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ALGORITHMS AS AN EPISTEMOLOGICAL THREAT TO OUR
DEMOCRACY: A CHALLENGE FOR PUBLIC POLICY

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INTRODUCTION.....	3
CHAPTER I: EPISTEMIC BUBBLES AND ECHO CHAMBERS.....	5
1.1. INTRODUCTION	5
1.1.1 Information as selection	5
1.1.2 Mediators of the general interest.....	6
1.1.3 Mediators of specific interest & news feed.....	7
1.1.4 Daily me	7
1.2 EPISTEMIC BUBBLES	8
1.2.1 Motivating factors	9
1.2.3 Process	11
1.2.4 How to recognize if a user is trapped in an epistemic bubble.....	11
1.2.5 Social media economic gains	12
1.3 ECHO CHAMBERS	13
1.3.1 Collaborative Filtering	13
1.3.2 Network homophily	13
1.3.3 Echo chambers	15
1.3.4 Indoctrination and conspiracy theories	16
1.3.5 Similarities and differences with epistemic bubbles.....	18
CHAPTER II: EPISTEMOLOGICAL THREAT.....	20
2.1.1. Active ignorance:	21
2.1.2 Structural and individual active ignorance:	22
2.1.3 There are no good epistemic bubbles.....	23
2.1.4 The importance of being “open.”	25
2.2 FAKE NEWS	26
2.2.1 From centralization of old media to the network society.....	26
2.2.2 Misinformation and disinformation	27
2.2.3 Why disinforming	28
2.2.4 why do people believe in fake news?.....	30
2.3 POST TRUTH	31
2.3.1 Gaslighting	32
2.3.2 Counternarratives, discrediting of critics, the denial of plain fact.	33
2.3.3 post-truth politics and the loss of self-trust.....	34
CHAPTER III: DEMOCRATIC THREAT.....	36
3.1 POLARIZATION	36
3.1.1 How does polarization occur?.....	37
3.1.2 Polarization as absence of debate.....	39
3.2 THE TYRANNY OF MAJORITY	40
3.2.1 tyranny of perceived opinion, Tocqueville	41
3.2.2 Information and individuality, Mill	42
3.3 ILLUSIVE DEMOCRACY	44
3.3.1 distortion of views and preferences	44
3.3.2 distortion of electoral outcomes	45
3.3.3 Lack of informed consent	47
BIBLIOGRAPHY:.....	49
RIASSUNTO:.....	51

Introduction

In the digital age, social media have assumed a predominant role as tools for communication and information-sharing. However, the emergence of complex algorithms governing the online experience raises critical questions about epistemology and contemporary democracy. Indeed, this thesis aims to examine social media algorithms as a danger from both epistemological and democratic perspectives, while leaving out any analysis of all the benefits they bring.

The concept of knowledge and its acquisition process are fundamental elements for social progress and democratic participation. Nonetheless, social media, with their ability to amplify information and create a vast network of connections, have introduced a new epistemological paradigm. Algorithms, complex computer programs that determine what is shown to users, play a crucial role in the selection and distribution of information. This raises questions about the nature of knowledge, its veracity and the diversity of perspectives presented. Moreover, the proper functioning of a democracy relies on access to accurate and multiple and varied information sources, which enables citizens to reach informed opinions and participate in public debate. Yet social media algorithms can create Epistemic Bubbles, where people are primarily exposed to content and opinions similar to their own, limiting diversity and openness to discussion. This can lead to increasing polarization and undermine democratic principles of tolerance, inclusion, and public deliberation.

The main objective of this thesis is to examine how algorithms, used in the context of social media, pose an epistemological and democratic danger. Empirical evidence and political philosophical theories that highlight the effects of these algorithms on the process of knowledge acquisition and the functioning of democratic systems will be analyzed. In particular, studies investigating how algorithms influence information selection and opinion formation will be examined, analyzing the effect of Epistemic Bubbles and Echo Chambers on diversity of thought and public deliberation. The mechanisms through which algorithms determine the visibility and engagement of content will also be considered, analyzing the consequences this may have on the representativeness of debate and equitable access to information.

After this introduction, Chapter I will provide an analysis on the concept of information, seen as selection from a set of possibilities, and how with the advent of algorithms this occurs mechanically on an individualized basis instead of as a conscious choice of individuals. The possible consequences of these mechanisms will

then be introduced and analyzed: Epistemic Bubbles, informational environments in which people are exposed only to content and perspectives that confirm their pre-existing beliefs, thus limiting access to divergent information and opinions; and the even more serious Echo Chambers, digital spaces in which individuals who share similar opinions, ideas and viewpoints, creating an atmosphere of mutual confirmation and critique of conflicting views.

Chapter II goes on to analyze how the latter can create an epistemological danger, limiting the diversity of sources and perspectives to which individuals are exposed; how this can lead to distorted information, a biased view of reality, and a lack of criticality in the evaluation of knowledge. The concept of Fake News and how these can lead to a Post Truth scenario, where personal opinions and emotions play a prevalent role in shaping public opinions, at the expense of objective facts and empirical evidence, will then be introduced. The third and final chapter will focus on how these elements negatively affect the democratic public sphere as a forum for discussion. Additionally, how the dynamics analyzed above limit different viewpoints, creating polarization and a lack of mutual understanding between groups with conflicting ideas; and, finally, how this polarization can undermine democracy's ability to foster public deliberation and conflict resolution. The idea of Tocqueville and Mill's Tyranny of The Majority will then be introduced, according to which a single perspective and information conforming to it cannot be considered a free choice. Indeed, if democracy can be defined as Informed Consent, this study shows how the algorithms underlying the social media through which citizens daily inform themselves make that democracy illusory.

Chapter I: Epistemic bubbles and echo chambers

1.1. Introduction

1.1.1 Information as selection

Information is a selection from a set of possibilities¹. From the beginning of human civilization, selecting and filtering information has been an unavoidable need². As no person can see, hear, or read everything, information selection is something that is engraved in our consciousness and mind cognitive processes³. Every day and during the day, each of us engages in an elaborate selection process to make our lives manageable and consistent and finally make sense of the world around. Human beings attempt to regulate their limited attention to avoid being overwhelmed with limitless information. Behavioral science might be seen as a reflection of our limited attention and the filters we put on our ideas and experiences. As Nobel Prize laureate and pioneer of the field Daniel Kahneman describes, “interacting with some subjects and interests’ costs effort, which we often strive to minimize”⁴; it is also an instinctive process, we only concentrate on what really interests us. This is a cognitive bias⁵, which is a systematic departure in the way the brain interprets the selected information that everyone encounters daily. The brain can only process a certain amount of information, as excessive inputs may lead to information overload that can lead to feelings of being stressed and confused. Similarly, political scientist Walter Lippmann emphasizes in his most well-known book, *Public Opinion*, that our world is vast and expanding fast as time and technology improve, and that individuals will have intrinsic limitations in terms of what they can perceive and comprehend with their own eyes. Hence, a society to make sense of the whole of the universe around it, needs to support the production, and consumption of “imitations” that well summarise the reality.⁶ Lippmann contends that these “imitations” are the cornerstones of society and democracy and serve to prevent the formation of “pseudo-environments,” or settings in which what is individually believed contradicts the reality. These ‘imitations’ for a

¹Dirac, P.A.M. *The Principles of Quantum Mechanics (No. 27)*; Oxford University Press: Oxford, UK, 1981.

² Sunstein, Cass R. (2001). *Republic.com*. Princeton, N.J: Princeton University Press

³ Levitin, D. J. (2011). *Foundations of cognitive psychology: Core readings*. MIT Press.

⁴ Citation. Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus, and Giroux.

⁵ Giovanni Luca Ciampa glia, Filippo Menczer, *The Conversation US, Biases Make People Vulnerable to Misinformation Spread by Social Media on June 21, 2018*

⁶ Lippmann, W. (1922). *Public opinion*. Harcourt, Brace.

general interest can be characterized by credible journalism and media. Three pillars created by Lippmann have influenced contemporary journalistic norms - to be true, accurate, and cause no damage - therefore benefiting the public.

1.1.2 Mediators of the general interest

In the realm of communications, a free society provides individuals the ability to flirt and discard undesired content, as contrast to a dictatorship, which compels individuals to read or see specified information. Daily, individuals select between many information sources based on their preferences and perspectives. In the United States, for instance, those who identify with the principles of the Republican Party are more likely to follow right-wing news outlets such as the journal *National Review* and the television network Fox News. Since the invention of modern media⁷, a progressive diversification of communication options has occurred with an acceleration with the advent of radios in the 1890s⁸, TVs in 1920s⁹, and later of Internet in the 1980s¹⁰. As result, compared to the last century, there is an extraordinary increase in individual control over content, the number of options available, and the speed at which information can be received, which corresponds to a decline in the power of the mediators of the general interest¹¹. The mediators of general interest are the traditional media, such as newspapers, magazines and national TVs that are supposed to provide neutral information that respects Lippmann's pillars, informing all citizens, including disadvantaged groups such as citizens with disabilities. The unexpected finding of news or information while seeking for something else is known as "serendipity."¹² It is a fortunate coincidence or the finding of useful knowledge while seeking for something unrelated.

⁷ The introduction of modern media is normally associated to Johannes Gutenberg's invention of the printing press in the mid-15th century.

⁸ The invention of the radio is generally credited to Italian physicist and inventor Guglielmo Marconi, who developed the first practical wireless telegraph system in the late 1890s.

⁹ The invention of television is generally credited to Scottish inventor John Loggie Baird, who developed the first working television system in the 1920s.

¹⁰ The invention of the world-wide-web, over the Internet, is.

¹¹ Shapiro. (1999). *The control revolution: how the Internet is putting individuals in charge and changing the world we know* (1st ed.). Public Affairs.

¹² Petrie, L. (2022). *The News and Social Media Algorithms: An Evaluation of Serendipity in the Infosphere*

1.1.3 Mediators of specific interest & news feed

Over the time, especially after the introduction of the world-wide-web in the 1980s and afterward with the launch of the first social media platform “MySpace”¹³ in 2003, modern media progressively evolved from mediator of general to specific interest, with a multiplication of channels and formats. Rather than functioning as wide information sources covering a range of subjects, online and broadcasting information channels increasingly focuses on specialized sectors, taking specific positions and views. Although the phenomena have been evident across all media, including television, radio, newspapers and social media, my analysis will focus social media that can be defined as 'Internet platforms that enable the creation and exchange of user-generated content, usually through mobile or web-based technologies'¹⁴. Nowadays, the most popular internet platforms are Facebook, Twitter, and Instagram¹⁵. In their evolution, particularly relevant was the launch of the 'News Feed' by Facebook on 29 June 2016 with a post entitled 'building news feed for you'¹⁶, in which it was explained how the platform will strive to achieve 'the goal of showing people the stories they would consider most relevant'. The launch presentation article went on to explain how 'the News Feed's is able to select the 10 things you would prefer out of thousands of alternatives'¹⁷ and is perfectly tailored to your unique taste and personality. The news feed algorithm was designed to identify the interests of the individual user, based on the choices and actions previously made. For example, based on the general guidelines released by Facebook, if you frequently like posts from a cultural movement, its posts and those of its supporters will appear first in your News Feed whenever new posts are published; this applies to every subject of interest, from the most trivial to the most sensitive topics.

1.1.4 Daily me

¹³ Myspace was launched in 2003, overtaken by Facebook in 2008.

¹⁴ MARGETTS, H., JOHN, P., HALE, S., & YASSERI, T. (2016). *Political Turbulence: How Social Media Shape Collective Action*. Princeton University Press. <https://doi.org/10.2307/j.ctvc773c7>

¹⁵ <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>

¹⁶ Adam Mosser, Building a Better News Feed for You, Facebook Newsroom, 29 June 2016, <https://newsroom.fb.com/news/2016/06/building-a-better-news-feed-for-you/>

¹⁷ Adam Mosser, Building a Better News Feed for You, Facebook Newsroom, 29 June 2016, <https://newsroom.fb.com/news/2016/06/building-a-better-news-feed-for-you/>

With the creation of the news feed, technology expert Nicholas Negroponte's 1995 concept of the "Daily me"¹⁸ became a reality. According to Negroponte's theory, it would no longer be necessary to rely, for example, on local newspapers or television networks to select information; instead, everyone can find its "ready to use" bespoke daily news feed. The "Daily Me" refers to the transformation of social media networks into personalized newspapers created by the Facebook's non-public algorithm that uses a complex set of parameters to determine which posts appear in a user's feed, including the user's past engagement with certain types of content and the popularity, relevance and even the sponsoring of the posts. For instance, if you are a left-wing voter, you will be reasonably offered with posts in line with your beliefs, for example, on social justice, equality, and immigration protection; if, conversely, you are a right-wing voter, you will reasonably be offered with posts, on reducing taxes and curbing immigration. With "Daily me", you may take advantage of a control architecture¹⁹ in which everyone is fully accountable for what they see and hear. The information offered is individually selected for each user, with the hope of eliciting maximum satisfaction, sometimes without regard to relevance, fact-checking or social relevance²⁰; and this solemnly captures individuals in so-called 'epistemic bubbles'.

1.2 Epistemic bubbles

Eli Pariser, an Internet entrepreneur, and activist brought the concept of a filter bubble into digital studies²¹. Pariser coined the concept of 'filter bubble' to describe a condition of intellectual isolation caused by the selection made by algorithms underpinning modern online platforms such as Facebook and Google. He associates its inception with the introduction of "Web 2.0"²² and the social media News Feed. He argues that "Algorithms are prediction engines, continually constructing and improving a hypothesis about you and your future actions and desires. Together, these engines

¹⁸ «Daily Me» takes the name of some famous newspapers - such as the «Daily News» and the «Daily Telegraph» - and refers to the current possibility of customizing the reception of news through the Internet. So, it means «Personalized, made-to-measure newspaper. See Nicholas Negroponte, *Being Digital*, New York, 1995

¹⁹ Sunstein, Cass R. (2001). *Republic.com*. Princeton, N.J: Princeton University Press

²⁰ Sunstein, Cass R. (2001). *Republic.com*. Princeton, N.J: Princeton University Press

²¹ Pariser, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press.

