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QUADERNS DEL CAC

**Fake news, algorithms
and filter bubbles**



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Introduction

We are pleased to launch a new issue of *Quaderns del CAC*, in which the aim was to examine a phenomenon that defines modern society, an entire system for constructing parallel realities: **Fake news, algorithms and filter bubbles**.

Fake news and manipulation of current events has always occurred, but in a world with limited communication channels, that were professionally organised and had institutionalised systems of checks and balances, the detection of falsehoods was potentially high and, when applicable, penalised in accordance with the rules on editorial responsibility. This has changed radically in the context of the networked society, in which a range of actors generate content through endless distribution channels, both public and private, not subject to such rules and free from the filter of institutionalised professional agreements, making the detection and blocking of fake news somewhat troublesome.

To manage the abundance of available content, the major platforms and social networks use selection algorithms to offer each individual a collection of content that fits their preferences, which the algorithm ascertains based on the user's digital footprint. This practice creates real filter bubbles populated by ideologically-similar people. The fake news item is constructed in a credible way on an online media that also appears credible. It is inserted into the relevant filter bubbles on the social networks, which apply algorithms so that it spreads quickly throughout all the bubbles that share interests with the fake news item's stance, often using bots to multiply the effectiveness of its viral nature.

Fake news is recorded as having the greatest success when it transcends the related filter bubbles and especially when the traditional media latch onto this and broadcast it, becoming its spokesperson and, even worse, giving it a veneer of truth due to their status as news media.

Fake news and filter bubbles become especially important in politically polarised situations, such as those recorded in the cases of Brexit or the Catalan independence process, or during electoral campaigns, as in the US or French elections.

These issues are examined in the articles included in the monographic section of the journal, launched by **Martí Petit's** article *Towards a critique of algorithmic reason. A state-of-the-art review of artificial intelligence, its influence on politics and its regulation*, in which he systematises a group of problems relating to the use of algorithms in the communications field. This greatly clarifies the nature of the threats posed to individual and collective freedoms, as well as to democracy itself, justifying the need to regulate Artificial Intelligence.

Òscar Coromina and **Adrián Padilla**, in *Analysis of disinformation regarding the referendum on 1 October detected by Maldito Buló* analyse the use of disinformation against a backdrop of polarised, contentious politics. They reveal its aims and the broadcast mechanisms associated with the format of the false information, as well as confirming the difficulty of determining its impact and real level of distribution.

In **Sara Suárez-Gonzalo's** article *Your likes, your vote? Big personal data exploitation and media manipulation in the US presidential election campaign of Donald Trump in 2016*, she examines the consequences of the improper use of personal data originating from the digital footprint created by social network users. Based on a paradigmatic case uncovered by the *Observer* and *New York Times* newspapers, which revealed the improper use of Facebook data by Cambridge Analytica with the intention of favouring a Donald Trump win, she studies the technological, legal and business background of the big data companies that enable such cases, aimed at guiding the voting decision through a microtargeting strategy.

Ana S. Cardenal, **Carol Galais**, **Joaquim Moré**, **Camilo Cristancho** and **Sílvia Majó-Vázquez** in their text, *The challenge of measuring ideological bias in written digital media*, make an original proposal for achieving a high level of automation in determining the ideological bias of the written press. By applying it to the case of two Spanish political parties (the Partido Popular and Podemos), they determine its benefits and identify its limitations.

The miscellaneous "Articles" section includes the work of **Marta Narberhaus Martínez**, *Children's news on television. Topics, information quality and audience reception of Newsround (BBC), Logo (ZDF) and Info K (TVC)*, in which she studies children's news programmes. The article provides a comparative analysis of the most emblematic public television shows from the United Kingdom, Germany and Catalonia, identifies their topics, how these are handled and their reception by their respective child audiences.

Aida Martori Muntsant, in her article *Betevé: from hyperlocal television to transmedia? An analysis of the evolution*, studies the trajectory of Barcelona's local television channel, an innovative experiment in local communication, at various stages of its history up to its present chapter. She considers the challenges of finding a place for local media in the transmedia age.

Sara Rovira-Esteva and **Irene Tor-Carroggio** in their article, *Sensory accessibility services in TV stations broadcasting in Catalan: the current situation and proposals for the future*, present a cross-section of practices implemented by the television channels that broadcast in Catalan that make it easier for people with sensory impairments to access content, as well as identifying measures for improvement.

Miquel Sañas and **Maria Gutiérrez** in their article, *Constructing a television format: the case of the Telenotícies news programme on Catalan public television (TV3)*, analyse the evolution of the successful television news format and identify the programme's characteristics at various stages of its 33 years on air. They also identify some of the major factors that explain its success.

Emili Prado
Director

Towards a Critique of Algorithmic Reason. A state-of-the-art review of artificial intelligence, its influence on politics and its regulation

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Abstract

Artificial Intelligence (AI) tools, combined with social media and Big Data technology, allow for highly personalised forms of political and commercial advertising. In the public sphere, computational propaganda is emerging as a techno-cultural change that jeopardises the freedom of citizens in their political choice, resulting in debate regarding the public regulation of AI to arbitrate such conflicts. In 2017, the European Parliament proposed the creation of a legal personality for robots. The problem is that personality, both in law and philosophy, is based on responsibility, an anthropocentric concept that has always referred to human action. However, we must accept the existence of algorithmic reason, created by human reason but independent of it, which now influences the conditions both of politics and social harmony. That's why theoretical reflection is essential, especially in terms of ethics and their relation to technology and the law. Because not regulating AI condemns us to leaving citizens undefended and, ultimately, to technological determinism.

Keywords

Artificial Intelligence (AI), computational propaganda, regulation, legal personality for AI, digital ethics.

Resum

Les eines de la intel·ligència artificial (IA), combinades amb les xarxes socials i el tractament del big data, permeten formes altament personalitzades de publicitat política i comercial. En l'esfera pública, la propaganda computacional apareix com un canvi tecnocultural que qüestiona la llibertat d'elecció política dels ciutadans. A partir d'aquí, es planteja el debat sobre una regulació pública de la IA que arbitri els eventuais conflictes. El 2017 el Parlament Europeu va suggerir la creació d'una personalitat jurídica per als robots. El problema és que la personalitat, tant en termes jurídics com filosòfics, es fonamenta en la responsabilitat, un concepte antropocèntric sempre referit a una acció humana. Tot i així, constatem l'existència d'una raó algorítmica, creada per la raó humana, però autònoma d'aquesta, que condiciona ara ja la vida política i la convivència social. Per això és fonamental una reflexió teòrica, en especial en l'àmbit de l'ètica i la seva connexió amb la tecnologia i el dret. Perquè no regular la IA ens condemna a la indefensió ciutadana i, aquí sí, al determinisme tecnològic.

Paraules clau

Intel·ligència artificial (IA), propaganda computacional, regulació, personalitat jurídica de la IA, ètica digital.

1. New political forms: computational propaganda

The report entitled *Can Public Diplomacy Survive the Internet? Bots, Echo Chambers, and Disinformation* by the United States Advisory Commission on Public Diplomacy tackles the question of fake news and the use of algorithms and other tools of Artificial Intelligence (AI). It contains the opinions of various experts regarding the problems of robots (or bots), echo chambers and misinformation in political processes (Powers and Kounalakis 2017).

First of all, it defines AI as “an evolving constellation of technologies enabling computers to simulate cognitive processes”. Machine learning is a subset of AI and enables the interpretation of data, decision-making in an uncertain context and action to achieve a fixed objective. Machine learning is used

by Google in its search algorithm and to provide personalised recommendations for online content (e.g. with Amazon and Netflix and Facebook newsfeeds).

Deep learning is a type of machine learning that handles large data sets, thanks to additional layers of processing resembling neuron structures in the brain. As a result, it provides high-level abstract models and recognises patterns in extremely complex data sets. Deep learning systems are widespread and not exclusive to large corporations or state governments. These AI tools are available to the public, for instance Google's Tensor Flow and Microsoft's Control Toolkit. An individual can therefore operate hundreds of bots on Twitter with minimal skill thanks to such tools and their availability.

Experts claim that over 10% of social media content and 62% of all internet traffic is generated by bots. It's estimated

that active Twitter accounts which are actually bots (with no direct human intervention) account for between 9% and 15%, representing 50 million Twitter accounts (Varol 2017).

In fact, chatbots can maintain substantial conversations with humans on complex subjects. By way of example, we can mention Xiaoice, the Microsoft chatbot in Mandarin. It has over 20 million personalised users with an average of 60 connections a month by each follower. Each connection has an average exchange of 23 interactions. In 2015, Xiaoice was China's top influencer on Weibo, the social media site equivalent to Facebook, and to a lesser extent on Twitter. In fact, some users confess to having a very close relationship with this "friend and confidante" who is always available (Markoff and Mozur 2015).

AI tools (bots, algorithms, etc.) combined with big data enable highly personalised forms of commercial and political propaganda. In 2014, the US trade regulator, the Federal Trade Commission (FTC), published a report on data brokers, companies that gather personal information and resell or share it with third parties. The FTC's aim was to achieve greater transparency and supervise such companies, which operate on the borderline in data protection terms (FTC 2014). In 2016, even before the US presidential election, publications such as *Newsweek* and *The New York Times* had already exposed this issue, providing information on the two main data brokers in the USA:

- Cambridge Analytica, which in 2016 stated that it had 3,000 to 5,000 individual data points and the psychological profiles of 230 million adult US citizens (McKenzie Funk 2016).
- Acxiom, which before the 2016 elections stated that it had an average of 1,500 data points on 200 million Americans (Boutin 2016).

In academia, the University of Oxford, through the Project on Computational Propaganda, is a leading centre in analysing the automation of political propaganda. The people in charge of this project, Samuel Woolley and Philip Howard, state that political campaigns, governments and individual citizens around the world use both people and bots in order to artificially shape public life (Woolley and Howard 2016).

"Bots, the automated programs integral to the spread of computational propaganda, are software intended to perform simple, repetitive, robotic tasks. They are used to computationally enhance the ability of humans to get work done online. Social media bots are automated identities that can do mundane tasks like collect information, but they can also communicate with people and systems. They are deployed to do legitimate jobs like delivering news and information. They also are used for more malicious activities associated with spamming and harassment. Whatever their uses, they are able to rapidly deploy messages, interact with other users' content, and effect trending algorithms—all while passing as human users. Political bots, social media bots used for political manipulation, are also effective tools for strengthening online propaganda and hate

campaigns. One person, or a small group of people, can use an army of political bots on Twitter to give the illusion of large-scale consensus" (Woolley and Howard 2017).

