

‘Fake News’ is the Invention of a Liar

How False Information Circulates within the Hybrid News System

Abstract

Alarmed by the oversimplifications related to the ‘fake news’ buzzword, researchers have started to unpack the concept, defining diverse types and forms of misleading news. Most of the existing works in the area consider crucial the intent of the content creator in order to differentiate among different types of problematic information. This paper argues for a change of perspective that, by leveraging on the conceptual framework of sociocybernetics, shifts from exclusive attention to creators of misleading information to a broader approach that focuses on propagators and, as a result, on the dynamics of the propagation processes. The analytical implications of this perspective are discussed at a micro level (criteria to judge the falsehood of news and to decide to spread it), at the meso level (four possible relations between individual judgments and decisions), and at a macro level (global circulation cascades). We apply this theoretical gaze to analyze ‘fake news’ stories that challenge existing models.

Keywords: fake news, misinformation, hybrid media system, social media, sociocybernetics

Introduction

In the past couple of years, the debate concerning the so-called 'fake news' has prominently surfaced on news and politicians' speeches around the world. This catchy but fuzzy tag (European Commission, 2018) has mainly been used to describe misleading content disseminating across social media, but it has also been invoked by political actors to discredit some news organizations' critical reporting (Tandoc et al., 2017; Caplan et al., 2018).

Alarmed by the simplification related to this buzzword, researchers have started to unpack the concept, defining diverse types of 'fake news' (Allcott & Gentzkow, 2017; Jack, 2017; Marwick & Lewis, 2017; Warde, 2017) in order to understand implications and solutions.

In common with classic studies on misleading information dealing with rumors, propaganda, and conspiracy theories (Allport & Postman, 1947; Lasswell, 1927; Sunstein & Vermeule, 2009), these most recent attempts to define 'fake news' seek to differentiate between specific forms of the phenomenon with reference to the source's intent to deceive (disinformation) versus the honest mistakes, negligence, or unconscious biases (misinformation) (Fallis, 2015; Floridi, 2011). In other words, the act of creating and injecting 'fake news' in the system is a defining moment for most classic and contemporary studies.

In this paper, we suggest a radical change of perspective. Such change is driven by deep transformations characterizing contemporary news systems, wherein older and newer media actors – with different degrees of potential reach, epistemological authority, and skills of media manipulation – operate on the basis of overlapping and competing media logics. In this 'hybrid news system' (Chadwick, 2013), judgements with regard to the falsehood and motivations of propagators (the actors who share the fake news) can easily be different from the motivations of the original creator. Such patterns mean that what happens after the

‘generative act’ of a piece of false news is crucial to the study of real-world cases. The radical change of perspective required by the hybrid news system thus consists of a shift from exclusive attention to producers of ‘fake news’ to a broader approach that also focuses on propagators and, as a result, on the dynamic and diverse processes that characterize the dissemination of problematic information through multiple chains of propagation.

On a theoretical level, our proposal is informed by the conceptual framework of sociocybernetics with specific reference to ‘second-order cybernetics’. According to this approach – originally developed by von Foerster, whose aphorism (‘Truth: The invention of a liar’) has inspired the title of this paper – information is not something that can be transmitted, stored, or retrieved in itself; it only exists ‘when looked upon by a human mind’ (von Foerster, 2003). Following what von Foerster said about truth, the title of this paper retains and twists the double meaning of its original inspiration insofar it not only indicates simply and obviously that a piece of false information is invented by a liar. It also intrinsically turns its pronouncer into a liar, i.e. someone who indirectly claims to speak the truth by asserting that something is false. In this sense, the term ‘fake news’ is inherently divisive and detrimental to healthy debates.

Information is an eminently social process: It is ‘a difference that makes a difference’ for an observer (Bateson, 1972). What is informative for one observer can be uninformative for another observer. Interests, backgrounds, previous knowledge, and biases matter both at the level of ‘recognizing’ (paying attention to a source) and ‘making’ (inducing some sort of change in the receiver, e.g. propagating a certain content) the difference.

We contend that, in the hybrid media system, each ‘fake news’ cycle can only be studied as a unique process that emerges from multiple combinations of judgements on the falsehood of

the news. Such judgements are made by all the diverse actors who decide to inject and share it, following logics that are related to their perception of the source of the story itself, and of the context.

In order to describe our analytical model of problematic information, in the next section we trace back the notion of 'fake news' to classic and contemporary studies on disinformation and misinformation, highlighting what we consider the weaknesses of these analytical definitions, that is, their sole focus on the initial step of the process – when someone introduces false information into the system. We then briefly describe the literature that has informed our definition of the contemporary media context in terms of hybrid news system and the radical change in perspective that it requires, that is, analytical attention to both the generative acts of 'fake news' and to what happens in the processes of circulation. We thereafter consider this innovative perspective's roots and its focus on the observer's judgements regarding informativeness. Next, we discuss the deep consequences of this theoretical gaze on a micro, meso and macro level analysis of real-world 'fake news' news stories.

The longstanding effort to define false information

Even if the notion of 'fake news' has been popularized only recently, the dangerous implications of unverified, inaccurate, defective, and false information has been extensively studied by a diverse set of academic literature since the early 20th Century.

Scholars working in the field of the philosophy of information have differentiated between disinformation and misinformation on the basis of the source's intent to deceive (Floridi, 1996). The concept of 'disinformation' refers to misleading information deliberately aimed at

deceiving others, while 'misinformation' implies false or inaccurate information circulating as a result of honest mistakes, negligence, or unconscious biases (Fallis, 2015).