²² O'Reilly, T. (2007) *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. Communications & Strategies*, 1 17. Available at SSRN: <https://ssrn.com/abstract=1008839>

generate a distinct universe of information for each of us - what I've come to call a filtering bubble - which profoundly transforms the way we experience online information."²³. On this line, Nguyen defines epistemic bubble as a social epistemic structure with an insufficient coverage due to exclusion by omission of important epistemic sources as opposed to actively dismissing them.²⁴

1.2.1 Motivating factors

There are two key motivating factors for the above omission. First, there is the inclination of an epistemic actor to seek for similar sources. Social scientists term this phenomenon "selective exposure"²⁵. In many current contexts, such as Facebook, omission may occur accidentally as result of agent-driven selective exposure. For example, people can be wrongly associated with certain topics and threads by the algorithm of Facebook for social reasons, for example because they all like the same type of posts. Yet, social selection does not ensure coverage reliability; in fact, the common grounds of social selection are antagonistic to coverage reliability. We tend to prefer individuals who are like us, which increases the likelihood of coverage gaps. Hence, it often occurs that people construct a certain structure for one set of values and beliefs, such as preserving social ties or communities, and then use it for completely different purposes, such as information collecting, thus performing poorly. Second, as previously discussed, there are the procedures through which other agents modify the information landscape of an epistemic actor. This may include systematic media suppression or control by the state or other entities. Nowadays, the algorithmic personalization of internet encounters seems to be the most alarming of these external factors²⁶. Internet search engines, for example, record and monitor the personal information of each user, personalizing search results to each user's specific interests.

²³ Parise, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press

²⁴ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*, 17(2), 141-161. doi:10.1017/epi.2018.32

²⁵ Nelson, J. L. and Webster, J. G. 2017. 'The Myth of Partisan Selective Exposure: A Portrait of the online Political News Audience.' *Social Media + Society*, July–September: 1–13.

²⁶ Watson, J. C. 2015. 'Filter Bubbles and the Public Use of Reason: Applying Epistemology to the Newsfeed.' In F. Scalabrino (ed.), *Social Epistemology and Technology: Toward Public Self-Awareness Regarding Technological Mediation*, pp. 47–58. London: Rowman & Littlefield.

As Boaz Miller and Isaac Record²⁷ argue, Internet technologies produce hyper-individualized hidden filters. Data privacy is at risk. Many consumers are unaware of the presence of individualized algorithmic filters that track, record, use and eventually sell to third-party entities massive amounts of user data. Even among those who are aware of, most of them underestimate the privacy implications. The already mentioned opacity of algorithms makes it even more difficult for a user to effectively analyze and epistemically consider such filtering. Hence, most users grossly underestimate the extent to which they are exposed to information consciously modified and of the massive use of personal data. As result, agent-driven selective exposure and algorithmic filtering's externalities contribute to the formation of epistemic bubbles. In brief, epistemic bubbles are systems that exclude pertinent information by whatever methods, technological or otherwise. They consist of both filtration bubbles and non-technological selection mechanisms, such as physical selection among communities of like-minded individuals²⁸. Here a selection bias²⁹, or gatekeeping, occurs, in which, only one point of view is preferred and consequently shown and analyzed. In theory, therefore, social media should allow for a greater variety of stories; in practice, this is not the case, rather, certain views are eliminated. According to Pariser, “Although the Internet provides access to a vast array of sources and possibilities, we miss many of them due to the filter bubble.”³⁰ Even though the Internet may provide us with new chances to develop and experiment with our identities, the personalization economy tends to promote a static view of the individual. While the Internet can decentralize information and control, it is concentrating power over what we see and the possibilities we are afforded in the hands of few big companies, the so called GAFAM³¹. Consequently, another bias occurs: the confirmation bias³²; the tendency to search for, interpret, and remember information in a way that confirms preexisting beliefs or hypotheses. People tend to seek out and pay more attention to information

²⁷ Miller, B. and Record, I. 2013. ‘Justice Belief in a Digital Age: On the Epistemic Implications of Secret Internet Technologies.’ *Episteme*, 10(2): 117–34.

²⁸ Bishop, B. 2009. *The Big Sort: Why the Clustering of Like-minded America is Tearing Us Apart*. Boston, MA: Houghton Mifflin Harcourt.

²⁹ Suez-Trumper, Diego & Castillo, Carlos & Llamas, Mounia. (2013). Social media news communities: Gatekeeping, coverage, and statement bias. *International Conference on Information and Knowledge Management, Proceedings*.

³⁰ Parise, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press

³¹ GAFAM is an acronym that refers to the five biggest tech companies in the world: Google, Apple, Facebook, Amazon, and Microsoft.

³² Why Facts Don’t Change Our Minds, By Elizabeth Kolbert February 19, 2017

that supports their existing beliefs while ignoring or discounting information that contradicts them.

1.2.3 Process

Pariser goes on explaining the downside of the intellectual isolation of Internet users: "you are the only one in your bubble."³³ In an era where social media are the basis for shared experience, the filter bubble is a centrifugal force that separates us. This state of intellectual solitude is caused by the news feed mechanism:

- 1) People encounter specific information on the Internet through search engine services like Google, Instagram, and Facebook.
- 2) These networks' news feed algorithms detect consumers' preferred content.
- 3) The algorithms give fresh material to users depending on their preferences, i.e., their prior interaction with certain subjects as opposed to others they did not engage with.

The algorithm then selects a set of potential actions to show to the users, who then choose one of the available courses of action, and the algorithm may further promote interaction by presenting other potential actions depending on the user's previous selections. This trend is exacerbated by the irruent appearance of AI systems such as ChatGPT (Generative Pre-trained Transformer) that uses artificial intelligence to interact and provide information to users, by answering questions in a "one-to-one" bubble, simulating human conversation through text or voice interactions. The use of ChatGPT completely eliminates human computer-mediated interactions and, content wise, replaces thousands of Internet search results with a single synthesized response.

1.2.4 How to recognize if a user is trapped in an epistemic bubble

One can realize to be he in a closed social epistemic environment when certain beliefs are routinely validated and amplified, while dissident opinions are missing or marginalised. This is acknowledged when the following conditions are met: users recognize that (a) the sources from which epistemically they almost always aim to

³³ Parise, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press.

receive news or opinions are of a certain 'exclusive' type X, and (b) the community in which they confront their opinions and from which they seek to receive additional information or opinions consists of only members that seek to receive news or opinions from the same source X³⁴. By *aiming* to receive news from a specific source, an epistemic agent believes that source is at least occasionally the bearer of true statements, (ii) occasionally listens to or considers the source's opinions, and (iii) generally considers the source's statements to be true until proven otherwise. An *exclusive* source is defined as a source that is known to promote and take sides on certain subjects, while ignoring or excluding alternative perspectives. Many, but not all, sources that are well-known for their extreme political leanings qualify as exclusive sources.

1.2.5 Social media economic gains

The reason why social media created algorithms for news feed is to increase the users' engagement, the time they spend on their platforms, and, consequently, the economic gains they derive from advertising. As Srnicek³⁵ points out, the filter bubble hypothesis largely applies to Facebook, Twitter, or Google that collect data regarding users' preferences and activities, which is the source of revenue for the online service provider. They can be seen as advertising platforms that enable agents to meet, interact and act as intermediaries between customers, advertisers, service providers, producers, suppliers, and physical objects and events, selling data gleaned from users' online actions to third-party companies³⁶ for a specific target of audience for their marketing strategies³⁷. If these companies aim to collect data, and the more data they collect, the more they can profit, then the filter bubble hypothesis seems to fit this dynamic very well, offering excellent profits. So, it is not true that our subscription to social media is free, we pay with our dedication and data provision³⁸. In other terms, if you're not paying for the product, the product is you³⁹. In 2022 global social media advertising

³⁴ Sheiks, M. (2022). The Myth of the Good Epistemic Bubble. *Episteme*, 1-16. doi:10.1017/epi.2022.52

³⁵ Srnicek, N. (2017). *Platform Capitalism*. Cambridge; Malden: Polity Press.

³⁶ Figi Talamanca, G., & Affini, S. (2022). Through the Newsfeed Glass: Rethinking Filter Bubbles and Echo Chambers. *Philosophy & technology*, 35(1), 20. <https://doi.org/10.1007/s13347-021-00494-z>

³⁷ Greg McFarlane, December 02, 2022, *How Facebook (Meta), Twitter, social media Make Money from You*

³⁸ The Social Dilemma. Directed by Jeff Orlowski, Exposure Labs, 2020. Netflix.

³⁹ Andrew Lewis tweet 13 September 2010

spending stood at around 130 billion U.S. dollars⁴⁰, 86 billion of which is from Facebook⁴¹, the dominant social network for over 15 years; the figure is expected to double by 2028 to generate revenue of 262 billion⁴².

1.3 Echo chambers

1.3.1 Collaborative Filtering

An efficient news feed algorithm, in addition to tracing the preferences of individual users (likes, comments, shares, and followed pages), groups users with similar tastes that rate or interact with similar items. The technique to predict a user's preferences based on the preferences of other users with similar tastes is called “Collaborative filtering”⁴³. In collaborative filtering, a user's preferences are inferred based on the preferences of other users who have rated or interacted with similar items. For example, if people often like posts about cooking recipes, collaborative filtering will be able to suggest new cooking videos based on the choices made by other people who liked the original video. Collaborative filtering can be based on similarity between users or between items⁴⁴. There are two types of collaborative filtering: (I) user-to-user collaborative filtering that recommends items based on common preferences of other similar users' profile, while (ii) item-to-item collaborative filtering recommends items based on users' previous preferences. Grouping people with similar interests and ideas is useful for marketing purposes but it locks them into echo chambers where interactions only happen with users with similar tastes.

1.3.2 Network homophily

If only one field of interest existed, people would necessarily choose that one, but in a society like ours where different interests exist, and new ones continue to be created,

⁴⁰ Statista. (April 13, 2022). Social media advertising spending worldwide from 2021 to 2028 (in billion U.S. dollars) [Graph]. In *Statista*. Retrieved March 16, 2023

⁴¹ David Curry, February 8, 2023, Social Networking App Revenue and Usage Statistics (2023), business of apps

⁴² Statista. (April 13, 2022). Social media advertising spending worldwide from 2021 to 2028 (in billion U.S. dollars) [Graph]. In *Statista*. Retrieved March 16, 2023

⁴³ TechTarget, August 2017, *what is collaborative filtering?*

⁴⁴ Nikola Kuzmic, August 9, 2021, *User-to-User vs Item-to-Item Collaborative Filtering*

the possibility of choice for different individuals and groups should increase. The proliferation of communication options has greatly exploited this, reaching out and grouping individuals with particular and common interests, massively increasing niche markets. On social media, people with similar interests can in a sense come together to discuss and focus on one or more of these options. As David Bohnett, founder of the GeoCities website, describes in triumphant words, "the Internet allows you to meet other people who have the same interests as you, no matter how special, how strange, how big or small they may be"⁴⁵. Thus, the phenomenon of Network homophily occurs; from the ancient Greek *homós* 'common', and *philia* 'love', hence common love, which sociologically conceptualizes the tendency of individuals to associate and bond with other like-minded people. This is a natural human tendency rooted in our psychological and social needs for affiliation, recognition, and social identity. In social media it manifests itself in the theory of network science which states that, based on the attributes of nodes, similar nodes are more likely to bind to each other than dissimilar ones⁴⁶. As it has already been demonstrated with the concept of confirmation bias, people tend to seek out and remember information that confirms their existing beliefs and to be with like-minded people. While network homophily can facilitate social support and cooperation between like-minded individuals, which can be beneficial for both individuals and group, it can also lead to social segregation, polarization and discrimination and may limit exposure to different perspectives and experiences.⁴⁷ In fact, in a network of homophily where individuals are exposed to similar ideas and opinions, the line is short in becoming more entrenched in their views and trying to discredit all other different points of view by forming echo chambers. This is the paradox created by news feeds and related mechanisms, such as network homophily, over the Internet that instead of multiplying reduce sources of information.

⁴⁵ Alfred C. Sikes, *Fast Forward: American Leading Experts Reveal How the Internet Is Changing Your Life*, New York, 2000, pp. 13-14

⁴⁶ De Choudhury, M. (2011). Tie Formation on Twitter: Homophily and Structure of Egocentric Networks. *Scialom/PASSAT*, 465–470

⁴⁷ Lobare, Carlos; Verd, Joan Miquel; Cruz, Irene; Barranco, Oriol (2013-08-07). "Homophily and heterophily in personal networks. From mutual acquaintance to relationship intensity"

1.3.3 Echo chambers

In network homophily based communities, people are surrounded by like-minded individuals that share similar beliefs and convictions with interactions that never contradict, enhance, each other opinions and beliefs⁴⁸. Indeed, in the echo chamber a phenomenon of 'epistemic credential amplification' tend to attribute a high, often higher than actual, value and trust to certain qualifications, knowledge, and people in the community.. On the other hand, 'epistemic discredit' and devalue occurs against qualifications and knowledge, that do not align with the prevailing beliefs within the echo chamber members⁴⁹. Over time, this can create a self-reinforcing cycle of beliefs and values that can lead members to radicalization, isolation, and distrust. An echo chamber is indeed an epistemic community that creates a significant disparity in trust between members and non-members⁵⁰; widespread and solid agreement on a set of beliefs and ideas is required for membership; these core beliefs include views that sustain and amplify the gap in trust in traditional and mainstream media. When individuals only engage with people that only share and absorb material that supports their common beliefs, they may develop a feeling of isolation from the larger community and mistrust of those with opposing or simply different viewpoints. This is because they may regard these diverse perspectives as challenges to their own ideas, beliefs, and identity, making them feel protective and suspicious of others. By reinforcing existing views and biases, restricting exposure to different perspectives, and promoting a "us against them" mindset, echo chambers may generate isolation, mistrust, and radicalization.

Consider Rush Limbaugh, a conservative US radio broadcaster and journalist, and the Fox News team, a conservative US news organization. They aggressively segregate their circle of followers from other epistemic sources through a variety of techniques. Limbaugh's continual assaults on the "mainstream media" seek to discredit any possible different source of information or testimony other than himself and a tiny group of other authorized sources. To emphasize the insularity and exclusivity of the in-group, a kind of oracle, he also creates what they refer to as a "secret language" comprised of alternate forms of mainstream narrative, thus creating a new jargon difficult to understand for those outside their group. Limbaugh concludes by providing

⁴⁸ Figi Talamanca, G., & Affini, S. (2022). Through *the Newsfeed Glass: Rethinking Filter Bubbles and Echo*

⁴⁹ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*,17(2), 141-161.
doi:10.1017/epi.2018.32

counter explanations for all opposing opinions, with the intention of not just attacking any single position, but also undermining the credibility and overall integrity of anybody voicing an opposing viewpoint. The ensuing worldview is one of starkly conflicting forces: once someone has adopted Limbaugh's viewpoint, heist tempted to believe that anybody else who disagrees is deliberately antagonistic to the side of the righteous and is thus immoral and usually unreliable. Followers rely on a single source, an oracle, or a small number of sources and makes them very resistant and aggressive against any outside and divergent influence⁵¹.