This is where the term "computational propaganda" appears, seen as the concurrence of social media, independent AI agents and big data treatment, whose aim is to manipulate public opinion. Political bots are used on social media to fabricate trends, take advantage of hashtags, amplify certain content, send spam to the opposition and attack journalists. In the hands of powerful politicians with resources, such automated tools can be used both to promote and silence communication and citizen mobilisation, in authoritarian and also in democratic regimes (Woolley 2017).

The example provided by Samuel C. Woolley, Director of Research of the Computational Propaganda Project (Oxford Internet Institute), is the strategy employed by China against pro-Tibetan movements to suffocate the independence movement and boost the government's ideals. Citing the journalist Brian Krebs, "Tibetan sympathizers [...] noticed that several Twitter hashtags related to the conflict—including #tibet and #freetibet—are now so constantly inundated with junk tweets from apparently automated Twitter accounts that the hashtags have ceased to become a useful way to track the conflict" (Woolley 2017).

Matt Chessen, a former fellow at George Washington University and actually in the US Government, explains that algorithms and other AI tools will soon be able to draft speeches, create press releases and generate text, images and video for social media. And they'll be able to do this more quickly than humans in terms of a rough draft. The question is therefore what can be done by journalists, governments and ourselves – and we would add, citizens in general –, to tackle bots that can interpret and react to news almost instantaneously via personalised content for individuals or homogeneous groups. "How can a government press release, or a carefully crafted, researched and fact-checked news article, or a corporate public relations campaign, precisely developed over months, ever compete with real time, personalized, always available, dynamically generated, instantaneous, machine-driven manipulative speech, text, video and other content?" (Chessen 2017).

Keir Giles is the author of a manual published by NATO on the information warfare waged by Russia on major Western countries (Giles 2016). This expert and member of the Royal Institute of International Affairs (Chatham House) explains that, according to the Russian conception, information warfare is not limited to times of war or even to the initial stage of conflict. Russia's foreign strategy is permanent information warfare on its adversaries. To underpin his arguments, Giles cites a document by Sweden's Defence Research Agency (FOI in Swedish). "Within the Russian Administration several organizations are responsible for handling information warfare capabilities including computer network operations, electronic warfare, psychological operations, deception campaigns (*maskirovka*) and mathematical programming impact. The latter

could be interpreted as including the introduction of malware and malfunctions such as back-door functionalities and ‘logic bombs’” (FOI 2010).

In fact, the US Democratic Party has accused the Russian government of significantly interfering in the 2016 US presidential campaign, which resulted in Donald Trump’s close-won victory. On 12 March 2018, the Republican majority in Congress (House of Representatives) ended the congressional committee investigating this affair, claiming there was no proof of such interference. The Democratic Party protested that the committee should not have been terminated as not all the key people listed as involved in the affair and required to appear had been questioned. The accusations were serious.

“The February 16, 2018 Special Counsel¹ indictment of individuals connected to the Russian Internet Research Agency further underscores the extensive planning, sophistication, organization, and scope of Russia’s exploitation of social media platforms to influence American public opinion during the election. Russia’s campaign amplified and influenced wide swaths of the U.S. electorate and infected public debate, with a clear purpose: to help the Trump campaign, vilify Hillary Clinton, and sow general discord—key points also confirmed in the January 6, 2017 Intelligence Community² Assessment. (...) The heads of our intelligence agencies have uniformly concluded that Russia will again seek to influence our elections. With the midterm elections now only months away, it is imperative that we develop a comprehensive understanding of Russia’s 2016 covert and overt attack to adequately inform the American people about what happened, and to detect, deter, and counter, to the greatest extent possible, further attempts to influence our political process” (Congress of the United States 2018).

On 17 March, five days after the US congressional committee had been disbanded, the newspapers *The Guardian* and *The New York Times* jointly revealed the scandal of the fraudulent use of 50 million Facebook in the voting on Brexit and the US presidential election (Cadwalladr and Graham-Harrison 2018; Rosenberg, Confessore, and Cadwalladr 2018). Facebook subsequently estimated this figure as high as 87 million. On 16 May 2018, the US Senate contradicted Congress and endorsed the opinion held by the Intelligence Community, namely that Russia interfered in the 2016 US presidential election (Demirjian 2018).

2. Technological determinism or citizen freedom?

In the area of geostrategy, AI is playing an increasingly important role in the arms race between the US and China in terms of developing smart armies (information, drones, etc.). In 2013, Amazon took over from IBM to host the US government intelligence community’s data cloud. Microsoft markets Azure Government, a cloud-computing service designed specifically for the different levels of the US administration. And, in 2017,

Google signed the Maven Project with the Pentagon, a pilot scheme to accelerate the military’s use of artificial intelligence. According to Scott Malcomson, former foreign editor of *The New York Times Magazine* (2004-2011), the USA has a comparative edge over China in this arms race. The development of AI in China only has one driving force (the military), while the US has two (the military and the market). So Google, Amazon and Microsoft also have a commercial interest (Malcomson 2018). Nevertheless, this duality in the US situation causes tension between the civil and military branches. In April 2018, thousands of Google employees sent an open letter to the company’s CEO, Sundar Pichai, demanding that this project with the Pentagon be cancelled immediately and a corporate policy be passed that neither Google nor its contractors will ever build warfare technology (Shane, Wakabayashi 2018. Note: the link to this letter can be found in the article initially published by *The New York Times*).

But beyond this dystopian view of AI’s effect on politics and geostrategy, we should also ask whether the world will (or can) be ruled by AI. Whether a psychological model can be created using big data from individuals in terms of their age, race, sex, weight, height, marital status, religion, income, assets, mortgage situation, purchases, social, cultural and political habits, health and investment behaviour (to list the most common examples) based on which a commercial or propaganda strategy can be implemented. It should be asked whether AI shapes our view of the world, whether it takes away our freedom as humans and whether it imposes a technological determinism on us.

Is there an antidote to how this technocratic model can manipulate democratic processes? It’s the job of scientists in computing, in cognitive and social science and in communication to study how fake news is maliciously manipulated and becomes viral, as well as to develop and propose solutions (Shao *et al.* 2017, Ciampaglia 2018). One initial approach is to strengthen fact-checking, seen as tools for democracy-building in contexts of institutional crisis and representative legitimacy, be it at specific times (election campaigns) or continuously (Amazeen 2017).

Nevertheless, having explored the research published on the influence of fake news, on the bias produced by algorithms and on the creation of echo chambers, an almost unanimous idea can be found: scientific research refutes technological determinism. The main academic studies detected disprove the idea that the supremacy of AI may degenerate into authoritarianism.

The Reuters Institute for the Study of Journalism (RISJ, of the University of Oxford, is the main centre of excellence analysing the phenomenon of fake news.³ In its report entitled *Measuring the reach of “fake news” and online disinformation in Europe* (February 2018), it states that “false news has more limited reach than is sometimes assumed. This is in line with what independent evidence-based analysis has found in the United States (e.g. Allcott and Gentzkow 2017; Guess, Nyhan and Reifler 2018; Nelson and Taneja 2018).”

Figure 1. Studies detected on the impact of fake news and the bias of algorithms

Bibliographic reference	Article title	Conclusion
ALLCOTT, H.; GENTZKOW, M. (2017)	"Social Media and Fake News in the 2016 Election"	Analysis of the dissemination of fake news in the 2016 US elections. Social media were not the main source of news in the 2016 elections. Only 14% of the population state that they were the main source.
BAKSHY, E.; MESSING, S.; ADAMIC, L. A. (2015)	"Exposure to ideologically diverse news and opinion on Facebook"	Comparison between the role played by Facebook's algorithmic bias, on the one hand, and the voluntary, intentional choice of Facebook users to access ideologically discordant content. This second variable plays a stronger role in terms of exposure to cross-cutting content.
DUTTON, W. <i>et al.</i> (2017)	"Social shaping of the politics of Internet search and networking: Moving beyond filter bubbles, echo chambers, and fake news"	Study of the communication systems of Germany, Spain, USA, France, Italy, Poland and the United Kingdom. The results indicate that the risk of echo chambers, fake news and algorithmic bias is mitigated by each country's media culture.
FLETCHER, R. <i>et al.</i> (2018)	"Measuring the Reach of 'Fake News' and Online Disinformation in Europe"	Analysis of the dissemination of fake news in France and Italy in 2017. The websites with fake news in these countries reach a minimal audience in the internet ecosystem. The online traditional media reach a lot more of the population and generate a lot more interaction.
GUESS, A. <i>et al.</i> (2018)	"Selective Exposure to Disinformation: Evidence from the Consumption of Fake News During the 2016 US Presidential Campaign"	2016 US electoral campaign. During the period of October-November 2016, the consumption of fake news was concentrated in a small group. Almost 6 out of 10 visits to the websites analysed with fake news came from 10% of people with ultraconservative diets of online news.
NELSON, J.; TANEJA, H. (2018)	"The Small, Disloyal Fake News Audience: The Role of Audience Availability in Fake News Consumption"	The consumption of fake news is limited to a small, disloyal group of very active internet users.
NEWMAN, N.; FLETCHER, R. (2017)	"Bias, Bullshit and Lies: Audience Perspectives on Low Trust in the Media"	Study of eleven countries on attitudes towards social media. Citizen trust in social media concerning information is much lower than in traditional media. Moreover, there is a vague awareness of the bias of news algorithms.
VARGO, C.; GUO, L.; AMAZEEN, M. (2017)	"The agenda-setting power of fake news: A big data analysis of the online media landscape from 2014 to 2016"	Study of websites with fake news from 2014 to 2016. Although an increasing phenomenon, these websites do not have too much effect and are also related to recognisable partisan media.
WATANABE, K. (2017)	"The spread of the Kremlin's narratives by a western news agency during the Ukraine crisis"	Study of Russia's information warfare during the Ukraine conflict. It is not proved that the media controlled by the Russian government managed to project a "Russian narrative" beyond its strict area of influence.

Source: author.

