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Protecting democracy from disinformation: Implications for a model of communication

ABSTRACT

This article analyses the consequences that disinformation phenomena have for a model of communication, focusing on the dangers that disinformation poses to democratic societies, especially when it is disseminated by the media. Disinformation is examined here from the perspective of social cognitive psychology, with special attention to the role played by motivated reasoning and confirmation bias in human cognition. From this perspective, disinformation phenomena should be studied not only through an analysis of how the media operate, but also through an understanding of how we process information and what we use it for from a social cognitive point of view. This article emphasizes the role that intuition and affective persuasion play in communication processes, as key elements of motivated reasoning, and argues that once this cognitive dimension is integrated into communication theory, preventive strategies can be designed to protect democracies from the dangers caused by disinformation. Ideological polarization and a lack of consensus are highlighted here as being among the biggest dangers, preventing agreement on issues that affect the proper functioning of democracy. While

KEYWORDS
communication theory
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a certain conception of communication posits reasoning, the media and education as the tools for resolving conflicts and preventing disagreements, this article concludes that the success of disinformation phenomena points to the need for a model that includes the cognitive elements mentioned above.

INTRODUCTION

Disinformation is a major topic of debate in the world today due to the threat it poses to democratic societies (Mason et al. 2018; Chambers 2021). The COVID-19 pandemic and the media presence of politicians like Donald Trump have further exacerbated the problem (Froehlich 2017; Brennen et al. 2020; González-Andrío Jiménez et al. 2020; Salaverría et al. 2020). The public is so inundated with fake news that institutions, social actors, the scientific community and the media urgently need to address the issue to curb its harmful effects on society. Moreover, disinformation phenomena have a huge impact on the epistemological models on which the very notions of democracy and role of the media are based.

This study analyses disinformation from an epistemological and cognitive perspective, based on the idea that the origins of the phenomenon can be found in confirmation bias and motivated reasoning, quite apart from the role of those who seek to disseminate disinformation for personal or partisan interests. The ultimate objective is to identify the implications of disinformation and its cognitive causes by means of a model of communication that can consider how to counteract or neutralize its harmful effects. From this perspective, any analysis of media regulation should begin with the kind of description of bias and motivated reasoning that only cognitive and social psychology can offer us. This study is based on Jonathan Haidt's social intuitionist model (2001), which stresses the role of intuition and affective persuasion in forming opinions, and on recent studies in cognitive psychology exploring how to prevent the spread of disinformation (Lewandowsky et al. 2017b). Both Haidt's model and the aforementioned prevention studies take a ritual view of communication, as described by James W. Carey (1989). However, their adoption of this view does not represent a dismissal of the understanding of communication as the transmission of information; on the contrary, the analysis of disinformation phenomena makes it clear that both these perspectives should form part of a theoretical model of communication.

DISINFORMATION, MEDIA AND DEMOCRACY

There are aspects of reality that we are ignorant about or have a lack of information on. And there are also subjects on which we receive misleading, incomplete or inaccurate information. Any of these forms of incorrect information will be referred to here as 'disinformation'. Senders of such information may transmit it either deliberately or unintentionally; in either case, in order for it to qualify as disinformation the receiver must accept it as true.

It is important first of all to clarify that *dis*-information, as defined by the Council of Europe (Wardle and Derakhshan 2017), refers to cases where there is a prior intention on the part of the sender to produce and disseminate false information for personal, partisan or economic reasons. This is distinct from *mis*-information, which is false information that is circulated without any intention on the part of the sender to deliberately mislead and *mal*-information, which is information based on reality but that is used specifically

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to harm a third party by misleading the receiver because the information is deliberately presented out of context while other relevant facts are omitted. Although this classification of concepts is widely accepted in the English-speaking world (Kapantai et al. 2020), in Spanish *desinformación* is often understood to encompass both disinformation and misinformation. However, as this confusion does not affect the significance of the conclusions of this study, 'disinformation' will be used here to refer to false or inaccurate information circulated by the media irrespective of the intention of the sender, although the existence of an intention to deceive obviously adds to the gravity of the phenomenon.