This conceptual distinction has been highly successful within and beyond the philosophy of information (Habermas, 1962; Jack, 2017). There is, however, a lack of agreement regarding the diverse types of misleading information that fall under these two concepts of disinformation and misinformation, for example, satire, parody, and even bullshit.

In the cases of satire and parody, in particular, the source intentionally produces misleading content, yet the intent is not to mislead, and the source does not benefit from being misleading (Fallis, 2015). Nevertheless recent studies have included (news) satire (content that exaggerates facts to convey a critic) and (news) parody (non-factual information produced to inject humor) among the forms of problematic information that can fool both large publics and influence intermediaries of information (Jack, 2017; Warde, 2017). Another type of misleading information that slips away from the classic distinction between disinformation and misinformation is what Frankfurt and Bischoff (2005) defined as 'bullshit', wherein the source does not care if what he/she says is true or false but only aims to persuade or to provoke a reaction.

Among the various types of problematic information, rumor has received the most systematic academic attention (Allport & Postman, 1947; Rojecki & Meraz, 2014). Rumors are forms of information that are characterized by uncertain veracity and that can be later proven false.

The credibility of rumors is unrelated to direct evidence but to the fact that other people seem to believe them. Rumors are often at the origin of conspiracy theories, which are explanations for events through the causal agency of a group of individuals acting in secret (Keeley, 1999).

If we had to describe conspiracy theories using the distinction between disinformation and

misinformation, one could say that conspiracy theories are a form of disinformation since these theories can often easily be proven false, and it is no accident that the information is misleading (Fallis, 2015). At the same time, conspiracy theories could be identified as misinformation since some supporters of these theories are entirely sincere and believe them to be true (Sunstein & Vermeule, 2009).

Another type of problematic information that has received considerable attention from researchers is propaganda. Studies on propaganda can be traced back to Lasswell (1927), who explained how manipulated significant symbols can manage collective attitudes, promoting a particular political side or perspective. The study of propaganda is obtaining renewed interest due to the increasing skills of media manipulation that have enriched online propaganda tactics, with the development of bots (Albright, 2016), which gives the impression that many people are liking a piece of misleading news.

Another form of disinformation that is garnering renewed academic interest is deceptive advertising, particularly advertising materials that simulate the formats of legacy news media to confer more legitimacy to a one-sided article or website, with the aim of obtaining financial gain or a positive public perception (Allcott & Gentzkow, 2017; Tandoc et al., 2017; Warde, 2017). Other types of problematic information related to new digital techniques are doctored and manipulated photos/videos (Farid, 2009), which may have no factual basis or may be factual but misappropriated. Contemporary media cultures also challenge the definition of the motivations that drive problematic information in contemporary media environments: Internet trolls (Phillips, 2015; Marwick & Lewis, 2017), for example, may deliberately create misleading content for fun, with the aim of provoking outrage or fooling their audience.

While helpful, most of these concepts and typologies of misleading information focus on the act of creation as the defining moment, looking at the author's judgement with regard to the falsehood and distinguishing between his/her intentions (to deceive, convey a critique, inject humor, persuade, reduce uncertainty, give an impression of events, make money, promote a particular political perspective/product, have fun).

We argue that this focus represents a limit for the study of problematic information in the contemporary media environment, in which the diffusion of news depends on the multiple actors involved in the process of newsmaking and news sharing.

False information in the hybrid news system

Information cycles of the 21st Century are characterized by a multitude of highly interdependent media technologies, in which numerous media actors follow newer and older, overlapping and competing media logics, producing news and other products with a news format (Chadwick, 2009; 2013). According to this vision, multiple and integrated platforms have rendered the process of newsmaking more inclusive, blurring the last century's boundaries between professional journalism and user-generated content as well as affecting the norms and values that guide journalists' practices in the (mixed) genres of journalistic information and the organization of newsrooms (Hermida & Thurman, 2008; Tandoc, 2014).

In the hybrid media system, a plethora of actors – such as bots (Albright, 2016) – participate in the production and dissemination of both journalists' ratified news and a wide range of other products that take on a news format. As boyd (2017) wrote, contemporary publics are increasingly able to 'hack the attention economy'.

These multiple actors, all involved in the hybrid processes of newsmaking and news sharing, require a radical shift in the study of misleading information, from exclusive focus on the first step of the process (the creation of news) to also considering what happens after this generative act. Judgements regarding the falsehood of news and motivations to share it can easily be different from those of the authors. We trace this shift of perspective back to second-order cybernetics.

Second-order cybernetics and ‘fake news’

As anticipated by the review of the literature, most of the existing works emphasize that judgements on the level of facticity of online content is deeply interlinked with assessments regarding the intentions of the content creator. Understanding the intent of the creator of ‘fake news’ is thus considered a crucial indicator for differentiating among different types of problematic information. Nevertheless, several recent works recognize the difficulties in clearly assessing such intent (Jack, 2017). Even employing the state-of-the-art techniques of digital investigative journalism, the cues left by these actors are often inadequate for clearly differentiating between honest mistakes, deliberate deception, and satire. This phenomenon is often referred to as ‘Poe’s Law’ (Aikin, 2013). Furthermore, certain actors (e.g. trolls) deliberately sow confusion about their real intentions by framing as satire their false and/or outrageous content (Marwick & Lewis, 2017).

No matter how difficult this assessment, billions of actors of the hybrid media news system are called upon every day, often multiple times a day, to quickly make such judgements on the online content to which they are exposed.

Many experts both inside and outside academia are working to make this judgement process easier and less prone to error (Caplan et al., 2018). While recognizing the importance of these

efforts, we take a different perspective, a perspective that includes at its core the possibility that misjudgments occur: a second-order perspective.

