono le Fake News

Le "Fake News" sono informazioni false, intenzionalmente create e diffuse con l'intento di ingannare chi le riceve. La manipolazione della verità con l'intento di ingannare il prossimo non è un fenomeno esclusivo del nostro secolo. Verosimilmente è un'attività perpetrata dagli umani sin da quando si sono evolutivamente distanziati dagli altri primati. C'è chi teorizza che l'inganno sia persino antecedente all'uomo. Uno dei più influenti psicologi evoluzionisti del XX secolo, Robert Travis, sostiene che ogni sistema di comunicazione tra qualsiasi essere vivente sia basato sull'inganno. La specie *Homo Sapiens*, in particolare, è descritta da Travis come capace anche di autoinganno, un meccanismo utilizzato per manipolare meglio i gruppi sociali nei quali viviamo.

#### La moderna concezione delle Fake News

Tuttavia, negli ultimi anni, le Fake News sono diventate un'emergenza sia politica che sociale, e sono di conseguenza sempre più oggetto di un controverso dibattito pubblico e di approfonditi studi scientifici. La definizione di "Fake News" proposta dal dizionario di Cambridge è infatti estremamente specifica e rivede il concetto in una chiave moderna che la distingue dalle menzogne e gli inganni che hanno accompagnato la nostra storia: "storie false che appaiono come notizie, diffuse su Internet o utilizzando social media, solitamente create per influenzare le opinioni politiche o come forma di scherzo".

#### Struttura della Tesi

Questa tesi affronta le ragioni per cui la comunicazione attraverso i Social Media amplifica produzione e diffusione delle Fake News, trasformandole in un problema sociale, culturale e politico sempre più grave. L'elaborato si compone di tre capitoli. Il primo si concentra su sul concetto e la storia delle Fake News, sui meccanismi che le rendono così efficaci e popolari, sui mezzi di diffusione, e sull'impatto che possono avere su chi le riceve. Nel secondo capitolo vengono analizzati alcuni esempi di diverse minacce che le Fake News rappresentano oggi per le società democratiche, discutendo poi la possibilità di rafforzamenti futuri del fenomeno delle Fake News. L'ultimo capitolo affronta il tema di possibili sviluppi nella "lotta alle Fake News", discutendo azioni governative o da parte dei media tradizionali. Inoltre discuterò studi accademici volti a capire cosa si potrebbe fare per proteggere la nostra libertà di essere informati in maniera critica e di conoscere la verità su ciò che avviene nel nostro mondo.

#### Capitolo 1

L'esistenza e gli effetti delle Fake News dipendono dal fatto che i nostri ragionamenti e le nostre decisioni sono condizionati da forme inconsce e automatiche del pensiero, chiamate bias cognitivi. I bias cognitivi sono deviazioni dal pensiero razionale che gli psicologi cognitivi hanno identificato sperimentalmente. Usiamo inconsciamente centinaia di scorciatoie per prendere decisioni in tempi rapidi quando posti di fronte ad un eccesso di informazioni rispetto a quelle che saremmo in grado di elaborare. Queste scorciatoie, fondamentali nella vita di tutti i giorni, possono però rivelarsi dei vicoli ciechi, allontanandoci dalla verità e spingendoci a prendere decisioni che non rispecchiano la logica. Tre di questi bias giocano un ruolo fondamentale nel processo di diffusione delle Fake News.