While ignorance is an undesirable cognitive condition in a democratic society, it is less dangerous than the presence of any form of disinformation, as ignorance does not involve making a decision to adopt a particular kind of behaviour (Thorson 2016; Lewandowsky et al. 2017a; Crozier and Strange 2019). Intentional disinformation is associated with an attempt by the media to manipulate public and private opinion, a phenomenon that has been examined in detail in two recent reports: one by the European Commission (2018) and the other by the British House of Commons (2019). Both reports give special attention to digital media, based on the understanding that these pose a more serious threat to society.

It would seem obvious that disinformation could be detrimental to the effective functioning of democracy. The danger that disinformation poses to society basically lies in the fact that it can prevent individuals from freely exercising their civic rights and duties by fostering beliefs and opinions that are contrary to reality. In this way, it can hinder citizens from making well-informed decisions. For example, disinformation about climate change may lead people to support measures that undermine efforts to address or mitigate this problem (Cook et al. 2018); disinformation about vaccine effectiveness may create public health problems (Carrieri et al. 2019); and disinformation about the existence of weapons of mass destruction in Iraq may have resulted in the death of innocent people (Spohr 2017). In all these cases, misleading information is communicated with the intention of cultivating an opinion that supports certain political, social and economic measures that respond more to partisan interests than to the common good and public well-being.

One of the most important aspects of the model of communication as information transmission is related precisely to the truth value of the information transmitted. According to this model, communication involves the transmission of information between interlocutors with the aim of eliciting a particular type of behaviour.[1] Generally, for the behaviour to be successful, the belief acquired must be true, i.e. it must represent reality as it is (Sánchez and Campos 2009). In other words, the truth value of the information has a direct impact on the behaviour that individuals adopt and, therefore, on the effective functioning of society itself.

Although it has taken on heightened importance in recent years, disinformation has been recognized as a problem by philosophers and sociologists for decades and even centuries. Indeed, it could be traced all the way back to Plato, for whom democracy suffered from a structural problem that rendered it unviable as a political model: the fact that we are too easily convinced by persuasive speeches, regardless of their truth value. This problem has become even more obvious since the rise of the mass media. As early as the 1930s, communication theorists began to recognize the extent to which cognition conditions the social order, undermining basic principles of the democratic

1. The model of communication as information transmission is usually attributed to philosophers like John Locke and associated with theories like Shannon and Weaver's information theory (1963), functional psychology or the computational analogy that compares mental processes to computer processes. More recently, the work of authors such as Fred Dretske (1988) and Ruth Millikan (1984) on the phenomenon of representation has given this model a biological foundation. On the other hand, commonly placed in opposition to this perspective is the so-called 'ritual model' (Carey 1989; van Zoonen 1994; Radford 2005), which emphasizes communication's function of creating community and establishing shared beliefs. Although they tend to be depicted as opposing models, this study attempts to contribute to the reconciliation of the two perspectives.

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system. Among the most prominent of such theorists were Harold Lasswell (1927, 1934) and Walter Lippman (1922), whose awareness of the cognitive limitations of the masses led them to propose the creation of a body of benevolent social scientists who would protect us from the harmful effects of political propaganda. According to these authors, most citizens do not have the epistemological capacity necessary to protect themselves against harmful propaganda. Only a select few, those trained in the scientific method, are capable of subjecting the information they receive to rigorous scrutiny and developing reasoned beliefs on which to base their behaviour. This minority would be charged with the task of ensuring that the media did not broadcast false information about COVID-19, for example, to the general population. A contemporary expression of these ideas can be found in the creation of regulatory boards that monitor media content, such as Ofcom in the United Kingdom or Consell Audiovisual de Catalunya (CAC) in Spain.