By second-order perspective, we specifically refer to the work carried out by an interdisciplinary group of scientists (Norbert Wiener, Claude Shannon, and Warren McCulloch, to name just a few) in the United States following the Second World War and developed under the program title of 'second-order cybernetics' by a team led by Heinz von Foerster, an Austrian-American scientist combining physics and epistemology, at the Biological Computer Laboratory of the University of Illinois at Urbana-Champaign (Heims, 1991). Second-order cybernetics postulates that a system comes 'into being' when an observer acts to 'draw its boundaries' (von Foerster, 2003).

Once applied to media and communication, this approach suggests shifting attention from the source (the content creator) to the observer of the source (those who are exposed to this content). According to von Foerster (2003), a source in itself is rarely important unless someone pays attention to it. In a certain sense, sources only 'come into being' when an observer recognizes them as sources.

According to Gregory Bateson (1972), an anthropologist who met von Foerster and Shannon multiple times during the Macy Conferences (Heims, 1991), information is in fact 'a difference that makes a difference'. Bateson's definition of information underlines the crucial role played by the expectations of the receiver/observer. From this perspective, information is not something that can be transmitted, stored, or retrieved; it exists only 'when looked upon by a human mind' (von Foerster, 2003). What is informative for one observer may be uninformative for another observer. The observer's interests, background, previous knowledge, and biases matter both at the level of 'recognizing' (paying attention to a source)

and ‘making’ (inducing some sort of change in the receiver, e.g. propagating a certain content) the difference.

While the intent of the content creator (first-order perspective) is often difficult to assess, the observers exposed to certain content (second-order perspective) formulate their best guess regarding both facticity and creator’s intent. These judgements affect – on different scales, depending on the observer’s position in the system and number of connections to the actors – the entire process. On this basis, the observer defines the subsequent course of actions (e.g. decides to further share a content).

By extension, a researcher analyzing the way an information cycle unravels from an external perspective is a third-order observer. Researchers attempt to assess the intentions and goals of both first-order and second-order observers: they try to guess the intention and goals of the initiators of an information cycles, as well as the motivations of those who take part in it. At the same time, researchers also define a case of online spread of information as ‘fake news’, which thus represents the actual starting point of the analytical process.

Given the multiple levels of observations at stake, our perspective is constructivist but not relativistic. All observers, including a researcher potentially studying the process, tend to judge the truthfulness of content from their unavoidably limited perspectives. Different actors are differently equipped to support this judgement process. Nevertheless, even professional subjects and organizations sometimes misjudge. These perspectives are different but not equal. For this reason, we introduce the distinction between ‘true’/‘false’ (with lower case first letters) according to the perspective of the actors involved in the process and ‘True’/‘False’ (with capitalized first letters) according to an external perspective, such as that of the researcher using the model.

By the same token, a propagator is an actor of the hybrid media system (e.g. a journalist, news organization, citizen, politician, troll, fake accounts, bot) who is exposed to False information (created/shared by a creator or previous propagator) and, for numerous possible reasons, decides to share it further (thereby creating propagation). It may be the case that the propagator is exercising bad judgement (believing to be true what is in fact False), or it may be the case that she/he correctly judged the information as false and deliberately decides to share it to deceive others.

In other terms, echoing Bateson's extension of Shannon's information theory (Shannon & Weaver, 1949), we suggest adopting a second-order perspective to shift attention from the source – as an entity with its own static properties (motivations, biases, drivers) – to the observer who consumes content originally published by the source and makes a judgement about its properties. We argue that, however right or wrong this judgement may be, the descriptions made by these observers shape the process of misleading information as a complex phenomenon emerging from the interplay of a multitude of actors in the hybrid news system. From this perspective, a False information cycle is rarely reducible to a single typology. A news article clearly fabricated with the aim of exploiting the logic of online advertising (and thus produced as disinformation) may become a must-read article within a community of like-minded believers of certain conspiracy theories and shared as a legitimate piece of news (misinformation).

The implications of this radical change of perspective are presented and discussed in the next sections dedicated to the micro, meso, and macro levels of our analytical model. By employing such terminology and analytical approach we address the call to precision that Turner (2006) has recommended to sociologists by inviting them to develop theories aimed at

explaining social phenomena by paying attention to relationships between forces operating at different levels of the social universe.

Understanding False information cycles: a three level interpretation

Multiple cycles of information constantly populate hybrid news systems. They result from the activity of various actors who produce and share information with small and large audiences that might or might not decide to actively contribute to their further circulation. Each of these cycles is grounded upon cascades of judgements (whether or not to believe a piece of information) and decisions (whether or not to share a piece of content). These actions are taken, with very different levels of sophistication, by diverse individuals, groups, and organizations.

Despite being guided by different logics, ethical concerns, and skills, all the different actors populating these systems, we argue, ground their judgements and their decisions upon similar principles. In the following sections, we discuss the dissemination of False information within the hybrid media system by focusing on three different levels: a micro level consisting of the bases on which subjects judge the truthfulness of the information with which they engage, a meso level consisting of the matrix of expectations between actors and content at each propagation of False information, and a macro level consisting of the broad and heterogeneous process emerging from a chain of False news propagation. While these three levels of analysis are presented, for the sake of clarity, as a bottom-up structure, it is worth to underline that both the meso and the macro level are emergent phenomena.