The report, which studies this malpractice in France and Italy throughout 2017, states that none of the websites disseminating fake news in the study had a monthly audience above 3.5% in 2017. Those with a larger audience accounted for less than 1% of the online population, both in France and Italy. In comparison, the most popular news sites in France (*LeFigaro.fr*) and Italy (*LaRepubblica.it*) had an average monthly audience of 22.3% and 50.9%, respectively. Moreover, in most cases both in France and Italy, the dissemination of fake news did not produce as many interactions as in the established media and brands (Fletcher, Cornia, Graves and Nielsen 2018).

Another RISJ study also relegates social media to a secondary position. Research carried out in 11 countries (Germany, Australia, Denmark, Spain, USA, France, Greece, Ireland and the United Kingdom) concludes that 24% of users trust social media to provide them with their news, compared with 40% for traditional media. There's a widespread belief that news feeds are polluted with inaccurate information and polarised in terms of ideology, possibly encouraged by social media algorithms and their handling of user profiles. However, there is also the complaint that social media users fuel such content by sharing it without reading it, and even less verifying its accuracy. Consequently, the study notes a general critical perception regarding the political information spread by social media. Nevertheless, there is a small segment of the population that does trust social media. In some cases these are outsiders; i.e. outside the mainstream and the news agendas of traditional media (Newman and Fletcher 2017).

Perhaps the dystopian narrative of the effects of AI on society mentioned in the first part of this article is too alarmist. Perhaps it's also self-serving. And, finally, perhaps it's deeply ideological, in the worst sense of the term, perceived as a theoretical construct that's lacking in factual terms and used to justify potentially self-serving political measures. Whatever the case, artificial intelligence and its array of tools must be regulated because of their considerable impact on society and the huge asymmetry between, on the one hand, the elite that's hyper-expert in the subject and the rest of citizens on the other. Legislation and its implementation via regulations are human devices to guarantee people can live together without conflict. In democracies, they are a guarantee of freedom.

3. Regulating AI: where does the responsibility lie?

Virginia Dignum, a researcher from Delft Design for Values (DDFV, of the Delft University of Technology), tackles this debate regarding the possible regulation of robots and other AI tools. "As intelligent systems are increasingly making decisions that directly affect society, perhaps the most important upcoming research direction in AI is to rethink the ethical implications of their actions. Means are needed to integrate moral, societal and legal values with technological developments in AI, both during

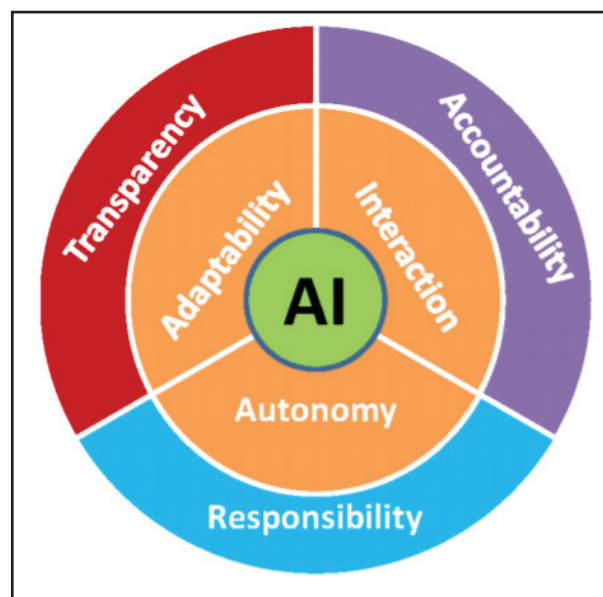
the design process as well as part of the deliberation algorithms employed by these systems" (Dignum 2017a).

A turning point in the discussion regarding how AI systems should be treated was provided by the article "On the morality of artificial agents", published by Luciano Floridi and Jeff Sanders in 2004. This paper noted that AI systems are characterised by their interactivity, autonomy and adaptability. For this reason, such technologies can be treated as "moral artificial agents" without them necessarily having mental states, feelings or emotions, as defined by the classical philosophers Montaigne and Descartes (Floridi and Sanders 2004).

In fact, Floridi has developed a sub-discipline called Data Ethics, seen as "a new branch of ethics that studies and evaluates moral problems related to data (including generation, recording, curation, processing, dissemination, sharing, and use), algorithms (including AI, artificial agents, machine learning, and robots), and corresponding practices (including responsible innovation, programming, hacking, and professional codes)" (Floridi and Taddeo 2016). To some extent, Data Ethics is like the R&D of AI governance and regulation. This approach has been influential and, in April 2018, Luciano Floridi, currently Director of the Digital Ethics Lab (Oxford Internet Institute), was appointed chair of the advisory board for the UK's Parliamentary Commission on Technology Ethics.

Taking the three properties of AI proposed by Floridi and Sanders (interactivity, autonomy and adaptability), Virginia Dignum has developed a system of principles for their practical application. In a report published by the International Telecommunication Union (ITU, the UN specialised agency for information and communication technologies), Dignum proposes the *ART Principles*, the acronym for *Accountability, Responsibility and Transparency*, which should govern the regulation of AI (see figure 2).

Figure 2. ART Principles applicable to AI



Source: Dignum (2017b).

- *Accountability* refers to the need to explain and justify an agent's decisions and actions to its partners, users and others interacting with the system. To ensure accountability, decisions must be derivable from, and explained by, the decision-making algorithms used.
- *Responsibility* refers to the role of individuals and also the capability of AI systems to answer for their decision and identify errors or unexpected results. There must be a moral and legal relationship between the decisions of algorithms and the people involved in these decisions.
- *Transparency* refers to the need to describe, inspect and reproduce the mechanisms through which the mechanisms employed by AI systems make decisions and learn to adapt to their environment. Current AI algorithms are basically black boxes, without open access. Methods are needed to inspect algorithms and their results. (Petit 2017)

However, the initial problem is that, in deep learning, once the process has been started and self-perfected, even the algorithm's designers can't explain the logic in the machine's decision-making. It therefore becomes difficult to propose that they should be responsible for any wrong decisions taken by the algorithm. But, in that case, we need to decide who is ultimately responsible for any injury caused by such errors and bias in AI decision-making.

This technical issue crossed the boundary of digital hyper-expertise thanks to a report by the European Parliament, approved on 27 January 2017, which contained recommendations to the Commission on Civil Law Rules of Robotics. Specifically, paragraph 59.f. asked the Commission to consider "creating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause, and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently" (European Parliament 2017a).

Shortly afterwards, in a Resolution passed on 16 February 2017, the European Parliament addressed this issue in greater depth, proposing the need to define and classify the different types of "smart robots" that carry out deep learning with a view to creating a register of advanced robots managed by an authority appointed by the EU. The Resolution also proposed a Charter on Robotics containing ethical principles for engineers and designers of smart robots, as well as a code for research ethics committees in the field of robotics.

On 25 April 2018, the European Commission published the Communication entitled *Artificial Intelligence for Europe*, as part of the EU's Strategy for the Digital Single Market (European Commission 2018). This document doesn't openly deal with the legal personality of robots but it does provide food for thought concerning this issue. Regarding questions related to ethics, it announces the creation of a European AI Alliance to develop guidelines in cooperation with the European Group on

Ethics in Science and New Technologies, an advisory group for the Commission already in existence. It also announces its support for the Algorithmic Awareness Project (AlgoAware), a proposal made by the European Parliament to the Commission, whose aim is to develop an explainable AI ("*Explainability of AI Systems*"). AlgoAware is a 16-month study (started in March 2018), with the following objectives:

- Contribute to a wider, shared understanding of the role of algorithms in the context of online platforms, raising public awareness and promoting debate.
- Identify and size up the types of problems and emerging issues and posed by the use of algorithms and establish an initial scientific, evidence-based foundation to tackle these problems.
- Draft or design solutions for certain problems, including policy options, technical solutions and private sector and civil society-driven actions.

Nevertheless, in opposition to this line of thought, there has been a reaction against the idea of granting robots a "legal personality". Figure 3 contains the most notable examples, signed by a group of experts, by the European Economic and Social Committee, and by COMEST, the advisory body for UNESCO in the area of ethics, technology and scientific knowledge.

A thorough, expert debate is therefore required, divorced from any views *contaminated by the movies*. Our starting point is the need for AI regulation that avoids technological determinism and guarantees citizens basic elements such as free political choice. Leaving AI development to be self-regulated "freely" (or, more precisely, not regulated) is equivalent to accepting the law of the jungle. It's the same as becoming inhibited when faced with the malicious interference of computational propaganda, described in the first paragraph of this article. It's an alarmist reaction, like the military demanding rights should be limited in the name of democratic control of the abuses committed. However, AI regulation must be adequate and proportionate; it must be coherent with Civil Law and must not contravene basic ethical principles.

Without pretending to be exhaustive, we note that Roman Law had already created the abstract figure of a legal or moral person as opposed to a physical person. Legal persons were abstract, body-less entities whose fictitious status as a person was recognised by Roman Law. They were legal subjects; i.e. entities which could acquire rights and assume obligations; they could be creditors and enter into debt; they had their own assets and could inherit wealth. But, unlike physical persons, they had no corporal existence. They had a common fund and a proxy to represent them but needed to represent a social or economic interest. In Rome, there were two types of (non-physical) legal persons: associations and foundations. So there were associations such as the Official Guild of Bakers, a privileged entity (exempt from tax) since bread was a basic need strongly regulated by the Empire (Michell 1947). Each legal person

had to have statutes, management bodies, representatives, a common fund or assets independent of its components and authorisation from a public authority, either the Senate or the Emperor (Kunkel 1984).

This abstract figure, befitting a complex society that requires elaborate legal developments, survived into the Middle Ages. In the mid-13th century, the renowned jurist Sinibaldo dei Fieschi (later Pope Innocent IV) incorporated the figure of a legal person into Canon Law. This led English Common Law, whose origins do not lie in Roman Law, to incorporate this figure as well within its legal system. And that was fundamental because the integration and consolidation of the legal person in both the continental and Anglo-Saxon systems was key to the transformation of 13th-century society, at that time still highly feudal and autarchic. Later on, it also helped to create mercantile societies such as the Indies companies, preceding the Industrial Revolution and the development of science and technology (for more information, see Díez Picazo 2016).