The concerns raised by Lasswell and Lippman have become increasingly relevant in recent decades. The media ecosystem has changed substantially since the appearance of cable television in the 1980s and the internet in the 1990s. The number of media platforms that we interact with has increased, content creation has become available to all and the dissemination of information no longer depends exclusively on media professionals. At the same time, the new media have facilitated selective exposure to information (Stroud 2010) and the development of echo chambers (Barberá et al. 2015; Cardenal et al. 2019) that isolate us from opinions that differ from our own, with information that reinforces our own opinions rather than subjecting them to scrutiny. This has resulted in a more polarized political climate, populist movements, pseudo-scientific explanations for contemporary phenomena and epistemological confusion over which explanations are correct, among other problems. Consequently, as detailed in the final reports of both the European Commission (2018) and the British House of Commons (2019), one of the greatest dangers associated with the growth of disinformation is the reduction of the common ground on which reasoned debate should take place in our societies.[2]

The new, fragmented and hyper-polarized media ecosystem makes it even harder to reach rational and widely accepted conclusions. Jürgen Habermas (1962), who argues for a conceptualization of the media as developers of a sphere of public opinion governed by principles of reason, suggests that rather than strengthening the public sphere, the internet could produce a fragmentation of opinions that would hinder political communication:

> In the context of liberal regimes, the rise of millions of fragmented chat rooms across the world tend instead to lead to the fragmentation of large but politically focused mass audiences into a huge number of isolated issue publics. Within established national public spheres, the online debates of web users only promote political communication, when news groups crystallize around the focal points of the quality press, for example, national newspapers and political magazines.
>
> (Habermas 2006: 423–24)

The media are therefore actors that have a decisive influence on the level of disinformation circulating in society. However, although the media can aggravate it, they are not the cause of the problem. The media can exacerbate polarization and discourage rational debate, as suggested in the House

2. The House of Commons report (2019) opens with the following observations:

> This is the Final Report in our inquiry, but it will not be the final word. We have always experienced propaganda and politically-aligned bias, which purports to be news, but this activity has taken on new forms and has been hugely magnified by information technology and the ubiquity of social media. In this environment, people are able to accept and give credence to information that reinforces their views, no matter how distorted or inaccurate, while dismissing content with which they do not agree as ‘fake news’. This has a polarizing effect and reduces the *common ground* on which reasoned debate, based on objective facts, can take place. Much has been said about the coarsening of public debate, but when these factors are brought to bear directly in election campaigns then the very fabric of our democracy is threatened.
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> (2018: n.pag., emphasis added)

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of Commons report. According to the predominant model of communication, based on the Habermasian conceptualization of the media as constructors of the public sphere, the problem of disinformation should be resolved by using reason. Disinformation would therefore be most effectively dealt with by redirecting the media towards their deliberative role and, at the same time, promoting media literacy among the general public. However, it has become clear that these two approaches alone are insufficient. This is the case, we suggest, because the source of this tendency to accept disinformation is essentially cognitive.

INDUCTIVE REASONING

How do we find that common ground on which public debate should take place in a democracy? One answer to this question is that it can be found by means of inductive reasoning. Inductive reasoning involves proposing conjectures based on empirical evidence to explain different aspects of reality. The clearest example of this type of reasoning is found in science. Scientific activity involves proposing models, explanations, hypotheses and conjectures based on evidence and supported by means of a process of corroboration. When an explanation is subjected to corroboration, evidence in favour of it supports its truth value, while evidence against it requires us to reject it or revise it.

Of course, inductive reasoning can fail us. We can establish false hypotheses. The history of science offers examples of theories, models and hypotheses that for a time were considered true but that have ultimately proven to be incorrect. Such cases underscore the fact that scientific explanations always need to be revised in the face of new empirical evidence and that science is subjected to the constant scrutiny of the correction of its models. It is precisely this characteristic that makes scientific activity by nature non-dogmatic,[3] as scientists have to adjust, change and even reject their opinions if the evidence calls for it. Nevertheless, although inductive reasoning is fallible, it is also reliable. This reliability has been socially institutionalized through the scientific community by implementing rules and control mechanisms that help reduce the risk of error. This makes it possible to establish a common ground on which we can engage in rational debate about certain aspects of reality.