Believe it or not: this information is (not) true

First, we focus on how single actors process information. False information is potentially an extremely 'informative' (and thereby effective) form of information (Karlova & Fisher,

2013), as unexpected novelty is a defining characteristic of information (Shannon & Weaver, 1949). Focusing on the 'informativeness' of False information allows us to employ journalism studies and literature on information sharing within digital environments to also discuss how the multiple actors of the hybrid media system make judgements and take decisions when exposed to False information.

All individuals and institutions inhabiting hybrid news systems evaluate the truthfulness of the information they manage on the basis of factors regarding: (a) the source, (b) the story, and (c) the context (see Wathen & Burkell, 2002 for a similar taxonomy).

According to literature on digital information ecologies, two elements influence individuals in their assessments of a piece of information's truthfulness on the basis of its sources: authority (Clark & Slotta, 2000; Rieh, 2002) and proximity (Meyer, 1994). Given that the credibility of established institutions has plummeted over the past decades (Peters & Broersma, 2013), multiple scales of authority have emerged on which the status of 'influencers' is granted on the basis of the attention received from a very specific community (Tufekci, 2013; Marwick & boyd, 2011). When authority becomes strictly contextual, it is much more complicated for individuals to adopt such parameters to assess the trustworthiness of the original source of a piece of news. In this context, the (social or ideological) proximity characterizing our relationship with the node in our digital network endorsing a piece of information to which we are exposed becomes much more important than its original source (Messing & Westwood, 2014). Authority and proximity thus overlap almost completely, with the result that the source's expertise – a key element of authority - loses its centrality in how individuals evaluate the trustworthiness of a piece of information. Classic literature on newsmaking has shown that a source's capital of authority influences the credit granted to

that information by journalists as well (Gans, 1979; Tuchman, 1978). Such patterns privilege institutional sources over other types of sources since institutional authority is considered a by-product of the position of power the institution occupies within society. Digital and especially social media have offered institutional and political actors the opportunity for an uninterrupted flow of communication, within which False information can be strategically disseminated, exploiting some of the affordances of these platforms. Just as with everyday citizens, journalists' proximity is likewise indicative of a source's credibility (Gans, 1979): A frequently 'encountered' source becomes familiar and is thus more likely to be trusted. Within contemporary media ecologies, it becomes much easier for journalists to constantly engage with multiple potential sources of news through digital media, allowing them to become proximate with an increasingly diverse range of sources, including non-elite and even anonymous users.

A second crucial element orienting individuals and media institutions in their evaluations of the truthfulness of a piece of information is its content. Social psychology literature has stressed that people tend to believe true stories that are coherent with their vision of the world and are relevant to them, terming such processes 'confirmation bias' (Nickerson, 1998). Two opposing patterns characterizing news consumption on social media (i.e. high selectivity (Prior, 2013) and incidental exposure (Fletcher & Nielsen, 2017) both interact with confirmation bias in affecting judgements of truthfulness. Since users craft their information networks on the basis of commonalities related to specific interests and visions, tribalism can emerge (Sunstein, 2017), with in-group members judging content truthfulness on the basis of its capacity to reinforce community bonds. At the same time, since social media are 'news-finds-me' environments (Gil de Zúñiga et al., 2017), they can expose users to highly conflicting information, with confirmation bias becoming the most important principle

orienting the way in which information is processed (Zollo et al., 2017). Despite professional standards, congruence (with their own or their audience's vision of the world as well as with the editorial line of their company) and relevance (for the public debate at a given moment) can also be regarded as key to the process through which journalists and news organizations evaluate a story's newsworthiness (Golding & Elliott, 1979).

Finally, contextual factors influence people and institutions in their assessments of the truthfulness of a piece of information. Here we refer to the situation within which information is processed. The informational exuberance (Chadwick, 2009) characterizing contemporary information ecosystems can result in what has been described as 'information overload' (Austin et al., 2012), a condition in which content is very difficult to process, negatively impacting the benefits individuals derive from it. The result is a limited attention (boyd, 2010) to processing information, potentially influencing how individuals assess truthfulness. Contextual factors also impact the ways in which professional actors process information and assess its truthfulness. When an extremely relevant story unexpectedly breaks out, professional actors can experience an information overload due to the highly augmented density of information flowing online. In this manner, as it has been described both in literature and in journalistic accounts (Schifferes et al., 2014), inaccurate or even fabricated information produced and shared by known and unknown sources passes professional newsmaker gatekeepers. The resulting practice has been described by Bruno (2011) as 'tweet first, verify later'.

Sharing is caring (for truth)?

Multiple judgements (true/false) on the information circulating within the system and sharing decisions place actors in relationships with one another and with information content,

generating multiple and multifaceted chains of propagation. We will discuss the possible structures of these chains as a whole in the next section; we focus here on the links in the chain, i.e. the individual propagations or the meso level of our analytical framework.

At this level, the observer-dependent perspective introduced above becomes relevant. Since we aim to consider multiple, and frequently conflicting, judgements regarding the truthfulness of information produced and/or shared, recognizing the unavoidable subjectivity characterizing the whole process – including the process of the researcher studying the cycle – is very important. Indeed, it is the observer's perspective that draws the boundary of the system by determining that we are dealing with a cascade of propagations of False content (here, as we have already explained above, the capitalized first letter distinguishes the outcome of the researcher's judgement from the outcomes of the propagators' judgement).

Starting from these premises, the possible combinations of the judgement of the original author of the False information (injector) and the judgements of further propagators and between various propagators when the circulation cascade is activated generates a matrix of four possible scenarios (Table 1).

	PROPAGATOR	
INJECTOR/PROPAGATOR	judges as "false"	judges as "true"
judges as "false"	Pure disinformation (1)	Disinformation propagated through misinformation (3)
judges as "true"	Misinformation propagated through disinformation (2)	Pure misinformation (4)

Table 1. A matrix of four typologies of propagations.