#### La Psicologia delle Fake News

Il bias che ricopre il ruolo di maggior rilievo è il bias di conferma, che si riferisce alla tendenza delle persone di credere e ricordare più facilmente versioni dei fatti che confermano le loro aspettative e le loro idee. L'importanza del bias di conferma nelle Fake News è fondamentale, in quanto le rende estremamente efficaci se studiate in modo tale da dare voce alle paure, ai sospetti e ai desideri irrazionali delle persone. Il secondo bias è l'effetto dell'influenza persistente, o "continued influece effect". Quest'ultimo si riferisce al modo in cui le informazioni continuano ad esercitare la loro influenza su un individuo, anche dopo essere state provate come false. Quando in una catena causale di eventi uno degli anelli viene confutato, le persone continuano a farvi affidamento in assenza di una alternativa plausibile che possa sostituire l'informazione screditata. Questo bias svolge un ruolo chiave nel processo di "fact-checking", ovvero la correzione di notizie false, in quanto fa si che non sia sufficiente limitarsi a confutare l'informazione, ma determina la necessità di presentare un'alternativa semplice e plausibile al pubblico, che possa sostituire la Fake News. Il terzo bias che svolge un ruolo fondamentale nella prominenza delle Fake News è l'effetto della ripetizione, o reiteration effect. Quest'ultimo si riferisce al processo di familiarizzazione con una notizia, quanto più questa notizia è ripetuta. Questo consente a false informazioni di mettere radici sempre più profonde ogni volta che sono ripetute, talvolta anche quando la ripetizione aveva l'intento di screditare la Fake News.

#### I Social Media

Come anticipato, i social media sono un terreno estremamente fertile per le Fake News, in quanto consentono di diffondere informazioni a costi estremamente bassi, agendo come casse di risonanza. Inoltre su queste piattaforme gli utenti, inclusi i politici, non sono considerati davvero responsabili per quello che dicono.

Un altro elemento che rende i social media ottimali per la diffusione delle Fake News, sono le cosiddette Echo Chambers (camere dell'eco). Grazie alla possibilità di eliminare i contatti sgraditi, gli utenti tendono ad essere circondati da persone con idee simili. Per tanto, per chi si informa tramite social media, diventa sempre più difficile ricevere informazioni presentate in modo imparziale. Le Echo Chambers hanno un ulteriore effetto sulle nostre società, ovvero quello di polarizzarle. La continua esposizione ad informazioni

presentate con linguaggi parziali, o a versioni dei fatti manipolate in modo parziale, fa si che anche individui che avrebbero avuto posizioni moderate, tendano a radicalizzarsi.

# Capitolo 2

Le Fake News possono essere usate come strumenti nelle mani di grandi industrie o paesi stranieri, che si avvalgono di avanzamenti tecnologici e metodi di comunicazione volte a sfruttare i bias cognitivi e influenzare la società. Questo è un rischio da cui si devono guardare prevalentemente le democrazie liberali, in quanto paesi meno democratici, possono permettersi di tenere sotto controllo le fonti esterne di Fake News, limitare la libertà di espressione e imporre una "verità" di stato dall'alto.

#### Fake News e Salute

Un esempio emblematico di come le Fake News possano essere utilizzate per manipolare la società è quello della Tobacco Industry Research Committee (TIRC). La TIRC fu creata dall'industria del tabacco statunitense per fare ricerca e pubblicare selettivamente dei risultati che andassero contro il consenso scientifico riguardo i danni causati dal fumo. Fu fatta una campagna di propaganda volta a creare dal nulla una "controversia scientifica" dove non ci sarebbe dovuta essere. L'effetto fu la produzione di una cortina di fumo che impediva alla popolazione, e alle istituzioni, di farsi un'idea chiara.

#### Fake News ed Economia

Credenze errate che causano inefficienze di mercato non sono pericolose come quelle che incentivano le persone a ignorare la loro salute o a prendere decisioni politiche sbagliate. Tuttavia, uno dei possibili disservizi causati da Fake News è quello del rallentamento e della distruzione delle economie. Si possono fare diversi esempi, ma nella tesi mi concentro sul caso degli alimenti senza glutine e degli organismi geneticamente modificati. E' mia opinione che Fake News volte a spingere l'economia verso inefficienze di mercato siano uno strumento che verrà presto impiegato da potenze economiche mondiali per cercare di ottenere un vantaggio relativo nei confronti di paesi avversari e che presto le "guerre di dazi" verranno affiancate dalle "guerre di Fake News".