The activity of journalists and news reporters is also partly based on inductive reasoning. The democratic system depends on their work to facilitate the common ground on which we can debate an issue and reach a consensus. The media are conceived of as facilitators of an information flow whose objective is the establishment of well-reasoned and widely shared opinions. However, a lack of consensus and the polarization of public opinion, even on subjects with a solid scientific grounding such as climate change, still pose serious problems for our societies. This situation cannot be blamed entirely on the interests of certain parties seeking to manipulate the information disseminated to society as it is also (and mainly) due to our cognitive tendency to view matters in a biased way. Any model of communication needs to take this into account in order to determine how the media can and should contribute to counteracting its effects.

Social cognitive psychology tells us that there are issues that we attach certain values to that have a strong intuitive component, such as loyalty, respect, justice or freedom.[4] These values are not established inductively; rather, they have an innate component of evolutionary origin. This is where psychologists like Jonathan Haidt (2001, 2006, 2012) locate the cognitive tendency towards

3. This is a major statement, as many philosophers of science admit that a limited amount of dogmatism in science is necessary for progress. Karl Popper (1975: 87) or David Hull (1988: 32) have reportedly echoed similar sentiments. In this vein, Lakatos, when he defined his theory of sophisticated falsificationism, criticized them for relaying too much on a dogmatic attitude (what he called, dogmatic falsificationism) in science and defended abandoning such attitude to get a much mature science clearly differentiated from pseudoscience (Lakatos 1976: 170–75). Following this insight, we agreed with Lakatos in the necessity to drag behind the acceptance of a limited amount of dogmatism in science as its role in guiding and orienting reasoning.

4. According to Haidt (2012), there are five sets of universal intuitions or moral foundations shared by all cultures: care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, sanctity/degradation. Various studies have shown that individuals have an innate tendency to rate these five categories differently. In general, according to Haidt, people ideologically positioned closer to the conservative end of the ideological spectrum tend to obtain a higher score in all five categories, especially those related to loyalty, authority and sanctity. On the other hand, individuals positioned further away from the conservative end of the spectrum score higher on the first two categories while rejecting the others.

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confirmation bias, motivated reasoning and selective exposure to information. Thus, for example, the debate over climate change needs to be understood not as a debate about facts, but as a debate about values. While some advocate values that give precedence to economic development and the freedom of the market (Elsasser and Dunlap 2013), others embrace values that prioritize health and sustainability (McCright and Dunlap 2011). A model of communication must therefore consider the importance of values and intuition for the way we use information, debate issues and reach consensus.

The role of intuition in decision-making has been lately emphasized, especially in political communication and political science, in connection with the notion of 'post-truth'. McDermott (2019), for instance, argues that the post-truth[5] media environment has been remarkably successful in taking advantage of the psychological processes that make humans vulnerable to disinformation. Similarly, Lilleker and Liefbroer claim that in the post-truth era, emotions and opinions have become 'more powerful than reasoned, fact-based argumentation' (2018: 352). They say that 'believability', that is, the fact that some claims 'ring truer than others' independent of the evidence presented, is what characterizes post-truth (Lilleker and Liefbroer 2018: 353). All these authors do also point to the danger that post-truth supposes to democracy.

5. McDermott relies on the Oxford Dictionary definition of this term as 'relating to or denoting circumstances in which objective facts are less influential in shaping public opinion that appeals to emotion and personal beliefs' (2019: 220). She emphasizes that 'post-truth' implies to consider mere opinion as legitimate as objective facts and to weigh emotional factors as heavily as statistical evidence.

MOTIVATED REASONING, CONFIRMATION BIAS AND SELECTIVE EXPOSURE

Jonathan Haidt (2001) claims that the most significant problem of human cognition is confirmation bias. This is a cognitive feature that explains our tendency to seek out information that supports our views, even if it is false or inaccurate. It also explains why it is so hard for people to change their opinions, even when they are presented with conclusive empirical evidence and logically valid arguments against them. Confirmation bias hinders the development of knowledge about reality and the establishment of the common ground on which we would be able to debate and agree on controversial issues.