Could it therefore be argued that a legal personality for robots and elements of AI is coherent with Civil Law? Our civil codes today are the result of medieval Canon Law and, on continental

Europe and its sphere of influence, of Roman Law. These legal traditions have resulted in the regulation of modern legal persons such as public limited companies. Or is it the case that limited companies are not abstractions in law and don't have legal personality, even though their accountability is clearly not linked to the physical people who constitute them? And don't media groups have a separate legal personality from their owners and workers? Moreover, the media are subject to their own particular legal principles, such as editorial responsibility.

However, there is one key issue that still needs to be resolved: ultimately, legal personality always depends on responsibility. And responsibility is an anthropocentric concept constructed historically to be applied to human actions, not to those of other animal species or non-human cognitive processes. The philosophical (and even religious) foundation and legal development of responsibility has always had a human basis. Naturally the personality-responsibility link could be reformulated. With Galileo, humans stopped being at the centre of the universe; with Darwin, humans stopped being the culmination of the living world; with Freud, conscience stopped governing the individual... If, with artificial intelligence,

Figure 3. Positions against giving a legal personality to robots and other AI tools

Open Letter to the European Commission on Artificial Intelligence and Robotics

We, Artificial Intelligence and Robotics Experts, industry leaders, law, medical and ethics experts, confirm that establishing EU-wide rules for Robotics and Artificial Intelligence is pertinent to guarantee a high level of safety and security to the European Union citizens while fostering innovation.

We are concerned by the European Parliament Resolution on Civil Law Rules of Robotics, and its recommendation to the European Commission in its paragraph 59 f).

From an ethical and legal perspective, creating a legal personality for a robot is inappropriate whatever the legal status model:

- a. A legal status for a robot can't derive from the Natural Person model, since the robot would then hold human rights, such as the right to dignity, the right to its integrity, the right to remuneration or the right to citizenship, thus directly confronting the Human rights. This would be in contradiction with the Charter of Fundamental Rights of the European Union and the Convention for the Protection of Human Rights and Fundamental Freedoms.
- b. The legal status for a robot can't derive from the Legal Entity model, since it implies the existence of human persons behind the legal person to represent and direct it. And this is not the case for a robot.

- c. The legal status for a robot can't derive from the Anglo-Saxon Trust model also called Fiducie or Treuhand in Germany. Indeed, this regime is extremely complex, requires very specialized competences and would not solve the liability issue.

European Economic and Social Committee (EESC)
526a. Plenary Session from 31 May to 1 June 2017
(EESC 2017)

3.33 There is a lot of discussion regarding the issue of who can be held liable when an AI system causes damage, particularly if the AI system is self-teaching and continues to learn after entering into use. The European Parliament has drawn up recommendations for civil law on robotics, including a proposal to explore an 'e-personality' for robots so that they can incur civil liability for any damage they cause. The EESC is opposed to any form of legal status for robots or AI (systems), as this entails an unacceptable risk of moral hazard.

Report of COMEST on Robotics Ethics
(UNESCO 2017)

It is highly counterintuitive to call them 'persons' as long as they do not possess some additional qualities typically associated with human persons, such as freedom of will, intentionality, self-consciousness, moral agency or a sense of personal identity.

Source: Open Letter to European Commission – Artificial Intelligence and Robotics (2017), EESC (2017) and UNESCO (2017).

responsibility stops being the basis of legal personality, first there must be a huge cultural mutation. Because granting robots a legal personality without any ultimately human reference would renounce the anthropocentric nature of the concept and the whole cultural tradition this entails. It would be a *Copernican Revolution*.

Even so, hyperconnected democracy, capable of creating artificial intelligence, needs a legal system that regulates the new technological capabilities and that can arbitrate any conflict, abuse and injury. Let's go back to Floridi's idea that philosophy is the R&D of the regulation and governance of technology. In his *Critique of Practical Reason*, Immanuel Kant ends by confessing the two things he most admires: the starry heavens without (and the possibility of knowing this through science) and the moral law within (and each individual's possibility to act freely). If the Königsberg philosopher were alive today, he would certainly be fascinated by a third thing: artificial intelligence. He'd note that, in addition to pure reason and practical reason, an *algorithmic reason* has emerged, created by human reason but independent from it. And this would disturb his system of philosophy because it's not clear whether a *menschenähnliche* (human-like) responsibility can be assigned to algorithmic reason.

Nonetheless, in the face of new agents with a capacity to act, learn and take decisions that affect human life and how we live together in society, it is vital to propose regulation that is duly founded on ethical principles. It's crucial, in the words of Immanuel Kant, "to institute a court of justice, by which reason may secure its rightful claims while dismissing all its groundless pretensions". Such was the prologue of the Königsberg author's *Critique of Pure Reason*. We might also demand him the foundation of a court of justice for Algorithmic Reason.

Notes

1. The United States Office of Special Counsel (OSC) is a permanent independent federal agency whose primary mission is the safeguarding of the merit system in federal employment."
2. The United States Intelligence Community (IC) is a federation of 16 separate United States government agencies to support the foreign policy and national security of the United States.
3. The RISJ is mainly funded by the Thompson Reuters Foundation, together with other, more minor donors such as the BBC, Google and Open Society Foundations (George Soros's foundation network). The Thompson Reuters Foundation, core founder of the RISJ, is owned by Thomson Reuters Corp., a multinational based in Canada which also owns the Reuters News Agency, whose business is the provision of paid content. In addition to communication, the group also has businesses in finance, venture capital and pharmaceuticals (see: Thompson Reuters Corp. 2018).

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Analysis of disinformation regarding the referendum on 1 October detected by Maldito Bulo

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Abstract

This article takes the events around the referendum for the Independence of Catalonia, which took place on 1 October 2017, as a reference to carry out an analysis on the use of disinformation within a context of political conflict and a highly polarised scenario, as part of a strategic narrative. Based on a proposed analytical methodology, and applying this to the disinformation verified by the fact-checker Maldito Bulo, we have noted that the aim of this disinformation is to discredit the people involved, to magnify facts and boost support for the different positions, that the format of this disinformation is a key element regarding its degree of dissemination, and the difficulties faced when determining the precise impact of such disinformation.

Keywords

Post-truth, fake news, disinformation, strategic narratives, fact-checking.

Resum

Aquest article pren els fets succeïts al voltant del referèndum d'independència de Catalunya del dia 1 d'octubre de 2017 com a referència per fer una anàlisi sobre l'ús de la desinformació en un context de contenció política i un escenari d'alta polarització com a part d'una narrativa estratègica. A partir d'una proposta metodològica d'anàlisi, i aplicant-la a les desinformacions contrastades pel fact-checker Maldito Bulo, hem constatat que la desinformació té com a objectiu el descrèdit dels actors implicats, l'amplificació dels fets o bé la recerca d'adhesions als diferents argumentaris, i que el format de la desinformació és un element clau en el seu grau de difusió, així com la dificultat a l'hora de determinar amb exactitud l'impacte d'aquesta desinformació.

Paraules clau

Postveritat, fake news, desinformació, narratives estratègiques, fact-checking.

Introduction

A few days before Catalonia's parliamentary elections on 21 December 2017, the Vice-President of the Spanish government, Soraya Sáenz de Santamaría, declared to the Senate that what was known as the "Catalan process" had been "an outright fake, a process founded on post-truth where inaccuracies not only travel via the internet but also by official car" (Europa Press 2017). Certainly, this statement can be interpreted in many different ways and has a particular political aim but it addresses two issues which are current and crucial if we want to analyse, in-depth, the state of public opinion regarding the relationship between Catalonia and Spain. The first is related to the use of truth and lies (and all their nuances) to explain concrete facts, and for a purpose that can go beyond a desire to inform; in other words, introducing facts into the narrative which are known as

post-truths or fake news. The second remarkable aspect of the Vice-President's words is the role played by the internet as an origin or source for the propagation and consolidation of post-truths or fake news, and how these can make the leap from the screen to a group position, forming the basis of speeches and political stances and, ultimately, defining the world view of citizens regarding an issue.

In today's communication ecosystem, where users believe, consume, select and propagate information (Qiu, Oliveira, Sahami Shirazi, Flammini and Menczer 2017), social media sites and instant messaging services constitute a fundamental piece in a hybrid system where new and old media constantly feed off each other (Chadwick 2011). It's within this environment (which the Vice-President called "the internet") where citizen journalism and alternative sources of information can influence large publishing groups and publications (Lewandowsky, Ecker

and Cook 2017) and is where, according to the Vice-President of the Spanish government, disinformation thrives.

Theoretical framework

Disinformation, fake news and post-truths

One of the challenges that must be tackled when classifying and defining disinformation is the lack of a single, clear definition or well-established classification. This is a direct consequence of the media attention generated by the rapid emergence of the phenomenon of fake news, its appropriation by politics and the lack of an agreed taxonomy at an academic level that distinguishes between the different types of disinformation with all their nuances (Wardle and Derakhshan 2017). Post-truths and fake news include what might be considered disinformation but, although these terms have suddenly and recently appeared, the deliberate use of disinformation is far from new. Spreading news or information about unchecked or difficult to verify facts, and taking advantage of this circumstance to obtain some kind of return, has accompanied journalism since its infancy (Shudson and Zelizer 2017). The difference between the past and present of information production is today's existence of many different issuers of news, many far removed from the supervisory mechanisms of quality journalism. These are imposed by the editorial filters of publications and the professional ethics of the traditional media, and absent when the source of information is diluted by the very idiosyncrasy of the internet, making it difficult to identify indicators that might reveal inaccuracies. This article uses the term "fake news" to refer to openly false information that has no basis in true fact and which can be refuted using very basic checking mechanisms (Bounegru, Gray, Venturini and Mauri 2017). This kind of news plays with credibility and appearance and relies on the public's tacit trust in the media. Fake news is therefore presented in a certain format, as a part of what is, or seems to be, the media, and contains all the signs of being from a reliable source. One extreme example of the use of appearance to spread openly false content is the satirical publication *El Mundo Today*, which has often been confused (as has its Anglo-Saxon peer, *The Onion*) with a serious publication.

Regarding the term post-truth, we will use this more generally to refer to a narrative that deliberately manipulates, distorts and/or obscures real facts in order to produce a certain bias. We consider that the construction of such narratives is a complex process involving many different parties which, through various channels, help to create and propagate different pieces of information. To disseminate post-truths, a repertoire of techniques is used that are very similar to those used by gossip magazines, rumour mills and sensationalist journalism in general to hide, magnify, distort and deliberately bias facts in order to grab the attention of readers (Rubin, Chen and Conroy 2015). Fake news is one of the mechanisms through which post-truth is constructed; as is falsifying a CV, telling a lie in parliament, an editorial line, etc.