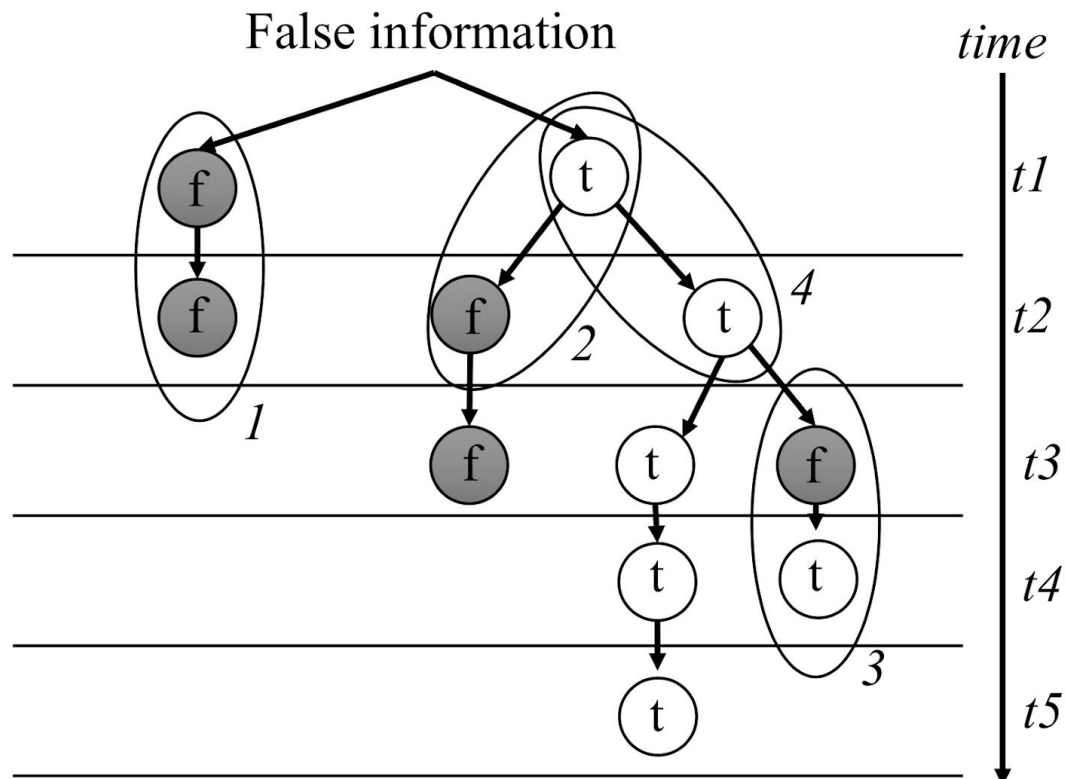
In the first case (1), both actors are aware of the false nature of the information but nevertheless decide to share it. While this pattern can be observed in the propagation of humoristic and satirical content, it can also be the case of two subjects who, for strategic reasons (e.g. propaganda), deliberately produce and share false information. We define this as ‘pure disinformation’ propagation. Conversely, when a piece of information originally injected as true is shared by a propagator who thinks it is false (2), we witness a case in which misinformation is exploited to become disinformation. In most of the cases in which False information is produced as true, the creator unintentionally injects misleading information into the system. A third option occurs when a piece of information is devised as false by the injector but perceived as true (3) by the propagator: We are observing a case of disinformation propagated through misinformation. In this case, an actor produces information knowing it is False, but other users perceive it as true and share it as such. Gross examples of this often result in embarrassing moments for the propagator (especially when the subject is a news organizations) who mistakenly understood as true fabricated false

information. Finally, when False information is perceived as true by the injector and by the propagator (4), we are witnessing what we could assume to be a classic process of propagation of misinformation. It is the case with the most common conspiracy theories, which flourish thanks to the content created and shared by members of polarized online communities that firmly believe in what they communicate. Other times, False information inadvertently injected into the system by an authoritative source (e.g. a respected news media organization) keeps propagating as a legitimate piece of content until someone proves it False.

Given the context described above, it should be clear that trying to understand the nature of contemporary disinformation by focusing solely on the initial step of the process – when someone introduces information into the system – is at the very least an oversimplification.

Over 60 years ago, Katz and Lazarsfeld (1955) argued that mass information flows depended on the personal influence that opinion leaders exercised upon other citizens, showing how, in the process, the ‘first step’ is not necessarily the most important one. Testing the two-step flow theory in the context of social media, Hilbert et al. (2016: 17) empirically demonstrated how, by considering the multiple perspectives of all actors involved in information cascades, the model best describing information flows can vary from a simple single step to a ‘some kind of intricate network-step flow’. Similarly, Messing and Westwood (2014: 1058) contend that, within social media ecologies, the agenda-setting power that was originally concentrated in newsrooms is now diffused across social networks. The multiple actions of propagation, guided by single judgements and decisions, have thus become the backbone of news flows within the contemporary hybrid information system.

Information cycles are thus better represented by a dynamic growing tree-like structure of propagation cascades, conceptually similar to those studied in the field of complex propagation (Centola et al., 2007). Conceptualizing False information cycles in terms of propagation cascades has two major consequences. First, a cycle/cascade is very unlikely to exclusively include propagations of a single type. Every real-world cycle is most likely a combination of multiple semi-independent types of propagation (Table 1) in which individual assessments and decisions are constantly influenced but not determined by the local dynamics discussed above. This process is illustrated in Figure 1. A central consequence of this way of understanding information cycles is that, despite each information cycle being a set of diverse propagations, it is still possible to theoretically describe 'global cascades' as an emergent and thus autonomous phenomenon.