However, some authors (Haidt 2012; Peters 2020) have suggested that triggering this bias reinforces our sense of belonging to a group and strengthens our social ties. In particular, Haidt argues that the tendency towards bias is related to the importance that defending the individual's reputation within the social group has had along human evolution. Reasoning and even the acquisition of language could be explained in terms of the importance that humans assign to social acceptance. In this sense, reasoning is effectively more strategic than logical. We strive to reach the conclusions that suit us with the aim of justifying our opinions to others, even when the empirical evidence does not support them. For this reason, when information is perceived as a threat to our identity or point of view, we tend to avoid it, even when it is true (Post 2019).

In this vein, other authors have already agreed on that reasoning not always aims at truth and serves strategic purposes. Mercier and Sperber's (2011, 2017) argumentative theory of reasoning states that reasoning activity has evolved to fulfil two main functions, in a biological sense: to help us communicate and to help us justify our beliefs to each other. That is, reasoning has a social function that has evolutionary benefits as it flourish social groups forming. In this sense, they align with Haidt (2006, 2012) and to our main point. Accordingly, cultural cognition hypothesis also aligns with this view that political beliefs need to be considered in communication theory. Following this insight, Kahan et al. (2011) showed that lay people tend to rely on scientific consensus if

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the scientific community supporting that consensus was depicted as taking a consistent political and cultural position as them.

Although Haidt's work (2001) focuses on moral judgement, this study posits that his social intuitionist model offers a good starting point for the development of a communication theory. In view of the argument put forward above that many hot-button issues are actually debates about values, it is proposed here that this model could help clarify the problem of disinformation and how to address it. The model fully integrates logic, emotion, intuition and social influence, establishing that moral reasoning is used mainly to construct *a posteriori* defences of moral intuitions, and not to confirm initial hypotheses.

As illustrated in Figure 1, the model establishes that all moral judgements are preceded by a moral intuition (1), that moral reasoning takes place *a posteriori* for the sole purpose of justifying the previously formulated judgement (2) and that this reasoning is communicated verbally to others to justify the judgement made. Such reasoning does not usually persuade others because moral positions have an affective component and therefore receivers can only be persuaded when affective intuitions are elicited from them. The key, therefore, is not logical persuasion but affective persuasion (3). The model establishes that social persuasion occurs when friends, acquaintances or loved ones make a moral judgement because this can influence us directly, even when reasoned persuasion is absent (4). Moreover, although they are not common, there are cases where reasoning can make us change a moral opinion. A connection of reasoned judgement is thus established, where the force of logic makes it possible to embrace a different judgement from the one formulated initially (5). It is also possible that while pondering a situation, a new intuition that contradicts the initial one can be triggered spontaneously (6).