Post-truth as a strategic narrative

Broadly speaking, we can differentiate two different goals for publishing disinformation. The first is relatively inoffensive, easily refutable and verifiable. This happens when the aim of the disinformation is to grab the user's attention, generate a click and produce a profit in the form of advertising impact (using, for example, the click-bait technique to get the audience's attention). Initiatives and companies that carry out such practices typically fail to invest in the necessary resources to create good journalism, are completely disinterested in building up a long-term reputation and only look for a quick profit (Allcott and Gentzkow 2017). At the other end of the scale we find post-truths that offer readers a narrative and discursive framework about this narrative. But, without giving up the aim of achieving a large audience share, they also want to become part of the collective discourse and narrative of facts, distorting reality and making it difficult to take a decision in favour of a particular political or economic interest (Kuklinski *et al.* 2000). This second type of disinformation can even shape citizens' perception of a specific issue when they are strategic narratives: deliberate constructions whose aim is to create a specific position regarding an issue (Khaldarova and Pantti 2016). Given their volume and consequences (Fletcher, Cornia, Graves and Nielsen 2018), the use of disinformation in creating strategic narratives has led the European Union to class them as a threat to democratic processes (European Commission 2017).

Disinformation aiming to establish a certain discourse appears within a context of conflict in order to impose an explanatory framework, and its purpose is to influence public opinion regarding certain facts. This is accentuated, above all, in the case of issues where opinions are highly polarised (van der Linden, Leiserowitz, Rosenthal and Maibach 2017). Van der Linden uses the example of the climate change debate, where there are two highly polarised positions. On the one hand, widespread scientific consensus regarding the causes and effects of global warming and, on the other, groups with political and economic interests that support the creation of disinformation campaigns with the sole aim of discrediting scientific consensus, using a negating discourse based on post-truths. Along the same lines, it should be noted that the extent to which disinformation is accepted in such polarised contexts is related to the amplification by social media of fake news and post-truths. Such sites constitute an especially favourable breeding ground when we add in the factor of audience mistrust on seeing media in which a bias is perceived (Newman, Fletcher, Kalogeropoulos, Levy and Nielsen 2017). Alternative sources of information and citizen journalism tend to become particularly important in such cases. In the propagation of fake news and post-truths, the discursive framework proposed coinciding with the receiver's ideology becomes a determining factor in the consumption of disinformation (Allcott and Gentzkow 2017). The closer the disinformation to the receiver's set of beliefs and ideologies, the more readily the disinformation will be considered valid and will be included in their arguments (Qiu *et al.* 2017).

Against disinformation

During the US presidential campaign in 2016, 70% of the statements attributed to Donald Trump were false. Determining the real effect this disinformation has had on the decisions taken by voters is a particularly valuable issue that has generated a large amount of academic and political debate, placing the focus on control mechanisms and other measures to combat disinformation (Lewandowsky *et al.* 2017). Such is the case that, at the beginning of 2018, the European Commission set up a high level independent group charged with producing a report to propose possible mechanisms and measures against disinformation. Among the members of this group are various European fact-checkers, selected for their work and track record in combating disinformation. One of the members chosen is Maldito Bulo, a group of journalists which, in the past few years, has acted as a fact-checker, verifying doubtful information in the area of Spain.

This reaction by the European Commission has been due to increased citizen concern regarding everything to do with disinformation but it has also been a first attempt to define and quantify disinformation in the European framework from an institutional perspective, as well as to study possible legal measures and countermeasures to combat disinformation. Among these proposals is the creation of credibility indicators which allow social media algorithms to automatically eliminate any information that may be fraudulent, neutralise the financial motive by eliminating adverts from websites responsible for spreading disinformation, collaborating with independent fact-checkers and drawing up codes of ethics and transparency for the more traditional media (European Commission 2018).

Although the European Commission's initiative is one of the first institutional proposals to address the problem of disinformation, it is tackling problems which groups such as Maldito Bulo, FactChecker and Politifact (in the United States) and FullFact (in the United Kingdom) have spent years working on (Cazalens *et al.* 2018). Given the threat of losing their credibility as sources of information, some major traditional media also have their own initiatives to study the phenomenon of disinformation, working on monitoring and supervising information. Examples of these are Fact Checker (The Washington Post), Désintox (Libération) and Décodeurs (Le Monde).

Disinformation networks

The truthfulness of information and its intent are two criteria that help us to characterise fake news and post-truth. However, the factor that places them at the centre of today's events is the fact that the internet and digital platforms provide a vehicle that makes it easy to disseminate them to a large number of individuals via mechanisms that can withstand filters and control. In fact, we might even say that the capability of disinformation to be spread via social media actually characterises it. In other words, in addition to being defined by the message's content, it can also be defined based on the infrastructures, platforms and user practices that help it to circulate (Bounegru *et al.* 2017). In this

respect, social media have become one of the favourite media for users to access news and this has meant that platforms such as Facebook and Twitter play a crucial role in the news ecosystem (Shearer and Gottfried 2017), with new variables being introduced in the mechanisms to disseminate information. The use of bots, social media accounts that automatically publish content and interact with users, has become frequent practice during election periods (Kollanyi, Howard and Woolley 2016). However, we must take care when ascribing a decisive role to such practices as it is human users and not bots that help disinformation to spread (Vosoughi, Roy and Aral 2018).

As we have mentioned, ideological affinity between those issuing information and those receiving it is a particularly relevant factor in the circulation of news. On social media sites users tend to establish connections and share information with people who have similar political positions and points of view, encouraging environments of personalised information which, with nuances, can be conceptualised as echo chambers and filter bubbles (Allcott and Gentzkow 2017; Bakshy, Messing and Adamic 2015; Del Vicario *et al.* 2016; Freelon 2017; Pariser 2011). In addition to the aforementioned social media, we should also add instant messaging apps which are gaining in popularity as a means of propagating news. The establishment of smartphones as a device to access information, the greater sensation of privacy and less algorithmic filtering of content explain why, in some countries, this kind of app is now threatening the hegemony of Facebook and Twitter. In the case of Spain, almost 32% of users turn to WhatsApp for their news (Newman *et al.* 2017).

Research objectives and questions

Our aim was to analyse the use of disinformation as a strategic narrative and to contextualise the role it plays in conflictive politics, using the case of the referendum on independence for Catalonia held on 1 October 2017. In addition to being a recent and relevant event, the case study chosen fulfils a number of characteristics which, *a priori*, make it fertile ground to propagate disinformation and deploy strategic narratives in favour of certain explanatory frameworks: it led to huge polarisation in opinions, attracted a lot of media attention and was widely commented on social media sites. Taking these circumstances into account, we formulated the following research questions:

Q1: What were the main items of disinformation concerning the referendum on 1 October and circulated on social media, and which features distinguish them?

Q2: Do they have the necessary characteristics to be considered strategic narratives?

Q3: To what extent can we trace and measure their impact/degree of propagation?

The first question aims to identify and characterise disinformation; the second uses the concept of strategic narrative to determine the goals, beneficiaries and injured parties. Lastly, the third question addresses the difficulty in determining the origin, scope and real impact of disinformation.

Methodology

Sample selection

To obtain a sample of disinformation related to the referendum on 1 October, we used the news items refuted by the fact-checker Maldito Buló on its Twitter account (@malditobulo). We selected items during a period thirty days before and thirty days after the date of the referendum: from 01/09/2017 to 30/10/2017. This decision was due to the need to limit the sample but have a long enough period to allow both the deployment of complex narratives and also to obtain a large enough volume of examples of disinformation.

During the period of analysis, a total of 74 items of disinformation were checked, of which 52 were related to the case in point. These 52 items of disinformation make up the sample analysed. It's important not to forget that this sample corresponds only to disinformation detected and checked by the fact-checker Maldito Buló. We must assume that not all instances of disinformation circulating during that period were detected or, at least, checked.

Attributes and analytical values of the items of disinformation

The disinformation items were classified, first of all, base on a series of attributes associated with specific values used to

identify the main characteristics. For example, based on the attribute "Authority", we have differentiated 4 values that help us to determine whether the disinformation is supported by the force of an authority attributable to concrete source.

Our proposal was to measure the impact based on two attributes: "media coverage" and "action". The first attribute (media coverage) allows us to know whether the disinformation spread via social media has lead to content in the media; i.e. whether the disinformation being circulated has moved into the media sphere and therefore magnified its potential audience. The second attribute (action), allows us to distinguish between the responses of "propagate" and "refute". In the cases of media coverage, we can find situations when the media refute the disinformation circulating on the internet, or situations in which the media repeat the disinformation and help to propagate it. This distinction allows us to differentiate between those instances when the media act as a corrective force on the transmission of disinformation and when the media are allied with the control structures. The analytical framework is completed with these impact indicators.

Taking these criteria into account, each of the 52 items of disinformation related to the referendum on 1 October were analysed and coded. For example, the disinformation checked by Maldito Buló and contained in Figure 1 refers to an image of a brutally attacked police officer and was related to the events of

Table 1. Details of the disinformation analysis

Attribute	Value	Description
Authority attributed	Name	Name of the original source of the disinformation or anonymous, depending on whether it's identifiable.
	Anonymous	
Truth of the source	Real	When the attributed source is a real entity.
	False	When the attributed source is a supplanted entity.
	Diluted	When the original source can't be identified.
Authority	Official	When the disinformation makes use of the authority of an official body to reinforce the message.
	Media	When the disinformation makes use of the authority of the issuer as part of the media.
	Public	When the disinformation makes use of the authority of the issuer as a public or famous person.
	Diluted	When the source can't be identified.
Narrative	Pro-independence	When the disinformation is used to support a pro-independence narrative (or to harm the opponent's narrative).
	Pro-unity	When the disinformation is used to support a pro-unity narrative (or to harm the opponent's narrative).
Format	Text	When the disinformation is based on a text.
	Photo	When the disinformation is based on an image.
	Video	When the disinformation is based on a video.
Media coverage	Yes	The disinformation has been repeated in the media.
	No	The disinformation has NOT been repeated in the media.
Action	Propagate	Helping to spread the disinformation, repeat or modify it without refuting it.
	Refute	The reaction has been to refute or verify the disinformation.