1.3.4 Indoctrination and conspiracy theories

This mechanism bears a striking resemblance to some accounts of cult indoctrination⁵², a process by which individuals are taught to accept a particular set of beliefs or ideas without questioning them⁵³. By discrediting outsiders, echo chambers leave their members overly dependent on approved inside sources for information, the aggressive emotional isolation of cult members from all non-cult members, amplifies indoctrinated member's dependency on the cult⁵⁴. Echo chambers, like indoctrination cults, use a variety of techniques, including repetition, emotional manipulation, and authority⁵⁵. Repetition of a message may make it seem more believable and compelling, even if it is not supported by facts, while emotional manipulation can be used to persuade individuals into supporting a certain ideology by appealing to emotions such as fear, wrath, or guilt. This is often accomplished by presenting the ideology as a solution to a problem or by demonizing its opponents⁵⁶. Lastly, individuals may be more inclined to adopt an ideology if it is advocated by an authoritative person, such as a political leader. The result is an obvious parallelism of methods to isolate members of a community from the remaining members by discrediting them. To offer a realistic example: at the conclusion of the covid-19

⁵¹ Jamieson, K. H. and Cappella, J. N. 2008. *Echo Chamber: Rush Limbaugh and the Conservative Media Establishment*. Oxford: Oxford University Press.

⁵² Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*,17(2), 141-161. doi:10.1017/epi.2018.32

⁵³ Definition of indoctrination from the Cambridge Advanced Learner's Dictionary & Thesaurus © Cambridge University Press

⁵⁴ Liftin, R. 1991. 'Cult Formation.'

⁵⁵ Singer, M. T. 1979. 'Coming Out of the Cults.' *Psychology Today*, 12(8): 72-82.

⁵⁶ Langone, M. D. 1994. RI! sections on Post-Cult Recovery.'

epidemic, when vaccines were finally massively widespread, some reluctant and terrified individuals who didn't want to be vaccinated began to spread the conspiracy idea that the government implanted a GPS chip inside the vaccines. If this notion is propagated to other members of the echo chamber community, it might be added that the government and other "government officials" hate us because we have learned the truth and attempt to destroy our conscience by discrediting us and labeling us as uneducated idiots. Members of echo chambers may be cautioned to anticipate that non-members would not trust our hypothesis and will attempt to make assertions opposite to ours by presenting alternative facts⁵⁷. When a member of an echo chamber meets outsiders, they expect to hear contradictory statements. Consequently, the new contradictory testimonies are nullified since it was anticipated by previous beliefs. According to Bugby, this serves as a kind of epistemic immunization⁵⁸. In addition, there is a secondary consequence. When echo chamber's followers hear precisely what the "oracle" predicted, oracle's claims will have been validated, and they will have incentive to enhance their faith in him. Hence, the belief system of the echo chamber not only neutralizes the epistemic influence of exposure to outsiders with opposite views, but the presence of such contradictory beliefs would actively reinforce the echo chamber mantra, so increasing the belief level of the whole echo chamber. This develops a feedback loop feeding echo chambers' beliefs. By making frightening forecasts concerning contradictory evidence, internal authorities not only devalue such testimony, but also enhance their credibility for future predictions. In this manner, echo chambers may foster the growth and persistence of conspiracy theories, a belief that some secret but influential organization is responsible for an event or phenomenon and make it more difficult to refute or discredit them. Conspiracy theories sometimes depend on a mistrust of mainstream sources of information and the notion that the public is being kept in the dark about a secret reality or goal. In an echo chamber, individuals may only be exposed to alternative information sources that promote or support conspiracy theories, and they may be less likely to encounter facts or perspectives that contradict these beliefs. This may facilitate the propagation of conspiracy theories and increase people's conviction in their veracity.

⁵⁷ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*, 17(2), 141-161.
doi:10.1017/epi.2018.32

⁵⁸ Bugby, E. 2013. 'The Epistemology of Prejudice.' *Thought: A Journal of Philosophy*, 2(2): 90-9. ——— 2017. 'Evidential Pre-emption.' Presented at the American Philosophical Association Pacific Division 2017 Meeting.

1.3.5 Similarities and differences with epistemic bubbles

We might consider echo chambers to be one step worse than epistemic bubbles as they have the capacity to amplify and shield their content from opposition. As result of the analysis undertaken, it is possible define an echo chamber as an epistemic bubble in which acceptable beliefs are not only amplified, repeated, and reinforced, but also shielded from refutation by drowning out alternative views or discrediting their sources⁵⁹.

Hence, there are two primary distinctions between epistemic bubbles and echo chambers.

1. The former is a kind of intellectual isolation generated solely by algorithms whose conclusions are based on user preferences⁶⁰. The latter, in contrast, are created by users themselves⁶¹. These may exist in physical contexts, but they are exacerbated and amplified in online contexts.
2. The two concepts apply at different levels of abstraction: epistemic bubble describes online information intake and exposure from the standpoint of an individual user, while echo chamber describes interaction within a (online) community⁶².

According to Bruns, the concept of echo chamber applies to all social media, as all social users are free to choose to connect with others, forming their own groups that exclude so someone else⁶³. The more definite the network's boundaries are, and the more connections are formed inside it, the more insulated the community is from outsiders and their possibly divergent perspectives. In contrast, it is theorized that epidemic bubbles occur on an individual basis. Particularly, the more often users consume certain information instead of others and the more frequently they engage with other users who have the same interests and perspectives, the greater the correlation between the two variables. In consequence, it is more probable that the users' own opinions and information will spread and be validated inside their network than any external perspective or information. Echo chambers can explain what

⁵⁹ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*,17(2), 141-161. doi: 10.1017/epi.2018.32

⁶⁰ Parise, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press

⁶¹ Sunstein, C. R. (2001.) *Echo Chambers: Bush V. Gore, Impeachment, and Beyond*. Princeton: Princeton University Press

⁶² Figà Talamanca, G., & Arfini, S. (2022). *Through the Newsfeed Glass: Rethinking Filter Bubbles and Echo*

⁶³ runs, A. (2019). *Are Filter Bubbles Real?* John Wiley & Sons

epistemic bubbles cannot: the apparent resistance to clear evidence found in some groups, such as climate change deniers and anti-vaccination groups.

Chapter II: epistemological threat

Our knowledge depends in large part on the one of the other members of our community as a social environment. Our views, values, and attitudes are shaped by the social, cultural, and educational dimension of the community to which we belong. It helps mold our worldview and offers opportunity to develop our knowledge in terms of facts, skills, and information. Through numerous channels, such as the media, libraries, and the Internet, our community provides us with access to information that nurture our knowledge through experience and learning opportunities. It may be claimed that much of what we know about the world is acquired via participation in these groups and interaction with other members. For instance, Sandy Goldberg's⁶⁴ community has supported what she refers to as a division of epistemic labor, in which knowledge tasks are spread among the members of a community, on whom we rely directly or indirectly to know the things we know. Since the epistemic characteristics of one's own doxastic attitudes are sensitive to the epistemic views of other members, we are directly dependent on and interlinked with them. Thus, quality of the epistemic practices relies on the community. The community, if it is a good and health community, could play a positive role in the individual development of members, giving them the opportunities to learn and access to info also outside them, increasing their epistemic autonomy. The epistemic autonomy is the ability and right to think for themselves and form their own beliefs and knowledge without undue influence or coercion from others⁶⁵. An ethical community take care of it, provide individuals with opportunities to exchange ideas and engage in dialogue with others who have different perspectives and experiences, to make them develop their critical thinking skills. However, if it is a toxic and inadequate community, would act to its members as the only plausible source of knowledge, discrediting others. In instance, consider Nguyen's⁶⁶ identification of echo chambers, introduced in the previous chapter. According to the author, an echo chamber is an epistemic community in which dependent ties are exclusives by design, which limit epistemic autonomy of its members through social pressure to conform to group norms and beliefs. As result,

⁶⁴ Goldberg, S. 2011. "The Division of Epistemic Labor." *Episteme* 8 (1): 112–125.

⁶⁵ Zagzebski, Linda Trinkaus, 'Intellectual Autonomy', *Epistemic Values: Collected Papers in Epistemology* (New York, 2020; online edn, Oxford Academic, 22 Oct. 2020), <https://doi.org/10.1093/oso/9780197529171.003.0018>, accessed 18 Apr. 2023.

⁶⁶ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*, 17(2), 141-161. doi:10.1017/epi.2018.32

non-member epistemic contributions are purposefully ignored or rejected in favor of internal, member-sourced ones. Community can create barriers to accessing information and perspectives that are different from one's own, perpetuating biases and stereotypes that limit individuals' ability to think critically and independently. Hence, echo chambers are epistemic communities in which members are persuaded not to believe non-members and, thus, "other relevant voices are deliberately dismissed."⁶⁷ Among the well-known examples, there are the anti-vaccination activists' communities, whose members consider "freedom communities" that oppose Covid vaccines, lockdowns, and other restrictions, muddled with conspiracy theories and dangerous falsehoods, organizing online dating, house shares and possibly even blood banks just for the unvaccinated members of the community⁶⁸. This has been made possible by the structural and systematic manipulation of the dependency characteristics of external epistemic sources on a particular issue, by undermining their epistemic credibility, while cultivating and amplifying internal beliefs, values, and knowledge⁶⁹.

2.1.1. Active ignorance:

Active ignorance refers to what has just been described. There are several sorts of ignorance, each with their own dynamics. Something which is often considered as ignorance, or at least with a limited number of true beliefs, affects us all to varied degrees, as it is impossible to acquire solid knowledge in all the disciplines researched to date; nonetheless, it is inherent and correctable. More formally, active ignorance can be defined as ignorance that may be linked to a malicious epistemic behavior on the part of the individual. According to Medina⁷⁰, the integration of epistemic vices such as arrogance, laziness, and narrow-mindedness can significantly contribute to a person's ignorance. A person who "assumes to know everything there is to know" about a particular topic, lacks the "effort and motivation to learn more" about that topic, and lacks "openness to the relevance and importance" of different experiences and perspectives, is not only ignorant in the passive sense of lacking knowledge about

⁶⁷ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*,17(2), pag.142

⁶⁸ <https://www.bbc.com/news/blogs-trending-58146525>

⁶⁹ Santos, Breno R. G. (2021). Echo Chambers, Ignorance and Domination. *Social Epistemology* 35 (2):109-119.

⁷⁰ Medina, J. 2013. *The Epistemology of Resistance: Gender and Racial Oppression, Epistemic Injustice, and the Social Imagination*. New York: Oxford University Press.

a particular topic, but also ignorant in a more active sense⁷¹. Active ignorance is a "substantial epistemic practice in and of itself,"⁷² constituting a component of the epistemic behavior of an individual or group of agents. The social institutions to which the agents belong and in which they engage actively develop and sustain ignorance.

2.1.2 Structural and individual active ignorance:

Beginning with the illustration of active ignorance previously provided, two authors focus on two forms: structurally by Woomer⁷³ and personally by Mills⁷⁴. In the first case, Lauren Woomer illustrates how structural active ignorance manifests itself through agents who resist counter-evidential stimuli, fail to engage adequately with the available evidence, or even fail to 'see' the evidence in front of them, which is encouraged by the social structures/communities they are immersed in. As an example, she cites the ignorance shown by certain white North Americans who seem to reject data that indicates to a racial trend in police shootings of blacks in the United States. According to the author, their ignorance is shown by their failure to alter their epistemic viewpoints on racial relations and the interaction between police and marginalized populations. Both "attention failure" and "uptake failure" may result in this condition. The former is a result of the agents' incapacity to effectively use the available epistemic tools; they can consider the relevant evidence but choose not to. For example, evidence of systemic and racist police brutality in the United States is disregarded, or at least attention is deflected elsewhere; even turning to conspiracy theories, such as the Black Lives Matter movement being violent and a danger to police officers in the United States. The second form, dubbed "uptake failure," refers to instances in which the officer interacts with the evidence superficially; he or she attends, but does not react. In this instance, one fails to react to the power of the evidence by refusing to comprehend the epistemic relevance of what is in front of them; by judging the evidence as invalid, either due to its substance or its carrier. According to Woomer, both failures are examples of deliberate ignorance. These are

⁷¹ Medina, J. 2013. *The Epistemology of Resistance: Gender and Racial Oppression, Epistemic Injustice, and the Social Imagination*. New York: Oxford University Press Pag.39

⁷² Alcoff, L. M. 2007. "Epistemologies of Ignorance: Three Types." In *Race and Epistemologies of Ignorance*, edited by S. Sullivan and N. Tuana, 39–58. Albany: Suny Press.

⁷³ Woomer, L. 2019. "Agential Insensitivity and Socially Supported Ignorance." *Episteme* 16 (1): 73–91.

⁷⁴ Mills, C. 2007. "White Ignorance." In *Race and Epistemologies of Ignorance*, edited by S. Sullivan and N. Tuana, 11–38.

not only individualist failings, but rather "socially supported agential insensitivity," an insensitivity to the available data that is "a result of the intricate connections between an agent's individual characteristics and their social environment" ⁷⁵. In the case of white North Americans, ignorance is sanctioned and supported by social institutions to maintain certain social epistemic configurations. Mills instead describes the individual element; circumstances in which agents are resistant to counter-evidential stimuli due to "social suppressions of relevant information"⁷⁶, or of pertinent knowers, in a manner that is favorable to the maintenance of their group's political and social supremacy, or at least beneficial to the status quo, thus, to preserve privileges. To further explain it, he offers the fictitious instance of Amasa Delano, in which the protagonist fails to 'see things as they are' upon boarding a slave ship that has been captured by an insurrection of the prisoners. He fails to see that an insurrection is occurring and seeks other reasons for the odd conduct of whites and blacks in alternating roles. According to Mills' interpretation of the passage, the "white delusion of racial superiority" makes it inconceivable that "inferior blacks"⁷⁷ could accomplish such a remarkable feat. As a result, Delano is unable to comprehend what is occurring aboard the ship, to the point that he disregards clear explanations for the hostages' conduct and compelling evidence pointing to their uprising in favor of implausible interpretations of the environment before him. According to Mills, the "mis knowledge" just described is a specific type of ignorance conceived as a cognitive disposition or doxastic disposition that is responsive to differential community identity intersections and socialization, as well as to patterns of social power dynamics and ideological hegemony. Therefore, according to Woomer and Mills, ignorance is selecting who can and cannot contribute to relevant epistemic practices by excluding epistemic inputs from outside his own hegemonic ideological perspective; in an echo chamber, agents shield themselves from relevant knowledge about the world and marginalized experiences.

2.1.3 *There are no good epistemic bubbles.*

⁷⁵ Woomer, L. 2019. "Agential Insensitivity and Socially Supported Ignorance." *Episteme* 16 (1): 73–79

⁷⁶ Mills, C. 2007. "White Ignorance." In *Race and Epistemologies of Ignorance*, edited by S. Sullivan and N. Tuana, 11–38

⁷⁷ Mills, C. 2007. "White Ignorance." In *Race and Epistemologies of Ignorance*, edited by S. Sullivan and N. Tuana, 11–38.