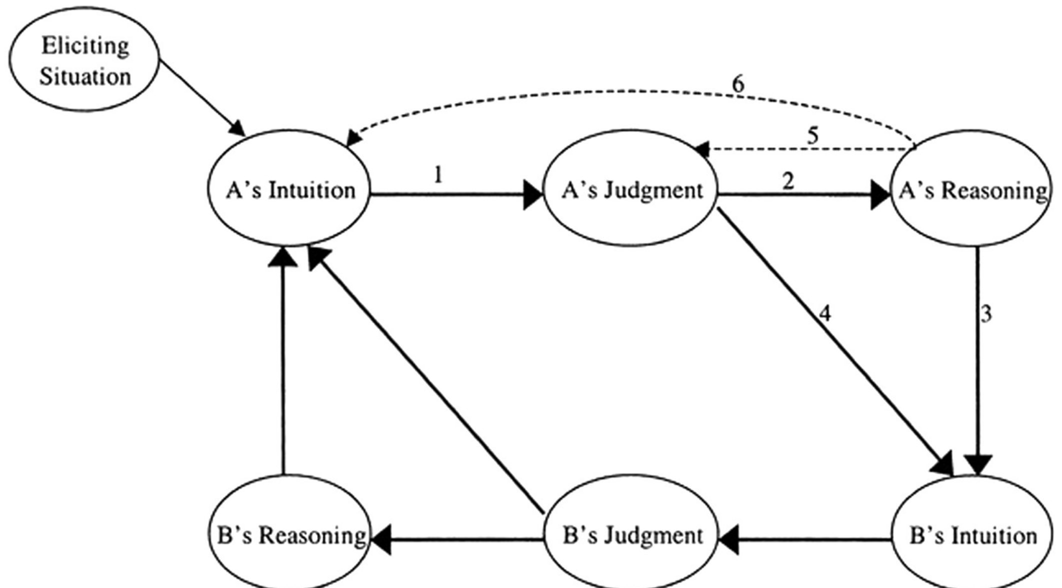

Figure 1: Social intuitionist model of moral judgement. (1) Intuitive judgement; (2) post-hoc reasoning; (3) reasoned persuasion; (4) social persuasion; (5) reasoned judgement; (6) private reflection. Source: Haidt (2001).

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In this model, an influence on others is exerted either when an explanation justifying the moral judgement is verbalized (3) or directly argued to persuade others (4). The objective is to persuade receivers through emotion, eliciting intuitions similar to those experienced by the sender (Pérez Zafrilla 2013). The persuasion is therefore affective rather than informational. On the other hand, (5) and (6) are procedures that allow a change of opinion through reasoning. While rationalist models have focused on (5) and (6), the social intuitionist model explores the other four possibilities.

This model explains why both parties to a dispute on a controversial issue consider that their respective positions are correct. It also explains our resistance to changing our beliefs even when we are told that they are erroneous. On the other hand, the model also establishes how reasoning can be effectively persuasive. The key is to use reasoned persuasion so that the other can 'see' the issue in a different way, attempting to elicit a different type of intuitions in the interlocutor. Because according to this model, the purpose of communication is to justify our positions to others and to trigger certain intuitions in the receiver, affective persuasion is more effective than logical arguments and reasoned explanations.

In the social intuitionist model, the common ground on which reasoned debate should take place is therefore not a logical explanation based on facts, but a culture that 'fosters a more balanced, reflective and fair-minded style of judgement' (Haidt 2012: 23). The aim is to create social conditions that foster a common bond, appealing to intuitions through affectivity. In this sense, the people we trust are the ones with the greatest capacity to challenge us by giving us reasons and arguments that elicit new intuitions from us, resulting in a change of opinion. If disagreements between parties are not hostile, others can make us see our mistakes and we may even accept their corrections. Feeling, admiration and the desire to please others enable us to empathize with their intuitions and to try to find the truth in their arguments (Sánchez 2020).

According to Haidt, we reason in a biased way, especially when personal or group reputation is at stake. But when we create a community through a common bond, some members can use their capacity for reasoning to refute the false beliefs of others. On certain issues, valid reasoning can thus come to be accepted by the majority, as an emerging property of the social group. Under certain social conditions, our understanding of reality can evolve and individuals with erroneous beliefs can be encouraged to change them. The social intuitionist model is a dynamic model in which intuition, reason and social interaction produce moral judgement. These are the conditions that create the common ground on which reasoned debate can be established in democratic societies.

PREVENTIVE INOCULATION: PRIMING AND PREBUNKING

As outlined in the previous section, a counterargument supported by true information is not an effective way of correcting disinformation once it has been accepted (Nyhan and Reiffer 2010). Given that debunking disinformation can be difficult, a number of authors have been arguing for years that interventions to identify disinformation should take place before it becomes accepted. Such processes are referred to as 'priming' (Mayo et al. 2014). There are several priming mechanisms. Lewandowsky et al. (2012, 2017a) propose inoculation in the form of certain types of messages that would act in the same way as vaccines, preventing the acceptance of disinformation. These

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messages should explain the faulty nature of the arguments used. In this way, the inoculation consists of preparing individuals by exposing them to the fallacious logic inherent in a misleading message, training them to recognize and reject faulty arguments. The disinformation can thus be neutralized before it becomes established. This process is referred to as 'prebunking'.