#### Fake News e Democrazia

Un caso noto di come le Fake News siano state usate da potenze politiche per influenzare altri paesi è ovviamente quello delle elezioni del 2016 avvenute negli Stati Uniti. Meno noti sono gli altri 117 tentativi di influenzare processi elettorali, avvenuti da parte di Stati Uniti e Russia, tra il 1946 e il 2000. Un numero così elevato di manipolazioni, antecedente all'era delle Fake News, non può che allarmarci in vista di ciò che sarà possibile fare con le tecnologie che già oggi sono a nostra disposizione, destinate tral'altro a progredire.

#### La vera minaccia

Le bugie sono sempre esistite ed è stato il progresso tecnologico dei mass media che ha dato origine al fenomeno delle Fake News così come lo conosciamo. Prima di Internet, sarebbe stato difficile per un paese straniero usare Fake News per interferire con le elezioni. E sarebbe ingenuo credere che non ci saranno altri "miglioramenti" nel campo delle "Fake News", che le renderanno ancora più efficaci nei loro effetti destabilizzanti. Finora non abbiamo mai sentito parlare di scandali relativi a falsi discorsi pubblici tenuti da politici, tuttavia dovremmo cominciare immaginarli. La ragione di questo è che la tecnologia, ha ormai superato la soglia richiesta per produrre video (chiamati "DeepFakes") di false dichiarazioni pubbliche da parte di un personaggio politico.

#### Capitolo 3

Come anticipato, in questo capitolo saranno discusse le diverse strategie possibili per affrontare il problema delle Fake News. E' però di vitale importanza tenere a mente che le Fake News non sono figlie della ragione, e per questo non possono essere neutralizzate con il semplice uso della logica. Le Fake News fanno appello alla parte del nostro cervello che non pensa in modo razionale, ed è anche con questa parte del nostro cervello che le misure di risposta alle Fake News devono misurarsi.

#### Azione governativa

In Francia troviamo il caso più interessante di "guerra aperta" alle Fake News, o come il governo lo ha descritto di "Lotta contro la manipolazione delle informazioni", con l'intento aperto di "difendere la democrazia". Il 20 novembre 2018 il parlamento francese ha approvato una legge che consente ai candidati a una elezione politica di fare una richiesta legale per rimuovere specifiche Fake News, previa approvazione da parte di un giudice. Questa legge richiede inoltre un forte impegno da parte delle società di social media, che ora hanno diversi obblighi, sia di censura che di trasparenza. Secondo "gouvernment.fr", le piattaforme digitali "devono riportare qualsiasi contenuto sponsorizzato pubblicando il nome dell'autore e l'importo pagato". Questo provvedimento ha il chiaro scopo di neutralizzare potenziali interferenze con le elezioni da parte di potenze estere che potrebbero avere l'interesse, e le risorse necessarie, per sponsorizzare campagne di Fake News e alterare l'integrità democratica delle elezioni.

#### Azione da parte della comunità scientifica

Alcuni intellettuali pensano che sia compito loro fare guerra alla disinformazione. Naturalmente ci sono diversi esperti che danno il loro contributo, scrivono libri o appaiono nelle interviste, per mostrare la verità dietro le idee sbagliate comuni. Alcuni sembrano però aver fatto dell'opposizione alle Fake News una loro crociata personale. Un esempio preso in esame nella tesi è quello del medico italiano Roberto Burioni, che si sta battendo contro le Fake News degli anti vaxx. Sfortunatamente l'umiliazione pubblica di chi crede alle Fake News non è considerata dalla comunità scientifica come uno strumento efficace di correzione, e

suggerisce invece che l'effetto più probabile di questi atteggiamenti sia quello di consolidare la posizione, errata, di genitori preoccupati per la salute dei loro figli.