- 1) Pure disinformation
- 2) Misinformation propagated through disinformation
- 3) Disinformation propagated through misinformation
- 4) Pure misinformation

Figure 1. Cascades of False information

Within this perspective, the emergence of spreading dynamics on a systemic level (e.g. news and misinformation propagating through viral and apparently unstoppable dynamics) is coherently built upon several individual processes thus the study of specific cases of propagation can be used to understand underlying dynamics and how these micro and meso dynamics merge into the macro evolution of a single information cycle. Keeping this in mind, it is important to stress that while every information cycle is most probably composed by several coexisting types of propagation, it is likely that every cycle will be dominated by a single type or by a combination of types.

The real story of fake news

On 15 November 2015, the Spanish newspaper *La Razon* published on its front page the face of one of the terrorists responsible for the attacks that had hit Paris a few days earlier.

Unfortunately, the face did not belong to one of the terrorists involved in the terrible attack on the French capital but instead to Veerender Jubbal, a young Canadian man. Before the attacks, Veerender Jubbal – who is Sikh and wears a turban – had posted a selfie taken with his iPad, asking his Twitter followers to wish him ‘good luck’. After the attack, someone easily edited the photograph by replacing the iPad with a Quran and photoshopping a suicide vest onto his shirt. The fake picture went viral online and was shared by various news organizations, even making it to the front page of the print edition of *La Razon*, before it was finally debunked and people began listening to Veerender’s complaints. The origin of the photoshopped image is in some sense largely irrelevant to the study of the cycle of False information. The picture was created and shared with the knowledge that it was a fake, but it was quickly picked up by several sources who judged it true. The diffuse proximity allowed by social media, confirmation bias dynamics (terrorists must wear turbans, and it does not matter if it is a dastar, a Sikh turban), and the ‘tweet first, verify later’ logic can perhaps explain how a photograph of a smiling man from the internet can be judged as the true picture of a suicide bomber, taken just before an attack. Nevertheless, once the picture was online, it was quickly shared as a legitimate picture of a terrorist, and it took over 24 hours to stop the dissemination of the False information.

On 18 November 2016, Chris Lamb wrote in the US edition of *The Huffington Post* a satirical piece in which he imagined the US president Donald Trump suggesting the removal of the Statue of Liberty because it would encourage immigration. Despite the obvious satirical content of the article, several Italian newspapers (including the leading *Il Corriere della Sera*

and *La Repubblica*) and TV channels (including *La7* and *RAI News*) reported the news that 'Trump attacked the Statue of Liberty'. The news got great attention in Italy and was widely shared as a story confirming the unpredictability and unorthodox behavior of the US president, before being retracted by the same newspapers that initially shared it.

On 9 November 2016, the day after Republican presidential nominee Donald Trump claimed an unexpected victory in the US presidential race, a grainy picture began circulating on social media, along with the claim that the Ku Klux Klan were openly marching in Mebane, North Carolina to celebrate the win. According to investigations by the website Snopes.com (Palma, 2016), the people marching were indeed supporters of the conservative candidate celebrating the victory, but what the original creator of the picture mistook as a robe was in fact a flag. Nevertheless, the photo circulated widely on social media and partisan websites as evidence of the connection between the conservative president-elect and the Ku Klux Klan.

These are just three minor stories that illustrate key elements of the system we have described:

a) *The intention of the injector does not determine the future evolution of the False information cycle.* Given the contemporary hybrid media system and the complex nature of information cycles, False and misleading information need not be born as such. The real goal behind the production of a piece of False information may be largely unknown (as in the case of Veerender Jubbal), can be satirical (as in the case of Lamb's article) or may be born from an honest mistake (as in the case of the picture taken in North Carolina).

b) *False news can only be understood as a process.* Information will be constantly assessed by a number of different actors, which will act in accordance with their individual criteria to establish its truthfulness. If and when these individuals share the information, this will

generate a nearly unique chain of types of propagations, defined by the model presented in Table 1.

c) *Information equilibrium does not imply consensus*. One consequence of the model and the first two points above is that societal consensus regarding the nature of any information is somewhat unlikely. When information is constantly assessed by a number of independent actors acting in accordance with the aforementioned principles, every operation aimed at establishing the real nature of a piece of content (e.g. debunking or fact checking a piece of news) will itself be judged as true or false and ultimately accepted only by a limited group of actors.

Conclusions

In this paper, we have proposed a new approach to studying False information. Building upon an interdisciplinary theoretical background, we have suggested moving beyond a simple focus on the initial step of the news cycle (when news is actually produced and regarding the producer's intentions) to instead observe the cycle as an emergent whole influenced but not determined by individual assessments (concerning the nature of the information) and decisions (concerning whether to propagate the information). We have suggested that this is necessary due to the hybrid nature of contemporary media systems, and we theoretically grounded our approach in a second-order perspective.

We have suggested that the propagation of False information should be investigated especially at the micro level (actors' judgements) and meso level (combinations of actors' decisions), while we contend that the processes characterizing the macro level should be seen as the result of the multiple combinations characterizing the previous two levels.

We have argued that, at the micro levels, all actors in the hybrid media system operate, at

their very core, in the very same way (despite the different levels of perceived responsibility, ethical concern, and ultimate goals characterizing them). These key processes, when connected within a relational model, produce a set of four typologies of propagation that can explain all the various types of actual propagation, including those that have always been highly problematic for pre-existing models (e.g. satire, bullshit). We therefore suggest that 'theorizing about the propagator' is beneficial for understanding, *mutatis mutandis*, how both False and True news circulate.