There are two components in this inoculation. The first is an explicit warning of the imminent threat of disinformation, while the second involves the refutation of the fallacious argument. For example, the inoculation may include a warning of an attempt to call into question the scientific consensus on climate change and an explanation that one of the techniques employed is the rhetorical use of a group of fake experts to give the false impression of a lack of consensus among scientists (Lewandowsky et al. 2017b). By exposing the fallacy to the individual concerned, the disinformation loses its force. As a result, when the individual is confronted with the disinformation, the inoculation provides a counterargument for its rejection. The model thus proposes the cultivation of a sceptical attitude in the receiver as a form of protection against the disinformation.

There are three factors that enhance the effectiveness of the corrective measure: warning the individual beforehand of the exposure to disinformation, repeating the correction several times and offering an alternative explanation. Pilot tests have been carried out recently, applying these inoculation processes in the form of gameplay (Roozenbeek and van der Linden 2019). These pilot tests have shown that prior warning that information to be received is false or incorrect can change our expectations of its veracity. The pre-emptive warning induces a temporary state of scepticism that enhances our ability to discriminate between truth and falsehood.

It is difficult to correct disinformation, especially when it affects an individual's basic beliefs. Indeed, attempts at correction can often be counterproductive, only serving to reinforce the disinformation. Corrective measures that contradict an individual's ideology or world-view will be perceived as inconsistent, lacking in social support and coming from an unreliable source. This would explain why conservatives were more inclined to believe that there were weapons of mass destruction in Iraq in 2003 even after reading the retractions that made it clear that no such weapons existed (Nyhan and Reifler 2010) or why advocates of unregulated markets are less disposed to accept the science on climate change (Cook and Lewandowsky 2016). Corrections can be presented from a positive perspective, focusing on the benefits rather than the threats posed to the individual's basic values, in keeping with Haidt's (2012) theory about the existence of innate moral values described in the previous section.

CONCLUSIONS: IMPLICATIONS FOR A MODEL OF COMMUNICATION

Disinformation phenomena pose a serious threat to democratic societies as they prevent individuals from freely exercising their basic civil rights and duties so that best decisions can be taken. This is the case when information processing behaviours among voters, for instance, lead to elections determined by false explanations, ill-founded, non-evidenced beliefs and emotions. It is therefore necessary to establish mechanisms to protect people against misleading information. These mechanisms include regulatory measures, as regulation of the media and of the activities of media professionals is necessary to safeguard society against the harmful effects of messages designed to serve partisan interests.

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While it is true that the recent increase in disinformation phenomena has made the need for regulation of the media all the more obvious, it has also exposed its cognitive and epistemological dimensions, compelling us to analyse what makes us inclined to accept incorrect information. This points to a need to reassess the models that communication theory has been founded on. This study has shown that the social intuitionist model and the notion of preventive inoculation suggest that the perspectives of communication as information transmission and communication as ritual are not contradictory but complementary.

Cognitive social psychology demonstrates that intuition lies at the heart of human cognition and that reasoning tends to be subordinated to it in our search for explanations that can justify our intuitions *a posteriori*. It is a type of strategic, biased reasoning that inclines us towards selective consumption of information. This type of reasoning is what we use for issues affecting the basic values that underpin our way of viewing the world. In such cases, messages that aim to persuade individuals that their beliefs are erroneous can be counterproductive, merely reinforcing their mistaken ideas.