As previously discussed, epistemic bubbles and echo chambers are connected to the purposeful or unintentional "filtering" of the information and media a person consumes in a community⁷⁸. Hence, it is reasonable to assume that there are also "good" epistemic bubbles filtering "excellent" information, truth-conducive bubbles that include justified true beliefs, and that it is sensible to stay inside them. Theoretically, they are not epistemologically problematic since they isolate people who propagate erroneous assertions. The modern world seems to be rife with false claims masquerading as genuine, thus the "good" epistemic bubble may expose me to less false news than the social epistemic framework that exists outside of it⁷⁹. Possibly, by keeping in the "good" epistemic bubble, one might avoid being duped into gaining false beliefs and so acquire genuine beliefs and prevent acquiring false ones more effectively⁸⁰. For instance, we may seek shelter in a "good" epistemic bubble that continues to and supports the fact of anthropogenic climate change and excludes the possibility of social media-based denial, which is not empirically verified but is prevalent. Despite the validity of certain epistemic bubbles at a certain moment, it may not be logical to exclusively remain within it for two reasons: their dynamic nature and the fact that establishing their veracity necessitates leaving them⁸¹. The former implies that epistemic bubbles are not static social epistemic structures and that their direction is always subject to change; therefore, if we initially analyze an epistemic bubble by verifying all its sources and label it as "good," it is always possible that in a second moment there will be claims of other unverified statements or partially reflecting a new reality. Referring to the previous example of the bubble stating that climate change is real, one could choose to stay there because it is considered correct, but over time it is impossible to prevent that someone posts content that is not equally accurate and true, even in fields where it had not previously occurred. Hence, despite our original conclusion that it was a quality epistemic bubble, we have no means of ensuring that it would continue to be so, such that we would be rationally justified in remaining inside it. To check the reality of a "good" epistemic bubble, one must exit the bubble. To avoid the epistemological dilemma previously mentioned, it is required

⁷⁸ Jamieson K.H. and Cappella J.N. (2008). *Echo Chamber: Rush Limbaugh and the Conservative Media Establishment*. New York, NY: Oxford University Press.

⁷⁹ Lackey J. (2018). 'True Story: Echo Chambers are Not the Problem.' *Morning Consult*.

⁸⁰ Fantl J. (2021). 'Fake News vs. Echo Chambers.' *Social Epistemology: A Journal of Knowledge, Culture and Policy* 35(6), 1–15.

⁸¹ Sheeks, M. (2022). The Myth of the Good Epistemic Bubble. *Episteme*, 1-16. doi:10.1017/epi.2022.52

to regularly verify and re-examine the assertions inside it, but this entails leaving it and not taking what it says at face value, which is the principle behind echo chambers.

2.1.4 *The importance of being “open.”*

Exposure to a variety of sources is one of the cornerstones of epistemology, the theory of knowing. Tradition holds that it is essential to expose epistemic agents, including human beings, to a comprehensive array of relevant information and to assist them acknowledge their limits and inadequacies as knowers. By confronting counterevidence and arguments contradictory to their ideas, conventional thought holds, epistemic agents are pushed to further check their beliefs and, eventually, arrive at the truth more effectively⁸². In addition, the existence of many viewpoints promotes the epistemic qualities of open-mindedness and humility, as well as the realization of one's fallibility as a believer. When confronted with conflicting viewpoints, believers are said to be driven by these qualities to reflect and eventually review their beliefs to stick to a factual truth “to say of what is that it is, or of what is not that it is not, is true.” (Aristotle, 384–322 BCE). This is exactly what filter bubbles and echo chambers do not allow to do: they confine ideas and your individualized perspective. In addition, their lack of exposure to diversity poses an epistemological threat.

According to the principle of the independence of knowledge, “others' opinions only have epistemic weight to the extent that they are independent from one another”⁸³. When the same acceptable viewpoints are frequently repeated and reinforced inside epistemic bubbles, it is possible to argue that the opinions expressed within them lack epistemic power because they lack adequate independence from one another. Moreover, it may be claimed that epistemic bubbles are especially problematic since the agents inside them are uninformed of the lack of independence among their ideas and, therefore, are prone to underestimate the degree of epistemic power behind the evidence they hold for their beliefs in problematic ways⁸⁴. The agents inside epistemic bubbles and echo chambers are purposefully uninformed because of this method of making belief formation processes resistant to ignorance and contradictory data and

⁸² Mill J.S. (1956). *On Liberty*. (C.V. Shields, ed.). Indianapolis, IN: Bobbs-Merrill Educational Publishing.

⁸³ Lackey J. (2021). ‘Echo Chambers, Fake News and Social Epistemology.’ In S. Berknecker, A.K. Flowerree and T. Grundmann (eds), *The Epistemology of Fake News*, pp. 206–27. New York, NY: Oxford University Press.

⁸⁴ Sheeks, M. (2022). The Myth of the Good Epistemic Bubble. *Episteme*, 1-16. doi: 10.1017/epi.2022.52

views. an agent is actively ignorant not because he lacks propositional knowledge, rather because he creates his views in response to an epistemological superstructure of malicious and looped conduct. Those stuck in epistemological bubbles or echo chambers may have a limited number of valid beliefs, but by rejecting external epistemic inputs, their corpus of knowledge will stagnate⁸⁵.

2.2 Fake news

One of the main epistemological threats on social media are fake news, false or misleading information that is presented as if it were true news⁸⁶, which can undermine our understanding of truth and reality. In fact, by imitating actual news, they might cause consumers to doubt the veracity of all news, making it more difficult to distinguish between what is genuine and what is fake. Those who are exposed to information from questionable sources may lose faith in genuine sources of information, such as the media and scientific organizations.

2.2.1 *From centralization of old media to the network society*

The problem of fake news is not new; it has existed for ages, but it has become institutionalized in our present network culture, in which anybody can express themselves freely by uploading information, whether genuine or untrue, that can quickly propagate through user groups. Currently, anybody may access the network and publish news, regardless of whether the author is qualified or well knowledgeable in the subject matter. In the past, traditional media such as newspapers, radio, and television were limited and regulated, and they utilized fact-checking, the verification of the truth of news reports before they were published, often by talking with experts and reviewing numerous sources. To retain their reputation and avoid the spread of incorrect information, conventional media outlets issued corrections or retraction when they inadvertently published misleading news. Traditional media were characterized by centralized information systems and a restricted number of

⁸⁵ Santos, Breno R. G. (2021). Echo Chambers, Ignorance and Domination. *Social Epistemology* 35 (2):109-119.

⁸⁶ E. C. Tandoc, Z. W. Lim, and R. Ling, "Defining 'Fake News': A Typology of Scholarly Definitions," *Digital Journalism*, vol. 6, no. 2, pp. 137–153, Feb. 2018,

information providers, meaning that only a few of professional journalists and editors determined which stories were covered and how they were presented. With the emergence of the World Wide Web (WWW) in 1989⁸⁷, information distribution has been decentralized, in the sense that it is no longer the exclusive domain of professionals, but rather information is created and transmitted by a network of users and sources⁸⁸. Although media fulfills several roles in society serving, for example, as a public forum for the discussion of important issues and acts of government, business, and other institutions⁸⁹, these possibilities increase the risk of fake news that, although not scientifically supported, might seem plausible to the eyes of a layman on the subject. On the other hand, most of our beliefs are not based on facts and data that we get first-hand, nor are there any concrete empirical evidence for them. For example, it is general knowledge that Saturn is the sixth planet in the Solar System⁹⁰, but no one has ever seen it with their own eyes or gone there; but despite this, we all believe it, we give our trust to information sources that tell us about it. Consequently, it is easy to fall for fake news since we almost always rely on the knowledge of an external source to know about the world.

2.2.2 Misinformation and disinformation

Fake news is divided into two macro categories: misinformation and disinformation⁹¹; which differ in the intent behind the dissemination of false information, in the former unintentional in the latter voluntary. Misinformation refers to the transmission of erroneous, partial, or faulty information accidentally or without malice⁹². It might be caused by errors, misconceptions, or a lack of information or experience on a certain subject. Misinformation includes misleading headlines: news stories in which the headline does not accurately reflect the content of the article, which may lead readers to be misled by the facts; and satirical news stories, which, despite

⁸⁷ <https://www.britannica.com/topic/World-Wide-Web>

⁸⁸ Joangela Ceccon / Federica Scotellaro, 27/08/2021, Why does fake news spread? A Marie Curie research fellow looks for clues, ca' Foscari university of Venice.

⁸⁹ <https://open.lib.umn.edu/mediaandculture/chapter/1-3-the-evolution-of-media/>

⁹⁰ NASA solar system exploration, March 22, 2023, Saturn

⁹¹ Harper, L., Herbst, K. W., Bagli, D., Kaefer, M., Beckers, G. M. A., Fossum, M., Kalfa, N., & ESPU research committee (2020). The battle between fake news and science. *Journal of pediatric urology*, 16(1), 114–115.

<https://doi.org/10.1016/j.jpuro.2019.12.004>

⁹² Dictionary.com, August 15, 2022, “Misinformation” vs. “Disinformation”: Get Informed on The Difference

being intended for a humorous or satirical purpose, are sometimes mistaken for real news by individuals. On the other side, disinformation refers to purposely distributed inaccurate or misleading information with the objective of deceiving or influencing people⁹³. Fabricated news and images are those ones that has no basis and are often created to intentionally mislead people or to generate clicks and engagement; manipulated news is news that has been intentionally altered in some way to change its meaning or to misrepresent the facts; and propaganda is news that is designed to manipulate public opinion, often occurring in war time. All forms of disinformation may be used to manipulate public opinion, spread confusion, or unrest, or promote a certain goal or viewpoint.

2.2.3 Why disinforming

Wardle ⁹⁴states that fake news is “motivated by three distinct factors: to make money; to have political influence, either foreign or domestic; or to cause trouble for the sake of it.”⁹⁵. For example, fake news can generate money through various means, including direct advertising or ad-hoc websites that can attract visitors through clickbait headlines and sensationalized content and, as a result, can generate revenue through online advertising, such as display ads, pop-ups, or affiliate marketing; political influence, in which certain individuals or organizations may create and spread fake news to promote a particular political agenda. They may receive funding or support from political parties or interest groups that benefit from spreading fake information. One of the most notorious cases is the 2016 US presidential election in which Republican candidate Donald Trump paid approximately \$6.2 million to the political consulting firm Cambridge Analytica⁹⁶. The latter, specialized in data analysis and strategic communication for political campaigns, using data-driven techniques to identify and target specific groups of voters, profiling facebook users, without their consent, feeding their profiles with personalized political advertisements and fake news aimed at promoting Trump's campaign and discrediting his competitors. The use

⁹³ Dictionary.com, August 15, 2022, “Misinformation” vs. “Disinformation”: Get Informed on The Difference

⁹⁴ Wardle, Claire (2019b). “Understanding Information Disorder”, First Draft.

<https://firstdraftnews.org/latest/information-disorder-the-techniques-we-saw-in-2016- have-evolved/>

⁹⁵ Wardle, Claire (2019b). “Understanding Information Disorder”, First Draft.

<https://firstdraftnews.org/latest/information-disorder-the-techniques-we-saw-in-2016- have-evolved/>

⁹⁶ Matthew Rosenberg, Nicholas Confessore and Carole Cadwalladr, March 17, 2018, *How Trump Consultants Exploited the Facebook Data of Millions*, the New York times, <https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html>

of data to identify and target key voters in key states and districts with customized messages designed to appeal to their specific beliefs and concerns, was reasonably essential in the presidential victory. The second motivational factor for the spread of fake news is political influence, even unpaid influence; it can occur in various ways, either through confirmation bias, strengthening's people's pre-existing beliefs and values.; or by amplifying a political agenda. Another common way is to discredit opponents or defame them by damaging their reputation and leading to a loss of public support. This happened, for example, during the Brexit supporters' campaign in 2016, where one of the key messages was the alleged payment of 350 million pounds each week to fund the European Union⁹⁷. Boris Johnson⁹⁸ and Nigel Farage⁹⁹, two important players in the Brexit movement, made a hard campaign that those funds would be better used if transferred to the National Health Service ¹⁰⁰(NHS). Full Fact¹⁰¹, an independent fact-checking nonprofit, and the Office for National Statistics of the United Kingdom¹⁰² both acknowledged that the purported figure was incorrect. The day after the Brexit-supporting vote, Nigel Farage admits to having misled¹⁰³. Both employed intentionally misleading information, or misinformation can be effective to deceive the populace and achieve political advantage. The third and last reason fake news is made is to cause difficulty for its own purpose. Certain persons or organizations may disseminate false information intended to appeal to people's fears and emotions, generating panic and anxiety; for instance, by using dramatic and terrifying headlines to catch people's attention and create a feeling of urgency. Even if the substance of the item is incorrect or inaccurate, these headlines might attract people's attention and cause irrational behavior, such as hoarding or making poor judgments. It is possible to use fake news to weaken the authority of institutions such as the government, the police, or the media, and to spread conspiracy theories, which may induce anxiety and terror in those who read them. Conspiracy theories may cause

⁹⁷ Jon Henley, 10 Jun 2016, Why Vote Leave's £350m weekly EU cost claim is wrong, the guardian

<https://www.theguardian.com/politics/reality-check/2016/may/23/does-the-eu-really-cost-the-uk-350m-a-week>

⁹⁸ At that time Foreign Secretary of United Kingdom and Prime Minister of the United Kingdom from 2019 to 2022

⁹⁹ Leader of the Brexit Party

¹⁰⁰ a comprehensive public-health service under government administration, <https://www.nhs.uk>

¹⁰¹ Full fact, <https://fullfact.org>

¹⁰² Office for National Statistics of the United Kingdom, 7 February 2017, Leave campaign claims during Brexit Debate,

<https://www.ons.gov.uk/aboutus/transparencyandgovernance/freedomofinformationfoi/leavecampaignclaimsduringbrexitdebate>

¹⁰³ Kate McCann, senior political correspondent, 24 June 2016, *Nigel Farage: £350 million pledge to fund the NHS was 'a mistake'*, the telegraph, <https://www.telegraph.co.uk/news/2016/06/24/nigel-farage-350-million-pledge-to-fund-the-nhs-was-a-mistake/>

individuals to feel threatened by an organization that genuinely defends them, causing them to 'guard' themselves via isolation. This may result in a loss of public confidence in institutions and social instability. Echo chambers may exploit the concerns and anxieties of those most susceptible to this bogus news, depending on their interests, geographic location, or other demographic variables. In this context, fake news that fueled anti-vaccine sentiment during the COVID-19 outbreak is a recent example. During the mass vaccination time started in late 2020, misleading information regarding the safety of vaccinations and conspiracy theories about their efficiency disseminated swiftly on social media platforms, adding to public reluctance and hesitancy towards immunizations¹⁰⁴. On social media, false reports surfaced that COVID-19 vaccinations were hazardous and might cause severe adverse effects, including death, citing unreliable sources that relied on anecdotal evidence rather than scientific facts. Instead, some conspiracy theories said that COVID-19 vaccinations were part of a larger plot to control or damage the populace¹⁰⁵. Those who were already afraid or skeptical of government and medical authority were especially attracted by to this false information. In conclusion, whatever the reason of creation of fake news is, it results in the manipulation of public opinion, even at the unethical cost of harming their knowledge as individuals¹⁰⁶.