Source: Author.

1 October. In this case a real image has been used (not a photo-montage) but it is not actually related to the referendum but to a demonstration by farmers in 2008 in Almería. It's important to note that the elements available to determine whether the image corresponds to the events regarding 1 October are very few in number and refuting this requires advanced search techniques and a detailed analysis of the image, something which is not within the reach of audiences. Although Maldito Buló published a message containing the name and surname of a user who had shared this information, we cannot find a clear author, so it has been coded as having an **anonymous** source and the truthfulness and authority of the source are **diluted**. We have considered that it formed part of the **pro-unity** narrative since it feeds the narrative that the pro-independence movement uses violent means. Given that the disinformation is based on the use of a photograph taken out of context, we have noted the format as **photograph**. Regarding the impact indicators, we have been able to determine that it was published in the media (Vera 2017) during the period analysed in the context of an article which contained several images and news items that were refuted and checked against facts. In this respect, the publication of this item of disinformation in the media contributed to stopping its propagation online and provided the public with information that helped them to interpret the image.

Results

As can be seen in Table 2, after coding the 52 items of disinformation checked by Maldito Buló, we have found that 67% of the items of disinformation (35) form part of the pro-independence narrative, while 33% (17) correspond to a pro-unity narrative. In accordance with these figures, it seems evident that the independence movement more frequently used items of disinformation to support its discourse.

If we look at the impact indicators, we can see that, in 39 of the 52 cases analysed, 75% were covered by the media, which confirms that the items of disinformation did indeed achieve a significant amount of publicity. In this respect, we should note that, as we can see in graph 1, 94% of the items of disinformation used to support the pro-unity movement reached the media while, in the case of the independence movement, this figure falls to 65%. However, if we pay attention to the type of media coverage obtained (refuted or propagated), we can see that 43% of the items of disinformation by pro-unity followers manage to be propagated by the media while, in the case of the independence movement, only 8% of their items of disinformation managed to get the traditional media to collaborate in their propagation. On the other hand, if we look at the occasions when the media have acted as a means of controlling items of disinformation, the figures are the opposite, showing that the traditional media are much more effective at detecting and checking items of disinformation that aim to benefit the independence movement.

Figure 1. Hoax refuted by the fact-checker Maldito Buló



Source: Maldito Buló.

Table 2. Summary of items of disinformation published, by narrative and share of total

Narrative	Number	Share of total
Pro-independence	35	37,30%
Pro-unity	17	32,70%

Source: Author.

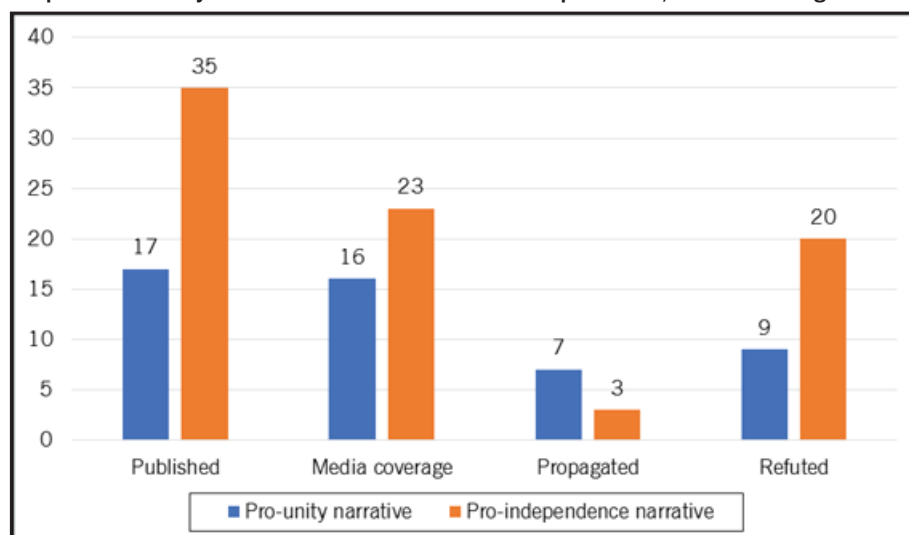
Looking at the strategies used in constructing fake news and, ultimately, the post-truths of the Catalan case, we can see that both extremes use a repertoire of very similar resources. Graph 2 provides the percentages to compare more clearly the strategies used by pro-independence followers and pro-unity followers. In both cases, almost half the items of disinformation published were not attributed to any clear source. Those that were attributed, the other half, claimed to be published by public figures and the media and, in the case of the independence movement, official sources were also used to make the disinformation appear more credible.

The fact that the sources attributed are public figures does not mean they were actually involved in constructing and disseminating the items of disinformation. In fact, in 12 of the 17 items of disinformation signed by a known figure, this person had been supplanted or manipulated. The items of disinformation had used the authority of the source precisely to make the information being published seem more credible.

However, we should not forget that this also means that, on 5 occasions, it was actually the public figures themselves (politicians, journalists, etc.) who originated the disinformation, suggesting that this type of person plays a crucial role in deploying the strategic narratives of the conflicting parties.

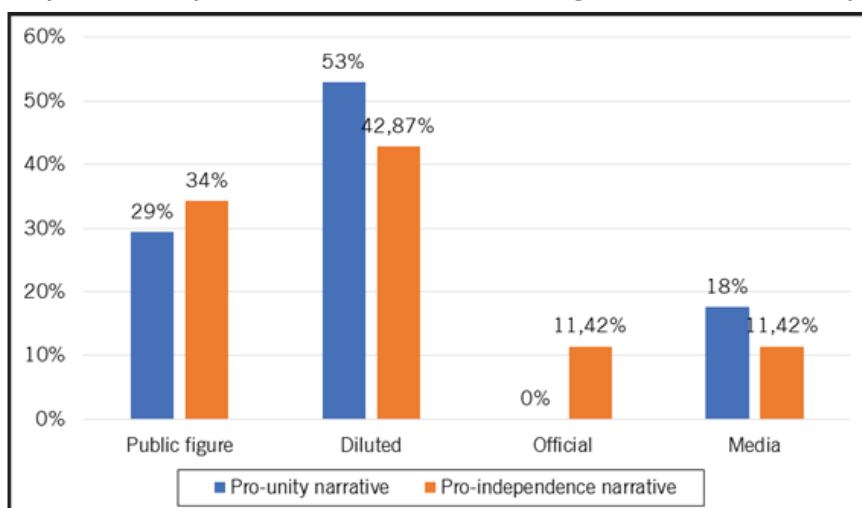
In those cases where the source attributed is a name (28 items of disinformation, 53% of the total), 16 were sources that had been supplanted, manipulated or falsified. The remaining 12 sources were real and admit to having spread the disinformation. The cases of sources being supplanted were quite similar for the two political movements. Of the 20 items of disinformation in which pro-independence followers clearly identified the source, 12 (60%) were fake, supplanted or modified, while 8 (40%) of them were real sources taking part in spreading the disinformation. For the pro-unity movement, 8 (47%) of the 17 items of disinformation published had an attributed source that could be identified. Of these, 4 (50%) were real sources that admitted to spreading disinformation while 4 (50%) were fake,

Graph 1. Summary of all the items of disinformation published, media coverage and media action by narrative type



Source: Author.

Graph 2. Authority of the sources attributed as the origin of the disinformation by narrative type



Source: Author.

supplanted or modified. The results suggest that supplanting sources is typical of the pro-independence narrative. The pro-independence movement, on the other hand, is characterised by being more effective in involving public figures in spreading its items of disinformation. It should also be noted that we have not found any case in which the media had been supplanted or anything similar: 100% of the items of disinformation attributed to the media were accurate.

The items of disinformation analysed can be grouped into three different formats: video, photo or text. As can be seen in graph 3, text is the most widely used format to spread disinformation (65%), followed by photos (25%) and finally videos (10%). These figures indicate that text is the preferred format to spread items of disinformation and the evidence suggests this may be due to the ease with which a text can be produced, compared with a photograph or video.

The impact of disinformation on the traditional media is also related to the format in which it's presented. Graph 4 shows that, when disinformation is in the form of a text, it's spread more widely than in the rest of the formats while the photo format is the one most readily refuted. We believe this relationship

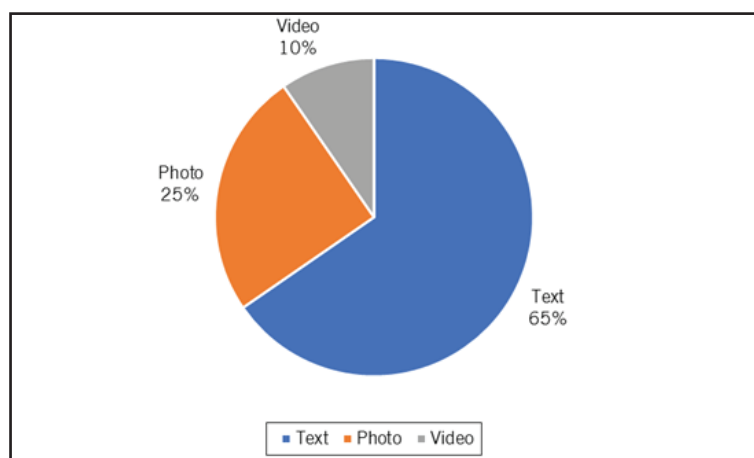
between being propagated or refuted is related to how easily the format can be manipulated. While it's easy to manipulate a text, it can also be more difficult to check whether it is disinformation. Photographs, on the other hand, can be verified more effectively, making it easier to detect disinformation.

Discussion

The content of the items of disinformation analysed allows us to state that most of the items of disinformation published in the period under study had highly specific objectives: to link the independence movement with violence, exaggerate the police action on 1 October, accuse the Spanish government of waging a dirty war, overstate the number of people supporting each side and discredit the leaders of both movements.