The ideal of a model of communication that can facilitate the common ground on which polarizing issues can be debated does not seem feasible through a rational communication-based approach that fails to consider the role of intuition, affectivity and social interaction. In this sense, a model of communication needs to acknowledge that effective consensus is achieved by means of affective persuasion. Explaining the behaviour of COVID-19 with valid arguments based on empirical evidence may have no effect on receivers who already hold beliefs opposing the changes in behaviour that the pandemic calls for. The key is to create social conditions that facilitate debate on issues on which we differ, appealing to our most basic intuitions, avoiding confrontation and direct attacks against the values of others while directing them towards 'another way of seeing things'. This is the function of communication: to achieve social cohesion among individuals who seek *a posteriori* justification of judgements based on different initial intuitions. It is precisely this function of social cohesion that is examined in the ritual model of communication.

It is important to understand that according to this model of communication, in situations of polarization and confrontation corrective measures have no effect, and that this has significant consequences on the operation and effectiveness of contemporary fact-checking systems. Correction without context is not effective. False information needs to be debunked without attacking basic values, by appealing to the emotions and eliciting sceptical attitudes at timely moments. And it is in this sense that the media need to incorporate elements of priming that can operate preventively through inoculating messages that can help us to identify and reject disinformation before we have accepted it. Media professionals need to make use of these practices, designing effective refutations of disinformation. In this sense, there is an urgent need to redesign fact-checking systems so that they incorporate mechanisms based on the social intuitionist model, thereby increasing the effectiveness of corrective measures.

The way disinformation spreads offers clear evidence that communication is not simply a linear process of information transmission. Although this description of communication is sufficient on certain levels, most issues that make it difficult to find the common ground needed for effective social debate

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have complex cognitive and communicative explanations. Senders and receivers are not purely rational actors motivated by the quest for the truth of their opinions; in most cases they are individuals who interact socially using strategic reasoning. We have a set of intuitions about certain aspects of social reality, which are associated with emotions, which in turn are linked to certain values. Issues that we perceive as contradicting our values polarize opinion and bring into play a kind of persuasive communication intended to justify our positions to others.

As Carey (1989) suggests, communication in this sense is more ritual than informational. Communication is not established with the objective of testing our opinions by seeking to confirm or refute them; instead, its aim is merely to persuade the receiver to accept the explanation that supports our position. This is not to suggest that the inductive reasoning used to support opinions through empirical evidence with the aim of establishing their truth value does not form part of communication, nor is it to deny the function of information transmission. On the contrary, inductive reasoning plays a key role in our understanding and knowledge of the world, and, in certain contexts, the aim of communication is clearly to exchange opinions on the truth or falsehood of certain ideas. What this study argues is that on other issues – perhaps most of the contexts in which disinformation phenomena are most successful – communication has a strategic aim to defend and justify moral intuitions.

On the other hand, it should be noted that the emphasis placed in this study on cognitive aspects is not intended to deny the need for communication theory to submit the media to critical scrutiny. Communicative practices can be analysed, but they can also be evaluated morally, ethically and politically. Indeed, the dissemination of disinformation has regulatory implications, as does the media's use of mechanisms that foster biased opinions. Communication theory needs to advocate for media institutionalization of a means of verifying ideas that can promote social cohesion, taking into account the fact that we are not always rational or inductive beings. Neither media literacy nor fact-checking mechanisms alone will protect democratic societies from disinformation unless we institutionalize strategies for reinforcing critical thinking and for making 'the truth as fluent, simple, and easy to understand as a lie' (McDermott 2019: 220).

The media are familiar with this complex cognitive-social structure and they use mechanisms that promote polarization, information bubbles and the reinforcement of false opinions. Democracy needs to be safeguarded against the dangers of disinformation, but if human reasoning operates on the principles described here, perhaps, as Chantal Mouffe suggests, we should not expect to be able to eliminate disagreements, but rather to 'contain them in ways that respect the existence of democratic institutions' (1999: 77). Inductive and strategic reasoning, the transmission of accurate information and social cohesion are the foundations on which to build the common ground where we can debate and reach consensus. These are the theoretical foundations for a comprehensive model of communication.

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