2.2.4 why do people believe in fake news?

Fake news spreads quickly because people tend to place more value on surprising non-mainstream information, beyond their expectations, and generating a stronger emotional response. When we encounter unexpected or surprising information, it can trigger a physiological response in our brain that activates the amygdala, which is responsible for processing emotions such as fear and excitement, and this emotional response can make information seem more salient and memorable to us triggering a strong interest and engagement. The entropy of information, a theory of information, shows how we confer more value to information depending on how surprising it is,

¹⁰⁴ Cascini, F., Pantovic, A., Al-Ajlouni, Y. A., Failla, G., Puleo, V., Melnyk, A., Lontano, A., & Ricciardi, W. (2022). Social media and attitudes towards a COVID-19 vaccination: A systematic review of the literature. *EClinicalMedicine*, 48, 101454. <https://doi.org/10.1016/j.eclinm.2022.101454>

¹⁰⁵ Ghaddar, A., Khandaqji, S., Awad, Z., & Kansoun, R. (2022). Conspiracy beliefs and vaccination intent for COVID-19 in an infodemic. *PloS one*, 17(1), e0261559. <https://doi.org/10.1371/journal.pone.0261559>

¹⁰⁶ Darrell West, Dec 18, 2017, how to combat fake news and disinformation, brookings <https://www.brookings.edu/research/how-to-combat-fake-news-and-disinformation/>

because we need new information to continuously update and challenge our understanding of the world¹⁰⁷. In a world where attention is a valuable commodity, stories that are outrageous or shocking are more likely to capture people's attention than those that are accurate but dull. In a recent study on the differential diffusion of all true and fake news stories on Twitter 2006-2017, which included 126,000 cascades of news stories, the authors discovered that falsehood was 70% more likely to be retweeted than the truth, especially regarding politics, urban legends, and science¹⁰⁸. There is also a social component: people like unconventional news because it conveys the social status of being an informed and out of the box thinking person. In summary, people tend to value surprising information more, even if it is often untrue, because it generates a stronger emotional response and can attract more attention among people.

2.3 Post truth

Fake news can create an environment of "post-truth" by spreading false or misleading information that undermines people's trust in facts and mainstream sources of information. When people are repeatedly exposed to false information, they may begin to doubt the accuracy of any information presented to them, including information based on verifiable evidence. In a world where no one believes anything is true, everyone believes everything is lying to them, including government institutions¹⁰⁹. Fake news is a major manifestation of post-truth, defined by Oxford Dictionary, which elected it as word of the year in 2016, as "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief"¹¹⁰. The definition contrasts objective facts with appeals to emotion and personal belief, highlighting how today it is the latter that people rely on, rather than facts and evidence when making decisions or forming opinions. Post-truth, fostered by social media that make it easier to spread false information and the erosion of trust in traditional sources of information can be seen as a form of propaganda, having the goal of affecting people's emotions and beliefs rather than to

¹⁰⁷ Harper, L., Herbst, K. W., Bagli, D., Kaefer, M., Beckers, G. M. A., Fossum, M., Kalfa, N., & ESPU research committee (2020). The battle between fake news and science. *Journal of pediatric urology*, 16(1), 114–115. <https://doi.org/10.1016/j.jpuro.2019.12.004>

¹⁰⁸ Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science* 2018 Mar 9;359(6380):1146e51.

¹⁰⁹ The Social Dilemma. Directed by Jeff Orlowski, Exposure Labs, 2020. Netflix.

¹¹⁰ BBC, 16 November 2016, 'post-truth' declared word of the year by Oxford Dictionaries <https://www.bbc.com/news/uk-37995600>.

present a truthful and accurate representation of reality. Truth, particularly in the form of facts and scientific knowledge, is rejected as a hazardous fabrication or as unimportant; what is left is 'post-truth' politics, which is an epistemically dysfunctional kind of discourse that disregards objective facts.

2.3.1 Gaslighting

Post-truth is founded on the conventional strategies of collective gaslighting that weaken the victims' epistemic autonomy, namely by diminishing their trust in their own autonomous epistemic capacities¹¹¹. The goal of gaslighting is to make the victim question their own judgment, perception, and vision of reality, such that they no longer see themselves as a dependable source of judgment and decision. When this occurs, individual's epistemic independence and conscientious is affected, that is, preventing one's faculties to the best of one's capacity to discover the truth¹¹², thus deliberating on what to believe and whom to trust to achieve epistemic autonomy. The latter is essentially dependent on confidence in one's abilities; if it is weakened, epistemic autonomy is compromised through a process of manipulation where the victim gains faith in and/or dependence on the manipulator. Once this is achieved when a manipulator question someone's understanding, the victim tends to question his own beliefs, either because in love with him or because recognize the manipulator superior knowledge. In these situations of blind trust or dependency, the victim may believe it is preferable to trust the person who has highlighted his or her flaws, helping, progressively increasing victim's dependence, and diminishing his autonomy. The primary objective of this emotionally abusive strategy is to exert control over the victim, and the loss of epistemic autonomy of their victims by weakening their self-confidence. Victims rely on the gaslighted and prospective accomplices to select what to believe and whom to trust. Therefore, some ruthless politicians have begun to deploy these strategies to influence as many people as possible and get more votes.

¹¹¹ Abramson K. (2014). 'Turning up the Lights on Gaslighting.' *Philosophical Perspectives* 28, 1–30.

¹¹² Spear A.D. (2019). 'Epistemic Dimensions of Gaslighting: Peer-Disagreement, Self-Trust, and Epistemic Injustice.' *Inquiry*. Published early online. doi: 10.1080/0020174X.2019.1610051

2.3.2 Counternarratives, discrediting of critics, the denial of plain fact.

Riet Dijk¹¹³ identifies 3 categories of post truth politics tactics: Counternarratives, discrediting of critics, and the denial of plain fact. The former refers to fake news, whether plausible or fantastic, that always contradicts the dominant narrative. The presentation of an alternative narrative can contribute not only to deception, but also to public distraction and confusion. All these outcomes are advantageous for the individual or institution negatively reflected by the actual truth. The disseminated narratives were so extreme and frequently contradictory that they did not appear to be intended to persuade, but rather to confuse. Counternarratives frequently contain fallacies and, if repeated often enough by influential people, e.g., politicians, and the media, may lead to false beliefs that, in turn, undermine political consensus based on factual evidence. The contamination of the epistemic environment with falsehoods makes it difficult for agents to have confidence in their epistemic abilities to lead them to the truth. This effectively exploits the phenomenon of echo chambers, as it increases mistrust of outsiders and erodes self-confidence and confidence in experts and institutions. The second category of post-truth rhetoric is critic discrediting. Occasionally, this occurs at the level of the individual, when political opponents, critical journalists, or scientists are dismissed as delusional, paranoid, or envious. In this instance, the criticized individual is the targeted victim of gaslighting, as he may lose faith in both the justification of his criticism and his own motivations. However, it is more common for critics to be discredited as members of a corrupt institution rather than as individuals. In this regard, I recall President Trump's liberal use of the term "fake news" and his assertion that the media is the enemy of the people. This is an obvious attempt to discredit or at least call into question the credibility of a particular newspaper or the entire conventional, mainstream media. In this circumstance, the public is the primary victim. When the authority of specialists is questioned for the incorrect reasons, those who ordinarily rely on their expertise are isolated from knowledge. Most discredited institutions are trusted traditional epistemic authorities. The opportunity may be offered by a case of hypothetical or real case of misinformation or disinformation, questioning the overall work of a medium. When this trust is revealed to be misplaced, the public will begin to question their ability to identify a trustworthy authority. The last and final category is the denial of an obvious

¹¹³ Rietdijk, N. (2021). Post-truth Politics and Collective Gaslighting. *Episteme*, 1-17. doi:10.1017/epi.2021.24

fact. The most egregious cases are those in which a politician denies having said or done something that was recorded a few days earlier. The main purpose of such denial is usually pragmatic: saving face or not having to take responsibility for past statements. More interesting are the cases where what is being denied is a certain interpretation of what was said or done, or the intention behind it. This type of denial is more subtle because it is difficult to prove the meaning behind a message. It is also more dangerous, because it allows politicians to make statements intended to convey a message to supporters, but still ambiguous enough to deny to others that this was in fact the intended message. This more sophisticated denial was also used by Trump supporters who insisted that Trump should be taken "seriously, not literally."¹¹⁴ It is the perfect way to test the most radical ideas or to stir up emotions without taking the corresponding responsibility. The problem with this denial is not only that it is opportunistic and covers socially unacceptable attitudes such as sexism, racism and fascism, or unfortunate mistakes. It is also extremely confusing to the public. When politicians, whom many people admire and trust, contradict themselves so confidently, it is not surprising that the public begins to wonder if they have heard correctly and perhaps concludes that they have misunderstood. As in gaslighting, the listener's epistemic autonomy is undermined through the erosion of his or her self-confidence. This more subtle form of rhetoric is particularly effective because supporters can get what they want from ambiguous communication, while opponents have nothing to hold on to.

2.3.3 post-truth politics and the loss of self-trust

Various negative effects of the post-truth era have been identified so far. False beliefs are the most evident repercussion. Levy ¹¹⁵demonstrates how detrimental disinformation and false news can be. The mere perpetuation of a deceptive narrative is sometimes sufficient to convince people to believe it, even if we are aware that it is false. The emergence of biased tribal epistemologies is the second epistemic issue¹¹⁶. Under the influence of the echo chamber effect, groups of like-minded individuals develop their own epistemic authorities, their own notions about what constitutes

¹¹⁴ Carpenter A. (2018). *Gaslighting America: Why We Love It When Trump Lies to Us*. New York, NY: Harper.

¹¹⁵ Levy N. (2017). 'The Bad News about Fake News.' *Social Epistemology Review and Reply Collective* 6, 20–36.

¹¹⁶ Nguyen C.T. (2020). 'Echo Chambers and Epistemic Bubbles.' *Episteme* 17(2), 141–61.

evidence, and thus their own 'knowledge'. Outsiders are instinctively viewed with suspicion, and vital information is disregarded. Those who equate post-truth with falsehoods identify a concluding epistemological issue¹¹⁷. Kassam defines this as "epistemic insouciance,"¹¹⁸ which is a flippant disregard for whether one's beliefs are grounded or adequately supported by the best evidence available. Not only do they do themselves no favor epistemically, but they also deceive others for their own benefit. The perils of this rhetoric extend beyond issues of knowledge, as it can have grave political repercussions and threaten democracies. Fish¹¹⁹ highlights the significance of informed assent for democratic voting. He argues that the legitimacy of a democratic government's authority stems from its citizens' free will. However, a voter can only genuinely concur if crucial information regarding the candidate or policy they are voting for is not concealed or misrepresented. Fish contends that 'playing quick and careless with the truth' impedes the attitudes and behaviors required for citizens to be adequately informed. He concludes that post-truth politics cannot "provide anything but an illusion of democracy."¹²⁰

¹¹⁷ Davies E. (2017). *Post-Truth: Why We Have Reached Peak Bullshit*. London: Little Brown

¹¹⁸ Cassam Q. (2019). *Vices of the Mind: From the Intellectual to the Political*. Oxford: Oxford University Press.

¹¹⁹ Fish W. (2016). 'Post-Truth' Politics and Illusory Democracy.' *Psychotherapy and Politics International* 14 (3), 211–13.

¹²⁰ IBDEM

Chapter III: democratic threat

Distortion of the truth, distortion of information and manipulation of consensus are direct ways in which political elites undermine democratic values in their societies. Political elites directly undermine democratic values in their societies through citizens and legislators. Democracies, not only in their philosophical essence, but also in their practical application, are based on well-informed and politically educated citizens who define the central issues of their communities, ask their political representatives to resolve them, and monitor the steps their representatives take to meet public requirements¹²¹. In this manner, citizens participate in a variety of ways to make informed voting decisions; however, political representatives must also be well-informed and politically accountable to meet these needs in the best interests of society. Negotiations between citizens and their political representatives take place in the mediated public sphere, where the media serve as a conduit by providing reliable information to both parties to create a space for negotiating potential solutions to identified problems. In this context, the information the public receives, as well as the communications the public transmits and receives from political representatives, are essential for democratic processes in any society, as well as for fostering democratic competence and civic engagement. In this context, the epistemological threats discussed in the preceding chapter also pose a threat to democracies, civic engagement, and effective governance. They imperil the public's right to be well-informed and to discuss social issues based on reliable, high-quality, and accurate information that serves the public interest. Add to this the perilous nature of their dissemination through the epistemic bubbles and echo chambers analyzed in Chapter 1, and members of these groups, who continue to see and hear the same points of view repeatedly, will struggle to understand each other, thereby increasing the segregation of groups that should be able to solve the problems facing society as a whole.

3.1 Polarization

¹²¹ lejla turcilo and mladen obrenovic, a companion to Democracy #3 *Misinformation, Disinformation, Malinformation: Causes, Trends, and Their Influence on Democracy*, A Publication of Heinrich Böll Foundation, August 2020

The average difference in ideology between non-activist Democrats and Republicans in the United States has more than doubled between 1972 and 2004, while the number of ideological moderates has consistently decreased¹²². This is not unique to the United States; it is a phenomenon that is spreading throughout the EU, where people are increasingly congregating in like-minded, often semi-isolated groups that, in many instances, are moving to the political extremes. As Bill Bishop¹²³ notes, "as citizens seek out their preferred social environments, the nation becomes increasingly politically segregated", and they congregate "in communities of like-minded people."¹²⁴, the echo chambers. Ideological polarization is accompanied by a variety of negative effects that pose a threat to the healthy functioning of democratic societies. The lack of diversity in opinions and arguments is the most apparent consequence of polarization. Numerous studies indicate that, in polarized contexts, the benefit that should be derived from a diversity of viewpoints is lost to the special right of virtuous homogeneous groups¹²⁵. Bishop continues to argue that social division is self-perpetuating and self-reinforcing, in which individual opinion is supplanted by groupthink. The crucial point is that these groups, persuaded by the reverberation around them of their own opinions and preconceptions, lose the desire to engage in proactive dialogue with individuals or groups of a different opinion. This not only leads to less constructive public discourse, but also to a society in which people have a predominately positive view of their fellow party members and an extremely negative view of those on the opposite side of the political spectrum¹²⁶. Consequently, people tend to stop battling over ideas, and voting becomes more of a group statement than an expression of individual opinion.