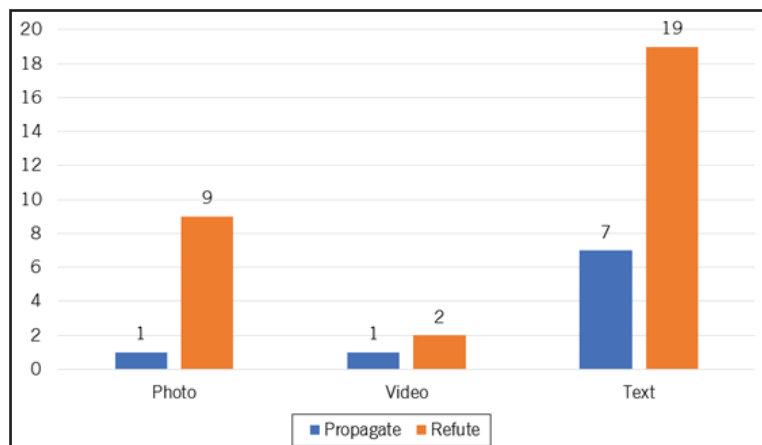
An analysis allows us to conclude that the main items of disinformation published during the period in question were texts (65%). This is due to their low production cost and greater ease of propagation. In 46% of the cases, the source of the disinformation cannot be determined and, in those cases where

Graph 3. Overall data on the format used for the disinformation analysed



Source: Author.

Graph 4. Action carried out by the media by the format of the disinformation



Source: Author.

the source is alleged, 57% of these had been supplanted. Along the same lines, in only 42% cases of items of disinformation issued by an identifiable source was this source accurate. In other words, if we take all the items of disinformation analysed, 76% of them had a fake source or a source that was impossible to identify.

As has been seen in the analysis section, items of disinformation were also propagated in photo format (25%) and video format (10%). However, the effectiveness of these formats in terms of them being spread by the traditional media is very low. This is particularly due to the existence of mechanisms (search engines, data banks, fraud indicators) which can be used to quickly check the accuracy of content.

Given the results, the evidence suggests that the pro-independence movement is more active in terms of producing items of disinformation. However, we must not forget that the pro-unity movement is much more effective at involving the traditional media in its propagation and also in refuting disinformation. This could be related to the editorial line of some media, leading them to align themselves with one of the two sides in the conflict. Also important is whether there are factors that make it easier to check certain items of disinformation more than others. We cannot discuss here whether fact-checkers themselves may have an ideological bias that leads them to act more zealously against a certain type of disinformation but it's obvious that such organisations are limited by the resources required to detect and, most especially, check out fake news. We must therefore be very careful when reaching certain conclusions based on the sample analysed. In any case, it's evident that more effective mechanisms are required to detect the construction and dissemination of post-truth.

The work carried out by the fact-checker Maldito Bulo in the context of the case in question, as well as the work carried out by its European peers in situations of highly polarised public opinion, has turned out to be highly valuable in safeguarding the right of citizens to receive true information and to stop the circulation of items of disinformation. In spite of everything, we must not lose sight of the fact that, as we have seen in the analysis carried out, the fact-checker Maldito Bulo may always be better equipped to detect post-truth than others, a situation which may get worse if the media system intervenes to refute items of disinformation aligned with a certain narrative but less so with the other narrative. Such a scenario could result in an imbalance in the volume or thoroughness with which items of disinformation are checked and may mislead us regarding the real production of disinformation occurring at each of the extremes in a conflict. It's therefore important to have the tools and a methodology in place to treat and detect items of disinformation fairly, in order to act with the same speed and conviction irrespective of the narrative reinforced by the disinformation in question.

Conclusions

The results obtained allow us to conclude, firstly, that the main items of disinformation aim to reinforce a series of "facts" which, to a greater or lesser extent, can be classified as post-truths: violent behaviour by pro-independence followers, exaggerated police violence on 1 October, the "dirty war" orchestrated by the Spanish government, the deployment of troops in Catalonia, the number of people supporting each of the causes and discrediting political leaders on both sides. We have also observed that 76% of the sources were supplanted or fake, that falsifying messages is one of the most widespread techniques, and that it's more normal to use text (65% of the cases) than images or videos.

The items of disinformation analysed contain a series of characteristics which allow them to be classified as strategic narratives. We can conclude that they serve three purposes: a) encourage support, b) discredit and c) provide an explanatory framework. In the case of encouraging support, disinformation aims to provide arguments. In the case of discrediting, the aim is to generate an argument that neutralises the ability of one of the people involved in narrating facts to influence others. Lastly, disinformation can also aim to provide arguments or a version of the situation that helps to generate a strategic discourse about certain facts. In any of these three cases, disinformation aims to alter public opinion and hinder reason, or to sway decisions in favour of its particular movement, supporting a position in opposition to certain facts and generating a certain version of narrative.

While carrying out this study, we have found that, in many cases, it's almost impossible to measure the impact or degree of propagation of items of disinformation. Firstly, the disinformation analysed has been circulated via social media and the content published by users is restricted in terms of access and due to the social media sites' own privacy rules. In many of the cases analysed, users themselves have eliminated items of disinformation they had posted, or the social media site has erased content in an attempt to stop it from spreading. In those cases where disinformation has been spread via a private messaging network (WhatsApp or Telegram), there is zero traceability. It's therefore important to find methods and techniques that allow us to more accurately analyse the creation and propagation of items of disinformation.

Nevertheless, there are some techniques which can be used to analyse the impact of items of disinformation published in the past. By means of other analytical instruments we can quantify how much content has been spread on social media, although this kind of analysis is only possible when the disinformation can be found on an URL, which is what provides traceability online. Lastly, our methodology included an indicator of the publication of items of disinformation or related content in the media. Although this indicator does not measure the scope or impact, it does help to contextualise the importance of an item of disinformation at a specific informative moment, framed within a discourse and taking as relevant the fact that content

generated initially on social media should be able to make the leap to a much broader communication sphere, such as the media, where the potential audience is multiplied.

Finally, in the case in point, there is only one fact-checker of any standing in Spain that can be used as a source of disinformation that has been checked. If there were more agents involved in the task of checking information, or impartial sources of refuted disinformation, we would be able to expand our analytical base. By increasing the number of cases analysed, either by obtaining more sources or extending the sample longitudinally, we could even measure to what extent disinformation can be traced, quantify its impact and calibrate the levels of propagation more precisely.

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Your likes, your vote? Big personal data exploitation and media manipulation in the US presidential election campaign of Donald Trump in 2016

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Abstract

The newspapers Observer and The New York Times have revealed an alleged massive-scale scandal of data corruption involving Facebook and Cambridge Analytica that could have benefited the electoral victory of Donald Trump.

The objective of this article is to analyze the conditions of possibility of the case and its potential influence on Americans' voting decision. To do so, it examines the scientific-technological, business and legal context related to big data technologies in which the facts would have happened and evaluates their possible influence in relation to the limits of the performed strategy and its current media and socio-political context.

Keywords

Big data, personal data protection, Donald Trump, Facebook, Cambridge Analytica, media manipulation.

Resum

Els diaris Observer i The New York Times han revelat un suposat escàndol de corrupció de dades a escala massiva que involucra Facebook i Cambridge Analytica i que podria haver afavorit la victòria electoral de Donald Trump.

L'objectiu d'aquest article és analitzar les condicions de possibilitat del cas i de la seva influència potencial en la decisió de vot nord-americà. Per a això s'examina el context científicotecnològic, empresarial i legal relacionat amb les tecnologies big data en el qual s'haurien produït els fets, i es valora la seva possible influència en relació amb les limitacions pròpies de l'estratègia emprada i el seu context mediàtic i sociopolític actual.

Paraules clau

Big data, protecció de dades personals, Donald Trump, Facebook, Cambridge Analytica, manipulació informativa.

Introduction

On March 17, 2018, the newspapers *Observer* and *The New York Times* published the testimony of a new "whistleblower" named Christopher Wylie. The news reports revealed the supposed improper transfer of the data of millions of Facebook users to the company Cambridge Analytica, along with the fact that this company may have used these data to favour the victory of Donald Trump in the 2016 US general elections via a micro-targeting strategy based on military psychological attack techniques. It also reported that some of the data collected in the United Kingdom may have been used in the "Vote Leave" and "BeLeave" campaigns to push for the vote in favour of Brexit in the referendum held on the 23rd of June 2016.

Due in part to media leaks like this one, which is related to data corruption and the possibilities currently afforded by big data gathering and analytics technologies, citizen concern over the privacy of personal data has increased in recent years (Hargittai & Marwick 2016; Turow, Hennessy & Draper 2015). Despite

the fact that big data analytics are still a more developed form of quantitative analysis, there are major new developments: data collection is indiscriminate and their processing draws from aggregation and cross-referencing techniques (Baruh & Popescu 2015) which enable information to be inferred from data even if it is not explicitly contained therein (Tufekci 2015). Different academic disciplines have made a decisive contribution to the technical development of the possibilities afforded by big data analytics and to reduce its costs. As a result, organisations and public and private institutions have already begun to use big data for different purposes. Market predictions, targeted advertising, improvements in the transport sector, the pursuit of terrorists, public health and the management of natural disasters are just several examples (European Parliament Resolution, 14 March 2017). However, beyond this, a business model has begun to gain ground that is based on data exploitation and dominated by large tech multinationals.

Big data technologies are not only increasingly complex, but they are also particularly opaque (Pasquale 2015), given that

there are major power interests at stake in data exploitation. For this reason, the 'notice and choice' model (Baruh & Popescu 2015) underlying Western data-protection laws is insufficient to deal with the social impact of big data phenomenon (Suárez-Gonzalo 2017).

Just like any technological advance, big data gathering and analysis methods and tools run the risk of falling into the wrong hands or being misused. The Cambridge Analytica case exemplifies this danger, but beyond that it also illustrates many of the risks entailed in the current development of big data. On the one hand, it reveals the threats that it poses to privacy and personal data protection, as well as the inadequacies of the current laws. On the other hand, it allows us to debate its influence on the rise in media manipulation, online disinformation and the radicalisation of ideas and political opinions (Marwick & Lewis 2017).