Certainly, we are not the first to suggest placing more focus on propagation processes. Academic research on rumors and conspiracy theories has gone beyond the generative moment of information, looking at the process of disseminating misleading information. And yet the scenarios that emerge from this wide body of research has focused only on a type of propagation in which – at times clashing with the initial goals of the authors – people share False information while believing it to be true.

A more coherent focus on the propagation process would allow to address a number of cases that would otherwise be difficult to explain with an appropriate theoretical model, such as the case of propagators of False information who recognize its falsehood but nevertheless decide to diffuse it. This also applies to the cases of satire and parody, which may be generated with positive intentions but may nevertheless be judged true and diffused as such as the result of an honest yet dangerous mistake.

Adopting this approach allows us to observe diffusion of False information as a much more nuanced phenomenon that, as shown in our examples, does not require a single understanding of the news or assume a single possible reaction. When information is constantly assessed by a number of independent actors, who then act in accordance with their assessments, a

situation of coexisting opposing beliefs is the normal status of the system rather than the exception.

Finally - much like Niklas Luhmann's idea of communication as an ephemeral event - propagation is, by definition, an event in a chain of propagations and a specific cascade of propagations with its emergent properties becomes observable as an autonomous phenomenon. As such, societal communication can reference this whole case in terms of codes other than true/false. Different systems in a functional differentiated society (Luhmann, 2012) can thus address a cascade as a whole using their own perspective. While true/false is the code used by science, the media system would deal with this case in terms of its informativeness (information/non information) and the law system using its own binary code (legal/illegal). The term 'fake news' as it is now commonly used covers completely such reality, which is why we provocatively argue that only a liar can breezily use it.

References

- Aikin, S. F. (2013). Poe's Law, group polarization, and argumentative failure in religious and political discourse. *Social Semiotics*, 23(3), 301-317
- Albright, J. (2016). The #Election 2016 Micro-Propaganda Machine. *Medium*.
<https://medium.com/@d1gi/the-election2016-micro-propaganda-machine-383449cc1fba>.
- Allcott, H., & Gentzkow, M. (2017). Social Media and Fake News in the 2016 Election. *The Journal of Economic Perspectives: A Journal of the American Economic Association*, 31(2), 211–236.
- Allport, G. W., & Postman, L. (1946). An Analysis of Rumor. *Public Opinion Quarterly*, 10(4), 501–517.

Austin, L., Liu, B. F., & Jin, Y. (2012). How Audiences Seek Out Crisis Information:

Exploring the Social-Mediated Crisis Communication Model. *Journal of Applied Communication Research: JACR*, 40(2), 188–207.

Bateson, G. (1972). *Steps to an ecology of mind; collected essays in anthropology,*

psychiatry, evolution, and epistemology. Chicago: University of Chicago Press.

Boyd, D. (2010). Streams of Content, Limited Attention: The Flow of Information through

Social Media. *EDUCAUSE Review*, 45(5), 26.

Boyd, D. (2017). Hacking the Attention Economy. *Data & Society*

<https://points.datasociety.net/hacking-the-attention-economy-9fa1daca7a37>

Bruno, N. (2011). Tweet first, verify later? How real-time information is changing the

coverage of worldwide crisis events. *Reuters Institute for the Study of Journalism*, 2010–2011.

Caplan, R., Hanson, L., & Donovan, J. (2018). Dead Reckoning Navigating Content

Moderation After "Fake News." *Data&Society*. Retrieved from

<https://datasociety.net/output/dead-reckoning/>

Centola, D., Eguiluz, V. M., & Macy, M. W. (2007). Cascade dynamics of complex

propagation. *Physica A*, 374, 449–456.

Chadwick, A. (2009). Web 2.0: New Challenges for the Study of E-Democracy in an Era of

Informational Exuberance. *I/S: A Journal of Law and Policy for the Information Society*, 5(1), 9–41.

Chadwick, A. (2013). *The hybrid media system: politics and power*. New York: Oxford

University Press.

Clark, D. B., & Slotta, J. D. (2000). Evaluating media-enhancement and source authority on the internet: the Knowledge Integration Environment. *International Journal of Science Education*, 22(8), 859– 871.

European Commission (2018). A multi-dimensional approach to disinformation. Report of the independent High level Group on fake news and online disinformation. Retrieved from <https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation>

Fallis, D. (2015). What Is Disinformation? *Library Trends*, 63(3), 401–426.

Farid, H. (2009). Digital doctoring: Can we trust photographs? In B. Harrington (Ed.), *Deception: From ancient empires to internet dating* (pp. 95–108). Palo Alto, CA: Stanford University Press.

Fletcher, R., & Nielsen, R. K. (2017). Are people incidentally exposed to news on social media? A comparative analysis. *New Media & Society*, First Published August 17. doi.org/10.1177/1461444817724170

Floridi, L. (1996). Brave.net.world: The internet as a disinformation superhighway? *Electronic Library*, 14, 509–514.

Floridi, L. (2011). *The philosophy of information*. New York: Oxford University Press.

Frankfurt, H. G., & Bischoff, M. (2005). *On bullshit*. Princeton NJ: Cambridge Univ Press.

Gans, H. J. (1979). *Deciding what's news: a study of CBS evening news, NBC nightly news, Newsweek, and Time*. New York: Pantheon Books.