3.1.1 How does polarization occur?

¹²² Abramowitz AI, Saunders KL (2006) *Exploring the bases of partisanship in the American electorate: Social identity vs. ideology*. Political Research Quarterly 59: 175–18

¹²³ Bishop B (2008) *The Big Sort: Why the Clustering of Like-minded America is Tearing Us Apart*. New York: Mariner Books.

¹²⁴ IBIDEM

¹²⁵ Dominic Spohr, August 2017, *Fake news and ideological polarization: Filter bubbles and selective exposure on social media*, <https://journals.sagepub.com/doi/10.1177/0266382117722446>

¹²⁶ Gentzkow M (2016) Polarization in 2016. Stanford University. Available at: <https://web.stanford.edu/~gentzkow/research/PolarizationIn2016.pdf>

Sunstein¹²⁷ identifies three explanations for why social media drives polarization: persuasive arguments and information, reputational considerations, and self-confidence, extremism, and entrenchment. The first explanation emphasizes the role of persuasive arguments and information. It is based on the general assumption that each individual's position on any issue is, at least in part, linked to the argument that appears most persuasive. Rational individuals, in fact, pay attention to various arguments and choose their position based on the most justified and convincing one with the most arguments in its favor. However, if one is involuntarily exposed, through epistemic bubbles, or voluntarily, through echo chambers, to sources of information with only one particular point of view, one will inevitably be led to choose that one. If one is already inclined to choose one position, and the members of my virtual community offer me an exaggerated number of arguments that tend towards that position and very few that tend towards the opposite direction; the result of the discussion will be a further shift in the direction of the initial predisposition. For example, in an echo chamber where members are siding with the incumbent leader, they will provide a wide range of arguments in his support, and find few weak arguments against him, radicalizing the position of the entire community. Underlying the polarization of groups is thus a limited set of arguments tilted in a perilous direction. The second mechanism, reputational considerations, takes its cue from the idea that people wish to enjoy the esteem of other group members as well as themselves. Once the ideas of others have been heard, the individual often revises his or her own positions, adapting them to the dominant one. If people with a different minority viewpoint are concerned about their reputation, they will tend not to express their opinion where there is a majority audience with different ideas. By not exposing themselves, the result is then that their different ideas will not be highlighted in the discussion and group members will become extreme. It is worth remembering in this regard that polarization of groups occurs even by mere exposure to other people's ideas; it is not necessary to be part of the discussion. For example, if a left-wing liberal came across a notoriously right-wing page, he would rarely express his true ideas, because he knows that he would be attacked by the members of the group and would not be held in any esteem. As a result, in the conservative web page, since there is no counterbalance of opposing ideas, polarization of the group will be inevitable. The

¹²⁷ Sunstein, Cass R., 2017. *Republic.com, divided democracy in the age of social media*. Princeton, N.J: Princeton University Press p.93-97

third explanation explores the close links between trust insisted extremism and support from others¹²⁸. On most issues, including political ones, people do not know exactly what their ideas are, and this lack pushes them towards a middle, provisional position. Only as people gain self-confidence do they take more extreme positions. Self-confidence can be increased through the approval of others, which is why like-minded individuals, after debating amongst themselves, become increasingly convinced that they are right, pushing themselves to extremes. Opinions thus become more extreme because the original opinions were corroborated by others, and because people become more self-confident after learning that others think the same way¹²⁹. For example, if one learns that members of one's epistemic community tend to take a certain position on immigration in one's own country, one could easily end up adhering to it, perhaps even confidently. When people realize that others share their initial orientation, they often become more self-confident and express more radical views.

3.1.2 Polarization as absence of debate

Polarization can lead us to believe that there is only one point of view, creating a sense of an "us versus them" mentality. When we become polarized, we tend to view those who disagree with us as enemies and can become defensive and close in on our beliefs¹³⁰. This can make it difficult to consider alternative perspectives, because we see them as a threat to our beliefs, which we are more committed to defending than seeking out newer information or creating constructive dialogue with those with different views¹³¹. Over time, this can reinforce our biases and make it more difficult to see the world from different perspectives, believing that our point of view is the only valid one and that anyone who disagrees with us is wrong or misguided. If individuals are less willing to engage in constructive dialogue and more likely to hold their opinions without considering alternative viewpoints, it creates a limitation to debate. Debate is important in democracy because it allows for the exchange of

¹²⁸ Robert S. Braon, Siegel I. Hoppe, Chuan Feng Kao, Bethany Brunzman, Barbara Linneweh e Diane Rogers, 1996, *Social Corroboration and opinion extremity*, in "journal of experimental social psychology", pp. 157-159

¹²⁹ IBIDEM pp.546-547

¹³⁰ Esteban, J.-M., & Ray, D. (1994). On the Measurement of Polarization. *Econometrica*, 62(4), 819–851.
<https://doi.org/10.2307/2951734>

¹³¹ Lee Ross (2012) REFLECTIONS ON BIASED ASSIMILATION AND BELIEF POLARIZATION, *Critical Review*, 24:2, 233-245, DOI: [10.1080/08913811.2012.711025](https://doi.org/10.1080/08913811.2012.711025)

different opinions and ideas¹³². In a democratic society, people have a variety of beliefs and values, and the ability to express and defend these ideas is essential to ensure that all voices are heard and represented. Through debate, people can engage in constructive dialogue and challenge the assumptions and arguments of others. This helps to refine ideas and develop more nuanced perspectives, leading to more informed and effective decision making¹³³. Discussing different perspectives allows individuals to find common ground and work toward consensus, apart from fostering critical thinking and creativity among citizens. However, if there is a polarized environment in which citizens individuals are unwilling to compromise, debate is stifled, and progress is difficult to achieve. Moreover, polarization as we saw in the previous chapter, often leads to the spread of misinformation, as people are more likely to accept information that confirms their pre-existing beliefs and reject information that contradicts them; fueling further divisions and making it even more difficult to find common ground or engage in productive debate.

3.2 The tyranny of majority

Alexis de Tocqueville (1805/1859) and John Stuart Mill (1806/1863) were two influential political philosophers who dealt with representation in the liberal nineteenth century, specifically the concept of tyranny of the majority. Tocqueville, in his seminal work “Democracy in America”, observed that democracy can lead to tyranny of the majority. He argued that in a democratic society the majority holds significant power and can use it to suppress the rights and freedoms of the minority. Tocqueville believed that the tyranny of the majority could manifest itself in various ways, such as through the imposition of the majority's views, values, and beliefs on the minority, or using legal and political mechanisms to silence dissenting voices. He warned that, if left unchecked, this tyranny could lead to the degradation of democracy itself. Similarly, John Stuart Mill also warned of the potential dangers of the tyranny of the majority. In his book "On Liberty," Mill argued that the majority could use its power to stifle dissenting opinions and limit individual freedom. He believed that individual freedom was essential to a healthy democratic society and that any attempt to suppress

¹³² Jennifer McCoy, *Polarization harms democracy and society*, international Catalan institute for peace

¹³³ IBEM

dissenting voices was an attack on democracy itself. Mill believed that the tyranny of the majority could be mitigated through the protection of individual rights and freedoms and through the cultivation of a culture of tolerance and open debate. Mill and Tocqueville both opine that people need access to a wide or full set of facts and opinions for these forms of freedom to be truly meaningful¹³⁴.

3.2.1 tyranny of perceived opinion, Tocqueville

Tocqueville's analysis of the tyranny of the majority is not to be understood in the traditional sense of the term, a government in which all power is vested in a single sovereign¹³⁵, but in the absence of freedom of thought and expression. The lack of mental autonomy is attributed to the majority's "moral power"¹³⁶ is a mental tyranny, not a physical one, that robs individuals of their individuality. Tocqueville uses the term 'psychic coercion' to describe how the majority coerces everyone into something resembling conformity. The modern tyrant does not execute those who make contentious statements. In contrast, he condemns dissidents to live as expatriates in their own country, to the scorn of fellow citizens, and to be ostracized 'as a filthy individual'¹³⁷; to live in invisibility¹³⁸. Freedom is not limited to permitting me unrestricted movement of my limbs and legs; I must also be able to move, so to speak, my tongue and my intellect. To be free, I must be able to speak and think contrary to popular opinion without fear of social exclusion and severe penalties. A tyranny that 'ignores the body and proceeds directly to the psyche' is no less a menace to liberty than its opposite¹³⁹. In addition to the absence of physical interference, freedom requires the absence of social and psychological interference and dominance, which impede the freedom of spirit and opinion. Social media platforms provide fresh and more effective means of keeping an eye on people's beliefs, behaviors, and connections. While most of the surveillance is conducted for commercial purposes, such as refining advertising strategies, governments and other parties can access, infer,

¹³⁴ Marco Zolli, 11 May 2019, *La rappresentanza nell'Ottocento liberale: Tocqueville e John Stuart Mill*, Treccani https://www.treccani.it/magazine/agenda/articoli/pensieropolitico/rappresentanza_ottocento.html

¹³⁵ Definition by Merriam-Webster

¹³⁶ M.J. Horwitz, Tocqueville and the Tyranny of the Majority, *Rev. Polit.* 28 (3), 1966, 293-307

¹³⁷ De Tocqueville, A. (2003). *Democracy in america* (Vol. 10). Regnery Publishing.

¹³⁸ T. Bucher, want to be on the top? Algorithmic power and the threat of invisibility on facebook, *New Media Soc.* 14 (7) (2012) 1164–1180.

¹³⁹ De Tocqueville, A. (2003). *Democracy in america* (Vol. 10). Regnery Publishing

and sometimes demand individual data and insights. This is evident in authoritarian regimes that employ social media as an instrument of repression, but it also occurs, albeit to a lesser extent, in Western democracies. According to a 2019 report by the Oxford Internet Institute¹⁴⁰, cyber propaganda has been used in 26 countries "to suppress fundamental human rights, discredit political opponents, and suppress dissenting opinions." Using cyber militias and 'troll farms' 'to stifle dissenting voices by accusing them of being "false news" or "enemies of the people"¹⁴¹ is a common tactic. Even in democracies, governments use social media to track individuals and online activities, sometimes for legitimate purposes associated with the provision of effective public services and security, and other times for illegitimate purposes associated with the identification and monitoring of politically active citizens. For instance, technologies have been developed to monitor individuals and organizations online to predict political events following the 2016 presidential election in the United States¹⁴². Due to the chilling effect of surveillance, citizens who expect to be monitored may limit their political expression and online activities out of fear of retaliation. As we saw in the section on polarization, the debilitating effects of social media can be exacerbated by a phenomenon known as the "spiral of silence," which refers to the process by which individuals self-censor when they perceive their opinion is in the minority¹⁴³.

3.2.2 Information and individuality, Mill

Similarly, one of Mill's primary concerns in *On Liberty*¹⁴⁴ was to emphasize the significance of being exposed to new opinions, regardless of whether they contain truths, non-truths, or partial truths. He writes that "there is always hope when people are forced to listen to both sides; when attention is paid to only one side, errors harden into prejudices, and the truth itself ceases to have the effect of truth by being exaggerated into falsehoods"¹⁴⁵. Individuality is essential to Mill because it precludes

¹⁴⁰ S. Bradshaw and P. N. Howard, 'The global disinformation order: 2019 global inventory of organised social media manipulation', Oxford Internet Institute, 2019.

¹⁴¹ P. Pomerantsev, 'Human rights in the age of disinformation', *Unherd*, 2020.

¹⁴² G. Grill, 'Future protest made risky: Examining social media based civil unrest prediction research and products', *Computer Supported Cooperative Work*, 2021.

¹⁴³ M. Büchi, E. Fosch-Villaronga, C. Lutz, A. Tamò-Larrieux, S. Velidi, and S. Viljoen, 'The chilling effects of algorithmic profiling: Mapping the issues', *Computer Law & Security Review*, 36, 2020.

¹⁴⁴ J.S. Mill, *On Liberty*, Penguin Books, London, 1985.

¹⁴⁵ IBEM

subjectivity and communitarian values from developing "hand in hand"¹⁴⁶; it is both a prerequisite and a guarantee of freedom. Individuality requires access to diverse information, the ability to draw inspiration, or the realization that something distinct is possible¹⁴⁷. Similarly, for freedom to be meaningful, there must be alternatives. If a society eliminates all but one option but insists that people are free to choose what they want, freedom loses its significance. A functioning liberal democracy also necessitates that citizens have access to diverse information¹⁴⁸. A broad range of "opinions and options"¹⁴⁹ must be considered to make prudent decisions. Considering the human propensity for selective exposure and the way corporations' program their algorithms to maximize profits, one could argue that in addition to having access to a wide variety of information, one should also aspire for a minimum level of exposure to that information. A lack of exposure to diverse viewpoints can result in conformity and a concomitant reduction in the range of permissible ideas (see the section on polarization in the preceding section), as is the case in echo chambers and epistemic bubbles¹⁵⁰. The algorithm underlying epistemic bubbles can be viewed as partially determining our development and individuality, while removing our ability to consider alternatives and resist the predetermined path. The algorithmic selection of a particular type of content presents and reinforces a limited and distorted worldview for every user. By limiting the diversity of information available to citizens, the personalization of social media can undermine the informational condition of democracy. Without access to differing viewpoints, including those that contradict their own, citizens may not be able to develop to their maximum potential as independent actors. Additionally, personalization can distort citizens' perspectives on public issues. This is exacerbated by the fact that many users do not realize that the online information they receive has been pre-selected by algorithms¹⁵¹. They may erroneously believe that their opinions are broadly shared.

¹⁴⁶ J.E. Cohen, what privacy is for, Harv. Law Rev. 126 (2013) 1904–1933.

¹⁴⁷ C.R. Sunstein, #Republic: Divided Democracy in the Age of Social Media, Princeton University Press, 2018.

¹⁴⁸ B.R. Barber, Three scenarios for the future of technology and strong democracy, Polit. Sci. Q. 113 (4) (1998) 573–589.

¹⁴⁹ E. Bozdag, J. van den Hoven, Breaking the filter bubble: democracy and design, Ethics Inf. Technol. 17 (4) (2015) 249–265.

¹⁵⁰ Henrik Skaug Sætra, November 2019, *The tyranny of perceived opinion: Freedom and information in the era of big data*, Technology in Society, Elsevier, <https://www.sciencedirect.com/science/article/pii/S0160791X19300983>

¹⁵¹ G. Marchetti, 'The Role of Algorithms in the Crisis of Democracy', *Athens Journal of Mediterranean Studies*, 6(3), 2020.