## Azione da parte dei media

La risposta più intuitiva e praticata alle Fake News è il fact checking. L'idea alla base di questa attività è presentare al pubblico fatti reali e documentati, dando alle persone l'opportunità di correggere i loro equivoci. E' un tipo di risposta tentato da diverse testate americane, anche attraverso i loro siti web, a partire dalle elezioni presidenziali del 2016. L'attenzione si è concentrata in particolare sulle false affermazioni del presidente Donald Trump. Secondo il Washington Post, al il 3 febbraio 2019, nei suoi 745 giorni del mandato, Trump aveva detto o twittato 8459 false affermazioni, per una media di oltre 11 affermazioni false o errate al giorno.

In un articolo pubblicato su Science nel giugno 2018, firmato da 16 autori, sono descritti i due percorsi che possono essere intrapresi per combattere Fake News. La prima posizione è quella di "Empowering the individual". L'obiettivo sarebbe di fornire al singolo utente le capacità e le conoscenze necessarie per riconoscere e ignorare le Fake News. Il secondo approccio è di combattere Fake News plasmando il terreno dei Social Media in modo tale da renderlo ostico alle Fake News, o introducendo delle restrizioni legali o lavorando sugli algoritmi che decidono cosa viene mostrato agli utenti. Per le ragioni spiegate nel primo capitolo, le Fake News prosperano sulle piattaforme di social media così come sono oggi. Tuttavia, questa posizione potrebbe cambiare. Cambiamenti negli algoritmi di Facebook, Google o Twitter potrebbero ridurre l'impatto delle Echo Chambers e dei robot, aumentando al contempo la visibilità delle fonti di notizie attendibili. Il risultato sarebbe quello di rendere i social media un ambiente meno favorevole alla proliferazione di Fake News.

#### Prendersi la responsabilità di ciò che si dice

Come anticipato mancanza di responsabilità è uno dei tratti principali che trasformano i social media in terreno fertile per le Fake News. Questo problema è stato affrontato dalla psicologa Regina Rini. Nel suo articolo "Fake News and Partisan Epistemology", spiega che le norme attualmente in vigore consentono alle persone di condividere dichiarazioni, idee e Fake News senza essere ritenuti responsabili. Secondo Rini, bisognerebbe impiegare società terze che abbiano il compito di verificare le notizie popolari sui social. Una volta verificatane la veridicità, le piattaforme di social media potrebbero contrassegnarle come "contestate", avendo secondo lei il duplice effetto di fornire "fact-checking" e spingere gli utenti ad essere cauti in ciò che condividono, per non rovinarsi la reputazione.

Sebbene ritenga che vi siano diversi problemi nella soluzione di Rini, è mia opinione che la responsabilità per quanto si sostiene pubblicamente sia una delle possibili vie da percorrere. I politici in particolare non dovrebbero potersi permettere di mentire pubblicamente e ripetutamente senza pagare alcuna conseguenza. Ritengo surreale il fatto che il presidente degli Stati Uniti, ad oggi, abbia mentito pubblicamente alla nazione oltre 8mila volte, senza subire alcuna reale conseguenza.

#### Conclusioni

Nonostante ci siano alcuni studi e idee con il potenziale di migliorare la situazione, non è ancora stata ancora trovata una soluzione che ci permetta di ridurre i potenziali danni delle Fake News senza essere costretti a limitare alcune libertà che sono oggi considerate fondamentali nei paesi democratici. Mentre procede la ricerca, sia accademica che privata, è cruciale che si tengano in conto i risultati di soluzioni pratiche già in atto. In particolare, guardando all'indipendente "campagna di fact-checking" condotta dai quotidiani statunitensi e alla legge anti-Fake News attualmente in vigore in Francia.

Anche in vista di possibili avanzamenti nel campo della disinformazione, potremmo non avere molto tempo a disposizione prima di subire gravi danni, sia culturali che economici. Con Fake News che già ci spingono a danneggiare la nostra salute, le nostre economie e che minano l'integrità della democrazia, dobbiamo essere pronti a fare gli aggiustamenti necessari per limitare l'impatto della disinformazione sulle società, mentre si lavora a una soluzione che possa porre un vero freno a questo fenomeno.