Gil de Zúñiga, H., Weeks, B., & Ardèvol-Abreu, A. (2017). Effects of the news-finds-me perception in communication: Social media use implications for news seeking and

learning about politics. *Journal of Computer-Mediated Communication*, 22(3), 105-123.

Golding, P., & Elliott, P. R. C. (1979). *Making the news*. Longman Publishing Group.

Habermas J [1962] (1989) *The Structural Transformation of the Public Sphere*. Cambridge: MIT Press.

Heims, S. J. (1991). *The cybernetics group*. Cambridge, Mass: MIT Press.

Hermida, A., & Thurman, N. (2008) A clash of cultures: The integration of user-generated content within professional journalistic frameworks at British newspaper websites. *Journalism Practice*, 2(3), 343–356.

Hilbert, M., Vásquez, J., Halpern, D., Valenzuela, S., & Arriagada, E. (2017). One step, two step, network step? Complementary perspectives on communication flows in Twittered citizen protests. *Social Science Computer Review*, 35(4), 444-461.

Jack, C. (2017). *Lexicon of Lies: Terms for Problematic Information*. Data & Society. Retrieved from <https://datasociety.net/output/lexicon-of-lies/>

Karlova, N. A., & Fisher, K. E. (2013). A social diffusion model of misinformation and disinformation for understanding human information behaviour. *Information Research*, 18(1). Retrieved from <http://www.informationr.net/ir/18-1/paper573.html#.V7VsG9V96VM>

Katz, E., & Lazarsfeld, P. F. (1955). *Personal Influence, The part played by people in the flow of mass communications*. New York: Free Press.

Keeley, B. L. 1999. Of Conspiracy Theories. *The Journal of Philosophy* 96 (3):109–26.

Lasswell, H. D. (1927). The Theory of Political Propaganda. *The American Political Science Review*, 21(3): 627-631

Luhmann, N. (2012). *Theory of society*. Stanford, California: Stanford University Press.

Marwick, A., & boyd, D. (2011). To see and be seen: Celebrity practice on Twitter.

Convergence, 17(2), 139-158.

Marwick, A., & Lewis, R. (2017). Media Manipulation and Disinformation Online. *Data &*

Society. Retrieved from

https://datasociety.net/pubs/oh/DataAndSociety_MediaManipulationAndDisinformationOnline.pdf

Messing, S., & Westwood, S. J. (2014). Selective exposure in the age of social media:

Endorsements trump partisan source affiliation when selecting news online.

Communication Research, 41(8), 1042-1063.

Meyer, G. W. (1994). Social Information Processing and Social Networks: A Test of Social

Influence Mechanisms. *Human Relations; Studies towards the Integration of the*

Social Sciences, 47(9), 1013–1047.

Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises.

Review of general psychology, 2(2), 175.

Palma, B. (2016, November 9). FALSE: Klan Marches in North Carolina to Celebrate Trump

Victory on Election Day. Retrieved November 30, 2016, from

<http://www.snopes.com/klan-marches-celebrate-trump-victory/>

Peters, C., & Broersma, M. J. (2013). *Rethinking journalism: trust and participation in a*

transformed news landscape. New York, NY: Routledge.

Phillips, W. (2015). *This Is Why We Can't Have Nice Things: Mapping the Relationship*

Between Online Trolling and Mainstream Culture. MIT Press.

Prior, M. (2013). Media and political polarization. *Annual Review of Political Science*, 16,

101-127.

Rieh, S. Y. (2002). Judgment of information quality and cognitive authority in the Web.

Journal of the American Society for Information Science, 53(2), 145–161.

Rojecki, A., & Meraz, S. (2016). Rumors and factitious informational blends: The role of the web in speculative politics. *New Media & Society*, 18(1), 25–43.

Schifferes, S., Newman, N., Thurman, N., Corney, D., Göker, A., & Martin, C. (2014).

Identifying and verifying news through social media: Developing a user-centred tool for professional journalists. *Digital Journalism*, 2(3), 406–418.

Shannon, C. E., & Weaver, W. (1949). *The mathematical theory of communication*. Urbana: University of Illinois Press.

Sunstein, C. R. (2017). *Hashtag Republic*. Princeton: Princeton University Press

Sunstein, C.R., & Vermeule, A. (2009). Symposium on Conspiracy Theories Conspiracy Theories: Causes and Cures. *The Journal of Political Philosophy*, 17(2), 202-227

Tandoc, E. C. (2014) Journalism is twerking? How web analytics is changing the process of gatekeeping. *New Media & Society*, 16(4): 559–575

Tandoc, E. C., Lim, Z. W., & Ling, R. (2017). Defining "Fake News." *Digital Journalism*, 1–17.

Tuchman, G. (1978). *Making News: A Study in The Construction of Reality*. New York: Free Press.

Tufekci, Z. (2013). "Not this one" social movements, the attention economy, and microcelebrity networked activism. *American Behavioral Scientist*, 57(7), 848-870.

Turner, J. H. (2006). *Handbook of sociological theory*. New York: Springer.

Von Foerster, H. (2003). *Understanding understanding: Essays on cybernetics and cognition*. New York: Springer.

Warde, C. (2017). Fake news. It's complicated. *First Draft*, 16 January.

<https://firstdraftnews.com/fake-news-complicated/>

Wathen, C. N., & Burkell, J. (2002). Believe it or not: Factors influencing credibility on the Web. *Journal of the Association for Information Science and Technology*, 53(2), 134-144.

Zollo, F., Bessi, A., Del Vicario, M., Scala, A., Caldarelli, G., Shekhtman, L., Halvin, S., & Quattrociocchi, W. (2017). Debunking in a world of tribes. *PloS one*, 12(7), e0181821.