3.3 Illusive democracy

So far, the democratic threats of epistemic bubbles and echo chambers have been analyzed from the perspective of personalization and public consensus: how it leads us to a narrowed worldview calibrated to our already acquired beliefs, and how this may distort citizens' views on public issues by preventing us from seeing alternatives. By repeatedly being exposed to the same ideas, citizens will end up persuading themselves that everyone else thinks similarly, polarizing opinion and increasing conflict rather than debate when it is revealed that someone disagrees with us. These measures can be seen as a side effect of social media, but there are cases, as we saw in chapter two, of disinformation as a deliberate action. This can lead to a distortion of opinions and preferences, as well as electoral outcomes, demonstrating that we live in a sham democracy.

3.3.1 distortion of views and preferences

The spread of false information on social media impedes the ability of citizens to form and express political opinions, as well as the unfettered formulation of public opinion¹⁵². When exposed to disinformation, citizens may form or alter their opinions and political preferences without exercising critical thought based on erroneous information or false perceptions of the opinions of others. During the 2016 U.S. presidential election, it is believed that Russian "trolls" who disseminated fraudulent information reached up to 126 million Facebook users, over 20 million Instagram users, and 1.4 million Twitter users¹⁵³. A 2020 report by the Oxford Internet Institute¹⁵⁴ discovered "evidence of 81 countries' use of social media to spread computational propaganda and disinformation about politics."¹⁵⁵ Foreign governments' interference in other nations is not the only cause of online disinformation. Indeed, threats posed by domestic actors attempting to undermine democracy from within are becoming more apparent, and the distinction between foreign and domestic interference is

¹⁵² Stark and Stegmann, 'Are algorithms a threat to democracy', 2020, p. 32.

¹⁵³ S. McKay, and C. Tenove, 'Disinformation as a threat to deliberative democracy'. *Political Research Quarterly*, 74(3), 2021; D. Ingram, 'Facebook says 126 million Americans may have seen Russia-linked political posts', *Reuters*, 2017.

¹⁵⁴ Bradshaw and Howard, 'The global disinformation order', 2019.

¹⁵⁵ IBEM

becoming increasingly blurred¹⁵⁶. According to the 2019 NATO report on social media and disinformation¹⁵⁷, foreign governments and anti-democratic groups can still interfere with voter decisions and run manipulative social media campaigns at low cost and with relative ease. The conclusion of the 2020 edition of the report is "despite significant improvements by some, none of the five platforms -Facebook, Instagram, Twitter, YouTube, and TikTok- are doing enough to prevent manipulation of their services."¹⁵⁸. As we have observed in epistemic bubbles, some studies have found that "misinformation leverages pre-existing attitudes that are confirmed and reinforced"¹⁵⁹. A study¹⁶⁰ on the effects of disinformation on populist voting in the 2018 Italian elections in the Trentino-Alto Adige region found that "voters self-select into disinformation bubbles and consume fake news because of their previous preference for populist platforms, not vice versa.". In addition, disinformation undermines confidence in democratic institutions by generating "a trail of doubt about whether democratic institutions actually function well in reflecting citizens' choices."¹⁶¹. Even if the actual scope and impact of disinformation is limited, public perceptions of its pervasiveness can affect public trust. A 2021 EU Citizens' Democracy Survey¹⁶² revealed that the majority of Internet-using Europeans (51%) believe they have been exposed to or personally witnessed disinformation online; 45% of Internet users believe they have been exposed to content designed to divide society on a particular issue. An acute perception of disinformation may indicate that citizens are aware of the phenomenon and, as a result, are less likely to be deceived by it; however, this perception may also indicate a general distrust of online information, including accurate information from legitimate sources.

3.3.2 distortion of electoral outcomes

¹⁵⁶ N. Bentzen, Trump's disinformation 'megaphone': Consequences, first lessons and outlook, briefing, European Parliament, EPRS, 2019.

¹⁵⁷ R. Fredheim, and S. Bay, 'How social media companies are failing to combat inauthentic behaviour online', NATO Strategic Communications Centre of Excellence, 2019, p. 19.

¹⁵⁸ R. Fredheim, S. Bay, A. Dek, and I. Dek, 'Social Media Manipulation Report 2020,' NATO Strategic Communications Centre of Excellence, 2020.

¹⁵⁹ Stark and Stegmann, 'Are algorithms a threat to democracy', 2020, p. 37.

¹⁶⁰ M. Cantarella *et al.*, 'Does fake news affect voting behaviour?', 2020, p. 27.

¹⁶¹ Colomina *et al.*, 'The impact of disinformation on democratic processes', 2021, p. 15

¹⁶² Special Eurobarometer 507: Democracy in the EU, report, 2021.

A related worry is that widespread false information may taint elections and skew the outcomes. There are a variety of methods that disinformation can influence elections. First, citizens can be persuaded to alter their policy preferences using fraudulent information or inaccurate perceptions of the opinions of others. Second, disinformation can be used to motivate or dissuade individuals from voting. Some research indicates that ideologically consistent false information "can motivate voters to go to the polls even if it does not change their voting choices" and that "targeted efforts to increase or decrease turnout could be substantial enough to alter the overall election outcomes."¹⁶³ The electoral impact of misinformation may also be contingent on the political system and the election or vote type. In two-party political systems, a small minority of electors are more likely to have a decisive impact on the outcome of an election. Thus, even if disinformation is not broadly disseminated and does not influence many people, it can still alter election outcomes by convincing a small percentage of voters. Facebook's preliminary research indicates that social media messages encouraging people to vote can have a substantial effect on political mobilization. During the 2010 midterm congressional elections, for instance, Facebook posted messages such as "I voted" and "Find your polling place" on the newsfeeds of 61 million U.S. users, which resulted in 270,000 additional ballots per message¹⁶⁴. In a country the scale of the United States, this may be a small change, but it is significant enough to make a difference. Although political mobilization is generally a positive thing, these results demonstrate the significant ability of social media to influence the political behavior of citizens. When employed for less virtuous purposes, this power can be detrimental to democracy. Misinformation has been blamed for the electoral success of populist parties in Europe¹⁶⁵. A study of 2020¹⁶⁶ concentrating on the 2017 German parliamentary elections found that electors who were subjected to misinformation were more inclined to abandon traditional political parties in favor of populist ones. The use of disinformation campaigns to exert undue influence on democratic processes and elections by nondemocratic forces, such as foreign governments, is a further risk. This "weaponization of disinformation"¹⁶⁷ poses

¹⁶³ Aral, *The hype machine*, 2021, p. 35 and 37.

¹⁶⁴ IBEM

¹⁶⁵ Cantarella *et al.*, 'Does fake news affect voting behaviour?', 2020.

¹⁶⁶ F. Zimmermann, and M. Kohring, 'Mistrust, disinforming news, and vote choice: A panel survey on the origins and consequences of believing disinformation in the 2017 German parliamentary election', *Political Communication*, 37(2), 2020.

¹⁶⁷ European Political Strategy Centre, 10 trends shaping democracy in a volatile world, 2019.

a serious threat to democracy. A 2019 report¹⁶⁸ for the U.S. Senate, for instance, discovered that the Russian government supported interference in the 2016 U.S. election as "part of a broader, sophisticated, and ongoing information warfare campaign designed to sow discord in American politics and society." It should be noted that this study and others like it reveal the substantial supply of disinformation but say little about the actual impact of disinformation on voting. Even if misinformation does not significantly distort citizens' opinions or alter election outcomes, the fact that political misinformation disseminated via social media reaches such a large audience may have a greater impact on democracy. Misinformation can erode confidence in democratic institutions, hasten political disengagement, and polarize society by exacerbating "existing sociocultural divisions with nationalistic, ethnic, racial, and religious tensions."¹⁶⁹

3.3.3 Lack of informed consent

All these analyzed forms of manipulation, voluntary and involuntary, undermine the principle of informed consent in democracy. Informed consent is a decision-making process in which all parties involved have access to relevant information and can provide input and express their opinions¹⁷⁰. It involves seeking and considering the views and preferences of all stakeholders before deciding. Faden and Beauchamp¹⁷¹ identify four prerequisites for informed consent:

- (1) Information: politicians must provide citizens with sufficient information to enable them to choose for themselves whether to elect them and the policies they intend to undertake.
- (2) Understanding: citizens must not only have access to sufficient information, but they must also understand it.
- (3) Capacity: Consequently, citizens must have the capacity to understand this information.

¹⁶⁸ US Senate, 'Report on Russian active measures, campaigns and interference in the 2016 U.S. election, volume 2: Russia's use of social media, 2020.

¹⁶⁹ Wardle and Derakhshan, 'Information disorder', 2017, p. 4.

¹⁷⁰ Parth Shah; Imani Thornton; Danielle Turrin; John E. Hipskind, June 11, 2022, informed consent, stat pearls

¹⁷¹ Ruth Faden & Tom L. Beauchamp, *A History and Theory of Informed Consent* (New York: Oxford University Press, 1986).

(4) Voluntariness: Citizens must not be coerced, manipulated, or bribed into making the decision.

Transparency and open communication are necessary for informed consent, so that all parties are aware of the issues, options, and trade-offs involved in the decision. This implies that pertinent information must be shared, and everyone's concerns and opinions must be heard and taken seriously to avoid the tyranny of the majority caused by echo chambers. In such polarized societies, it also requires a willingness to compromise and find common ground, as well as an openness to alternative viewpoints. Consensus is crucial; it is the foundation of a legitimate democratic government. Therefore, if politicians or other interested parties make misleading statements or conceal pertinent information, voters do not meet the condition of being adequately informed, and if voters are deemed insufficiently informed, they cannot consent to a representative or a course of action. Therefore, the attitudes that define post-truth politics will produce circumstances in which what appear to be free consensus choices, such as the marking of options on ballots, do not actually qualify as free choices. Simply put, the appearance of democratic consensus is illusory¹⁷².

¹⁷² Fish, W.C. (2016). "Post-Truth" Politics and Illusory Democracy. *Psychotherapy and Politics International*, 14, 211-213.

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Riassunto:

Il lavoro presentato ha come focus il ruolo degli algoritmi utilizzati nel contesto dei social media, come essi possano rappresentare sia un pericolo epistemologico, e una conseguente minaccia per la democrazia della sfera pubblica.

Il primo capitolo esamina cosa sia un'informazione, intesa come selezione tra un set di possibilità, e come tale selezione sia necessaria, anche da un punto di vista cognitivo: vi sono ogni giorno infinite possibilità di stimoli esterni, ma la nostra attenzione è limitata, e ci consente di elaborarne solo un certo numero; le nostre esperienze socio-culturali, il nostro vissuto, ciò che siamo, costituiscono il filtro per selezionarli. In un circolo più o meno virtuoso, il filtro attraverso cui selezioniamo le informazioni da approfondire, forgia la personale visione del mondo circostante, la cosiddetta *Weltanschauung*.

Nei media tradizionali (televisione, radio, giornali), mediatori di interessi generali, era il singolo a decidere su cosa focalizzare la propria attenzione, ad esempio acquistando un giornale di sinistra piuttosto che di destra. Era, comunque, comune la serendipità, l'occasione di fare una scoperta inaspettata di una notizia o di un'informazione mentre si cerca qualcos'altro, il che comportava apertura verso il nuovo, attraverso meccanismi di dubbio generativo.

Con l'avvento dei New Media, mediatori di interessi specifici, è nata una nuova idea di selezione delle informazioni, quella automatica basata sugli algoritmi. L'origine di questo meccanismo si attribuisce al lancio del *News Feed* di Facebook nel giugno 2016, presentato come *la funzione di selezione personale di 10 cose tra centinaia di alternative*¹⁷³. L'algoritmo del *News Feed* è stato progettato per identificare gli interessi del singolo utente, sulla base delle scelte e delle azioni compiute in precedenza, e si adatta ai suoi gusti e personalità, forgiandole a sua volta.

Questo porta alla creazione di *bolle epistemiche*, termine coniato da Eli Pariser, cioè ad una condizione di isolamento intellettuale determinata dalla selezione operata dagli algoritmi. Questi ultimi “generano un universo distinto di informazioni per ciascuno di noi, che trasforma profondamente il modo in cui sperimentiamo le informazioni online”¹⁷⁴. La *bolla epistemica* è infatti una struttura epistemica sociale con una

¹⁷³ ¹⁷³ Adam Mosser, Building a Better News Feed for You, Facebook Newsroom, 29 June 2016, <https://newsroom.fb.com/news/2016/06/building-a-better-news-feed-for-you/>

¹⁷⁴ Pariser, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press

copertura insufficiente causata dall'esclusione, per omissione, di fonti epistemiche importanti.

L'omissione è dovuta a due fattori chiave: primo, l'inclinazione dell'attore epistemico a cercare i propri simili. Gli scienziati sociali chiamano questo fenomeno *bias di selezione*¹⁷⁵, per cui gli individui tendono a preferirne altri con le stesse idee e valori, e con loro condividono e approfondiscono solo le stesse convinzioni. In concomitanza, si verifica un *bias di conferma*¹⁷⁶: la tendenza a cercare e interpretare le informazioni in modo da confermare le credenze preesistenti, aumentando così la fiducia in se stessi. Questo approccio alla conoscenza, ovviamente, non garantisce l'affidabilità della copertura di informazioni.

In secondo luogo, vi sono procedure esterne, quali la suddetta personalizzazione algoritmica, con cui altri agenti alterano il panorama informativo di un attore epistemico. Molti consumatori non sono, infatti, consapevoli della presenza di filtri algoritmici individualizzati che tracciano, registrano, utilizzano e infine vendono enormi quantità di dati relativi al nostro modo di essere.

I social e i siti di ricerca filtrano gli utenti in base ai loro gusti, attraverso formule algoritmiche. Quando ricerchiamo un'informazione, il motore di ricerca ci propone l'informazione che esso ritiene più affine al nostro pensiero impedendo così l'ampliamento dei punti di vista; ad esempio, se clicco "mi piace" in una pagina di letteratura americana, l'algoritmo mi presenterà sempre pagine simili. "Preferenza" e "convinzioni pregresse" sono parole chiave di come per la selezione delle fonti. Quindi, se in teoria i social media dovrebbero consentire una visione maggiormente poliedrica della realtà, in pratica, realizzano per ognuno di noi una selezione mirata delle informazioni, rafforzando la limitatezza e l'irrigidimento della percezione del mondo.

La ragione alla base della creazione personalizzata algoritmica è essenzialmente di natura economica. Gli algoritmi del *News Feed* aumentano il coinvolgimento degli utenti, il tempo che trascorrono sulle loro piattaforme, ne manipolano i desideri e gli acquisti con input pubblicitari e, di conseguenza, accrescono i guadagni economici. I social possono essere considerati come piattaforme pubblicitarie che consentono agli agenti di incontrarsi e agire come intermediari tra clienti, inserzionisti, fornitori di servizi, produttori, vendendo i dati raccolti dalle azioni online degli utenti, a società

¹⁷⁵ Suez-Trumper, Diego & Castillo, Carlos & Llamas, Mounia. (2013). Social media news communities: Gatekeeping, coverage, and statement bias. International Conference on Information and Knowledge Management, Proceedings.

¹⁷⁶ Why Facts Don't Change Our Minds, By [Elizabeth Kolbert](#) February 19, 2017

terze che li utilizzano per le proprie strategie di marketing. Se scopo di questo meccanismo è raccogliere dati per trarne profitto, allora l'ipotesi della *bolla di filtraggio* sembra adattarsi molto bene a questa dinamica, offrendo ottimi profitti. Non è quindi vero che il nostro abbonamento ai social media è gratuito: lo paghiamo con la nostra attenzione e con la fornitura dei nostri dati personali.

L'algoritmo del *News Feed*, oltre a tracciare le preferenze dei singoli utenti, raggruppa gli utenti con gusti e desideri affini. La tecnica per prevedere le preferenze di un utente in base alle preferenze di altri utenti con gusti simili è chiamata *filtraggio collaborativo*¹⁷⁷. Gli individui con interessi specifici e comuni vengono poi raggruppati, aumentando in modo massiccio le nicchie di mercato. Si verifica così una *omofilia di rete*, dal greco *amore comune*¹⁷⁸, che concettualizza sociologicamente la tendenza degli individui ad associarsi e a legarsi con altre persone con la stessa *Weltanschauung*. Se questo da un lato può facilitare il sostegno sociale e la cooperazione tra individui, dall'altro può anche portare alla segregazione sociale, alla polarizzazione e alla discriminazione, limitando, tramite le *camere d'eco*, l'esposizione a prospettive ed esperienze diverse.

Le *camere d'eco* sono un fenomeno di *amplificazione delle credenziali epistemiche*¹⁷⁹ che tende ad attribuire un valore e una fiducia spesso superiori a quelli reali, a determinate conoscenze e persone della comunità. Nelle *camere d'eco* si verificano svalutazioni nei confronti di conoscenze, individui o fasce sociali non allineati con le convinzioni del proprio gruppo. Per farne parte è necessario un accordo solido su un insieme di credenze ed idee; il che amplifica la sfiducia nei confronti dei media tradizionali e mainstream. Nel corso del tempo, questo crea un ciclo auto-rinforzante di credenze e valori che può portare i membri alla radicalizzazione.

Limitando l'esposizione a prospettive diverse e promuovendo una mentalità "noi contro loro", le *camere d'eco* generano isolamento, sfiducia e conflitti sociali. Questo meccanismo richiama l'indottrinamento delle sette, un processo che insegna agli individui ad interiorizzare un particolare insieme di credenze o di idee senza metterle in discussione¹⁸⁰. Le *camere dell'eco* sono sfere ideologiche dove si consolidano pensieri affini tra loro, refrattari al dissenso, eccessivamente dipendenti da fonti interne di informazioni spesso identificate con un personaggio autorevole, come ad esempio

¹⁷⁷ TechTarget, August 2017, *what is collaborative filtering?*

¹⁷⁸ ¹⁷⁸ De Choudhury, M. (2011). Tie Formation on Twitter: Homophily and Structure of Egocentric Networks. *Scialom/PASSAT*, 465–470

¹⁷⁹ Nguyen, C. (2020). ECHO CHAMBERS AND EPISTEMIC BUBBLES. *Episteme*, 17(2), 141-161. doi:10.1017/epi.2018.32

¹⁸⁰ Ibidem

un leader politico. Questo processo può facilitare la propagazione di teorie cospirative e mettere in discussione anche la stabilità sociale.

Il capitolo II analizza come sia le *bolle epistemiche* che le *camere d'eco* rappresentino una minaccia epistemologica, in quanto fonte di ignoranza attiva. L'ignoranza attiva si riferisce alla scelta di ignorare deliberatamente determinate informazioni o conoscenze al fine di convalidare le proprie convinzioni¹⁸¹. Contrariamente all'ignoranza passiva, in cui le persone semplicemente non sono a conoscenza di qualcosa, l'ignoranza attiva implica un'azione consapevole.

L'esposizione a una varietà di fonti è una delle pietre miliari dell'epistemologia, la base del sapere. È essenziale esporre gli agenti epistemici a una gamma variegata di informazioni rilevanti, dandogli gli strumenti per riconoscere i limiti della propria conoscenza. Affrontando le controprove e le argomentazioni contraddittorie alle proprie idee, gli agenti epistemici sono spinti a verificare ulteriormente le loro credenze e, alla fine, ad arrivare alla "verità" in modo più efficace¹⁸². Come nella ricerca socratica, il dialogo è il lo strumento attraverso cui ricercare la verità: nel dialogo, infatti, si dissolvono le certezze dell'interlocutore che, riconoscendo di non sapere, guarda dentro se stesso e cerca insieme agli altri la verità. Si tratta di un impegno costante in quanto la verità, intesa come conoscenza, è un processo continuo, non si trasmette ma la si genera dentro di sé.

Questo è esattamente ciò che le *bolle di filtraggio* e le *camere d'eco* non consentono di fare: confinano le idee e la prospettiva individuale. Coloro che sono bloccati in *bolle epistemologiche* o *camere d'eco* possono avere un numero limitato di credenze valide, ma rifiutando gli input epistemici esterni, il loro corpus di conoscenze ristagnerà. Ci troviamo da una parte esposti al rischio di sovraccarico informativo, dall'altro al rischio che ognuno viva in una propria bolla di preferenze/convinzioni con il rischio di scambiare la dimensione 'online' per realtà¹⁸³.

Minacce epistemologiche concrete sono le *Fake News*, informazioni false o fuorvianti presentate come se fossero notizie reali, che possono minare la nostra comprensione della realtà¹⁸⁴. Imitando le notizie reali, possono indurre la gente a dubitare della veridicità di tutte le informazioni, rendendo più difficile distinguere tra ciò che è autentico e ciò che non lo è.

¹⁸¹ Santos, Breno R. G. (2021). Echo Chambers, Ignorance and Domination. *Social Epistemology* 35 (2):109-119.

¹⁸² Mill J.S. (1956). *On Liberty*. (C.V. Shields, ed.). Indianapolis, IN: Bobbs-Merrill Educational Publishing.

¹⁸³ Parise, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press

¹⁸⁴ E. C. Tandoc, Z. W. Lim, and R. Ling, "Defining 'Fake News': A Typology of Scholarly Definitions," *Digital Journalism*, vol. 6, no. 2, pp. 137–153, 2018,

Chi è esposto a informazioni provenienti da fonti discutibili può perdere fiducia nelle fonti attendibili, come le quelle scientifiche. Nei media tradizionali le fonti erano limitate e centralizzate, con un limitato numero di esperti a parlare; ma con l'avvento dei New Media la distribuzione delle informazioni è stata decentralizzata, e chiunque può esprimersi liberamente diffondendo informazioni, vere o false che siano.

Le *Fake News* si dividono in due macrocategorie: misinformazione e disinformazione, differenti tra loro per l'intenzione che sta alla base della diffusione di informazioni false: nel primo caso volontaria nel secondo involontaria.

Per disinformazione si intende la trasmissione accidentale di informazioni errate, parziali o sbagliate; misinformazione si riferisce a informazioni imprecise o fuorvianti diffuse intenzionalmente con l'obiettivo di influenzare persone ed eventi. Le motivazioni che spingono a questo comportamento possono essere di “tre fattori distinti: fare soldi, avere un'influenza politica, sia estera che nazionale, o causare problemi per il gusto di farlo”¹⁸⁵.

Per influenzare la politica alcuni individui o organizzazioni possono creare e diffondere fake news per promuovere una particolare agenda politica e screditare il candidato avversario, come è avvenuto nel caso delle elezioni presidenziali statunitensi del 2016, in cui il candidato repubblicano Donald Trump ha pagato circa 6,2 milioni di dollari alla società di consulenza politica Cambridge Analytica¹⁸⁶.

Le fake news tendono a diffondersi così velocemente perché le persone tendono a dare più valore alle informazioni sorprendenti e non convenzionali, che vanno oltre le loro aspettative e che generano una risposta emotiva intensa. Quando ci si imbatte in esse nel nostro cervello si attiva l'amigdala, responsabile dell'elaborazione di emozioni come la paura e l'eccitazione; che innesca un forte interesse e coinvolgimento¹⁸⁷.

Quando gli individui sono ripetutamente esposti a informazioni false, possono iniziare a dubitare dell'accuratezza di qualsiasi informazione presentata loro, comprese quelle basate su prove scientifiche creando così un ambiente di *Post Verità*. Quest'ultima denota *circostanze in cui i fatti oggettivi sono meno influenti nel formare l'opinione pubblica rispetto agli appelli alle emozioni e alle convinzioni personali*¹⁸⁸. La post-verità si basa sulle strategie convenzionali di *gaslighting* collettivo che indeboliscono

¹⁸⁵ Wardle, Claire (2019b). “Understanding Information Disorder”, First Draft. <https://firstdraftnews.org/latest/information-disorder-the-techniques-we-saw-in-2016-have-evolved/>

¹⁸⁶ [Matthew Rosenberg, Nicholas Confessore](https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html) and Carole Cadwalladr, March 17, 2018, *How Trump Consultants Exploited the Facebook Data of Millions*, the New York times, <https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html>

¹⁸⁷ Harper, L., Herbst, K. W., Bagli, D., Kaefer, M., Beckers, G. M. A., Fossum, M., Kalfa, N., & ESPU research committee (2020). The battle between fake news and science. *Journal of pediatric urology*, 16(1), 114–115. <https://doi.org/10.1016/j.jpuro.2019.12.004>

¹⁸⁸ ¹⁸⁸ BBC, 16 November 2016, 'post-truth' declared word of the year by Oxford Dictionaries <https://www.bbc.com/news/uk-37995600>.

l'autonomia epistemica delle vittime, in particolare diminuendo la loro fiducia nelle proprie capacità epistemiche autonome. L'obiettivo del *gaslighting* è far sì che la vittima metta in discussione il proprio giudizio, la propria percezione e la propria visione della realtà, in modo tale che non si percepisca più come fonte affidabile di giudizio e decisione. Sotto l'influenza dell'effetto *camera d'eco*, le convinzioni, pur basate su evidenze scientifiche, dei non membri vengono viste con sospetto e ignorate mentre quelle dei membri vengono accettate con una disinvolta noncuranza a prescindere che siano fondate o adeguatamente supportate da prove scientifiche. Un recente esempio di quanto sostenuto risale al periodo della pandemia del Covid-19, quando chiunque poteva diffondere opinioni personali fuorvianti rispetto alle poche certezze scientifiche; il che ha determinato instabilità e paura, nonché il consolidarsi di camere d'eco, come quella dei 'no vax'.

La distorsione della verità, delle informazioni, e la manipolazione del consenso sono strumenti diretti con cui vengono minati i valori democratici, come viene esplorato nel capitolo III. Le democrazie presuppongono cittadini ben informati, consapevoli di diritti e doveri, politicamente istruiti, in grado di scegliere i loro rappresentanti politici, anche essi informati e politicamente responsabili.

Nel contesto attuale, invece, le minacce epistemologiche, espone nel capitolo II, mettono a repentaglio il diritto dei popoli ad essere correttamente informati per poter valutare questioni sociali sulla base di informazioni affidabili e accurate. I membri delle *camere d'eco*, continuando a consolidare ognuno i propri punti di vista, faticeranno a capirsi tra loro, aumentando così la segregazione tra gruppi sociali polarizzati su posizioni divergenti e conflittuali tra di loro, e perdendo di vista, in definitiva, il bene comune.

Se gli individui sono meno disposti a confrontarsi in un dialogo costruttivo, senza considerare punti di vista alternativi, si crea una limitazione al dibattito, fondamentale in democrazia perché consente lo il dialogo tra posizioni diverse. Discutere con prospettive differenti consente, inoltre, agli individui di trovare un terreno comune e di lavorare per raggiungere il consenso, oltre a promuovere il pensiero critico e la creatività dei cittadini. A tal proposito si può citare il pensiero del filosofo politico liberale John Stuart Mill sulla *tirannia della maggioranza*; Mill sottolinea l'importanza di essere esposti ad una molteplicità di opinioni e informazioni, per poter essere veramente liberi di scegliere.

Se l'informazione diventa univoca ma si continua a credere di vivere una società democratica, la libertà perde il suo significato. La selezione algoritmica di specifici contenuti rafforza una visione del mondo limitata e distorta, il che mina alla base la democrazia.

Se si aggiunge anche il ruolo delle Fake News si può vedere nel concreto come ciò possa condizionare, manipolare, perfino le cosiddette “libere elezioni”. I cittadini possono essere condizionati a modificare le loro scelte politiche attraverso informazioni fraudolente o imprecise sulle opinioni e le vite dei candidati alle elezioni. Ad esempio, durante la campagna della Brexit nel 2016, uno dei punti chiave dei sostenitori, che è stato determinante per la riuscita, era il presunto pagamento di 350 milioni di sterline ogni settimana per finanziare l'Unione Europea¹⁸⁹; che è stato scoperto essere una fake news il giorno seguente alle elezioni.

Inoltre, la disinformazione è stata individuata come causa del successo elettorale dei partiti populistici in Europa. Uno studio del 2020¹⁹⁰ ha rilevato che gli elettori sottoposti a disinformazione erano più inclini ad abbandonare i partiti politici tradizionali a favore di quelli populistici, erodendo la fiducia nelle istituzioni democratiche.

Per concludere, alla base della democrazia vi è il consenso informato, processo decisionale in cui tutte le parti coinvolte hanno accesso alle informazioni pertinenti e possono esprimere le proprie opinioni. Se però ciò non avviene perché si è intrappolati in una *bolla epistemica* o in una *camera d'eco*, il consenso democratico diventa illusorio.

¹⁸⁹ Jon Henley, 10 Jun 2016, Why Vote Leave's £350m weekly EU cost claim is wrong, the guardian <https://www.theguardian.com/politics/reality-check/2016/may/23/does-the-eu-really-cost-the-uk-350m-a-week>

¹⁹⁰ F. Zimmermann, and M. Kohring, 'Mistrust, disinforming news, and vote choice: A panel survey on the origins and consequences of believing disinformation in the 2017 German parliamentary election', *Political Communication*, 37(2), 2020.