The aim of this article is to show that the seriousness of the Cambridge Analytica case is more closely associated with the existence of a structure that makes it possible and its social impact, as opposed to the possible specific interference it exercised on voting decisions in the United States. To fulfil this objective, the article is divided into two parts. In the first part, it offers a description of the facts reported by *Observer* and *The New York Times* and analyses the conditions that made this possible in relation to the characteristics of the scientific-technological, business and legal context in which it happened. It is important to stress that this article focuses on the US side of the case, which was the one that garnered the most attention and where more information has been confirmed so far through other sources. On the other hand, given that the publication of the information is still very recent and that these are not proven facts, it should be stressed that the argumentation presented in this study does not depend on the veracity or accuracy of the deeds but on an analysis of the conditions that made them possible. Through this analysis, I am seeking to explain that far from being the cause of the problem, this case is its expected consequence. The second part focuses on the possible influence of the Cambridge Analytica case. Following the same logic as in the first part, in the second I explain the kind of influence that the technique of micro-targeting exerts on people. Then, the level of this influence on the US vote is questioned in relation to the limitations of the model used to develop the profile of the target audience of that campaign on the one hand, and according to the current media and sociopolitical context within which the case falls on the other.

In order to fulfil this objective, three main sources are used: scholarly, journalistic and corporate. Given the theoretical nature of the study, the scholarly output is the most relevant source and serves as the foundation of the argumentation developed. Secondly, journalistic sources are used to explain the Cambridge Analytica case. After consulting a large corpus of news reports, the two published by the *Observer* and one published by *The New York Times* (the media outlets which had the scoop on the case) on the 17th of March 2018 (the

day when the case was revealed) were chosen, as they contain more detailed information on the deeds. These three are joined by a fourth source published by *Observer* one year before the leak (7 May 2017), when the newspaper began to reveal relevant information from the confession of an informant who was still shrouded in anonymity. Finally, two kinds of corporate sources were examined: first, the websites of the companies involved (Cambridge Analytica and SCL Group), where they describe their own business model, and secondly notifications and official reports on the case published on Facebook.

Your digital life, Cambridge Analytica and the Trump election campaign

The last Facebook estimation (Schroepfer, 4 April 2018) confirms that in 2014 the data of approximately 87 million Facebook users were leaked to the company Cambridge Analytica. Of this 87 million, more than 70 were profiles of US citizens. More than one million of the remainder were citizens of the United Kingdom, and almost 137,000 were Spaniards.

Data collection

According to the testimony of a former Cambridge Analytica and SCL Group employee, Christopher Wiley, published by *Observer - The Guardian* (Cadwalladr & Graham-Harrison, 17 March 2018; Cadwalladr, 17 March 2018) and by *The New York Times* (Rosenberg, Confessore & Cadwalladr, 17 March 2018), the transfer of these data would have taken place thanks to the involvement of Cambridge University professor and researcher Aleksandr Kogan. He would have replicated the *myPersonality* application developed by his colleagues in the Psychology department, whose results were disseminated in a scholarly publication in 2012 (Stillwell & Kosinski 2012). The replica seems to have been *This is Your Digital Life*, a personality test available on Facebook since 2014, which required its participants to have a Facebook account and be US voters. When participating, the users consented to allow the data in their account to be used for academic research, and in exchange they received monetary compensation. According to the data that Zuckerberg made public (21 March 2018), almost 300,000 people performed the test. However, *This is Your Digital Life* also gave Kogan access to certain information on the "friends" of the majority of participants in the test, in such a way that the number of user profiles whose data he obtained increased exponentially to 87 million. Because these "friends" had not consented to his accessing their profiles, the data obtained from them were fundamentally those generated by their participation in the social media, which are usually "public by default".

According to Wiley (Cadwalladr & Graham-Harrison, 17 March 2018), Kogan would have leaked these data to Cambridge Analytica in 2015 via a commercial agreement between his company Global Science Research (GSR) and SCL Elections, a

subsidiary of SCL Group, which is, in turn, a company affiliated with Cambridge Analytica. This leak was not discovered by Facebook until approximately one year later, in 2015, and it then failed to inform either its affected users or the States about the leak.

The recent reports and official publications shared by the Facebook authorities (Grewal, 16 March 2018; Schroepfer, 4 April 2018; Zuckerberg, 21 March 2018) confirm Wiley's testimony. Now, the Facebook Help Centre has made available to users the tool called "How to check if your Facebook data was used by Cambridge Analytica" (Facebook 2018), where they can check whether the data company had accessed the information in their profile.

Data analysis

Wiley would have used the method developed by Stillwell and Kosinski (2012), Kosinski, Stillwell and Graepel (2013) and Youyou, Kosinski and Stillwell (2015) to conduct psychometric studies based on the data obtained from *myPersonality* (Stillwell & Kosinski 2012) to analyse the data collected via *This is Your Digital Life*. Kosinski, Stillwell and Graepel (2013) demonstrated the possibility of ascertaining highly sensitive personal attributes and characteristics by automatically analysing easily-accessible digital records of human behaviour, in this case "likes" on Facebook. The attributes the study demonstrated it could predict include sexual, political and religious orientation, sex, ethnicity and information on users' lives such as drug consumption, level of life satisfaction and whether or not a person's parents remained together until the individual was 21 years old. From this, Wiley would have gotten a description of the psychological profiles of millions of users involved, including their political affinities. The results of the personality test performed by the almost 300,000 people who participated in *This is Your Digital Life* would have been the control group to test the validity of the analyses performed on the entire data set.

According to the information published by The Guardian (Cadwalladr, 7 May 2017), Cambridge Analytica would have combined this psychological information extracted from databases of consumers and then crossed it with postal addresses, emails and telephone numbers. Until that time, Facebook itself allowed profile searches based on telephone numbers or addresses, an option which, as Schroepfer explained (4 April 2018), the company has now deactivated due to the abuses perpetrated by ill-intentioned users.

Data exploitation

The former Cambridge Analytica employee revealed that these data would have been used in a political micro-targeting campaign with the goal of influencing voting decisions during the 2016 presidential elections in favour of Donald Trump (Cadwalladr, 17 March 2018).

Newman (2016) claims that the micro-targeting technique was used in the Obama campaign committees in the 2008

and 2012 presidential elections. Micro-targeting is a direct advertising technique which allows more persuasive campaigns to be generated by using big data analytics techniques and artificial intelligence mechanisms to get information and target the audience in a more personalised fashion (Alkış & Taşkaya Temizel 2015; Miralles-Pechuán, Ponce & Martínez-Villaseñor 2017; Neumann 2017).

However, in the Trump campaign, Christopher Wiley (Cadwalladr, 17 March 2018) points to the use of psychological operations (PSYOPS), a kind of military information warfare technique that seeks to exert a manipulative, not persuasive, influence. PSYOPS are a type of attack which consists in locating targets that are particularly vulnerable to psychological impact and launching a message that is capable of changing their feelings in order to urge them towards a particular action that favours national or allied interests. The US defence forces have waged this kind of information attack before, during or after wars and conflicts (United States Air Force 1999). The research undertaken by Briant (2018) argues that after the terrorist attack waged by Al Qaeda on the 11th of September 2001, the US government decided to extend the use of psychological operations to modern propaganda systems inside the country. In her article, Briant argues that this transformation is due largely to the spread of information and communication technologies which challenge the influence of the propaganda model traditionally used by the US Bureau of Public Affairs. Sartonen, Simola, Timonen and Lovén (2017), in turn, underscore that one of the major potentialities of the psychological profiles yielded from the analysis of online behaviour is their ability to contribute to the objectives of PSYOPS.

The case, possible and necessary

First of all, in order to keep in mind the facts we are discussing, it should be noted that if Wiley's testimony is confirmed:

1. There would have been a massive data leak of Facebook users by means of a commercial agreement between the Cambridge University scholar Aleksandr Kogan and SCL Group.
2. In total, this leak would have affected the profiles of approximately 87 million Facebook users.
3. As a consequence, Facebook would have failed to fulfil its rule which requires anyone who gathers user data to inform users of the purpose and not to allow the data to be transferred to third parties. In the case of the affected European countries, Facebook would also have failed to comply with the European Data Protection Regulation (EU 2016/679), which bans the sale of data to third parties.
4. Furthermore, the agreement reached with users who participated in *This is Your Digital Life* would have been violated, as they only consented to provide access to their profile information for academic uses.
5. Subsequently, these data would have been used to

manipulate the voting decision of the US electorate in favour of the candidacy of Donald Trump through a micro-targeting campaign based on military information warfare techniques.

Despite the existence of reports that would, at least, partially confirm Wiley's testimony, the argumentation developed in this study does not depend on the veracity or accuracy of the data but on the existence of the scholarly research that makes these deeds possible, a business model that needs them and a legal context that is incapable of dealing with it.

Thus, this section explains the main characteristics of the scholarly research, the business model and the legal context related to the case.

Data exploitation as an academic research line

Firstly, the scholarly publications mentioned in the previous section, which are essentially associated with the fields of Psychology, Computational Science and Communication, demonstrate:

1. That the automatic analysis of easily-accessible digital records on the behaviours of people in their social networks reveals a range of sensitive characteristics about their personality, including their political affinity (Kosinski, Stillwell & Graepel 2013; Stillwell & Kosinski 2012; Youyou, Kosinski & Stillwell 2015).
2. That based on the psychological profile obtained in the previous analysis, it is possible to develop more persuasive personalised communication strategies (Alkış & Taşkaya Temizel 2015; Miralles-Pechuán, Ponce & Martínez-Villaseñor 2017; Neumann 2017).
3. That people's psychological profile is of great interest in the application of military emotional manipulation techniques which are capable of modifying people's behaviours based on specific objectives (Sartonen, Simola, Timonen & Lovén 2017).

Due to the social risk entailed in this line of research, it seems essential to clearly stipulate which are its aims for social development and which are the fields in which its practical execution is legitimate.

Data exploitation as a business model

On the other hand, the companies involved in this case, Cambridge Analytica and SCL Group, embody an expanding business model which has the backing of multi-million-dollar investments. This consists in developing strategic communication campaigns whose objective is to modify the behaviour of vulnerable population segments from a given target audience in favour of specific objectives.

Cambridge Analytica (2018) is a company headquartered in New York, Washington and London which was founded in 2013 as a subsidiary of SCL Group. The CEO of the company in the United States, whose biggest investor is the US billionaire

Robert Mercer, is Steve Bannon, former Senior White House Counsellor to Donald Trump. Under the slogan "Data drives all we do", Cambridge Analytica presents itself as a company that "uses data to change the audience's behaviour". The company is made up of a sales division devoted to advertising and marketing, and a political division devoted to electoral communication campaigns. The services it offers, whether targeted to consumers or voters, are: researching the target audience in order to learn about it in-depth and understand its main characteristics; adding and integrating the data obtained into a centralised platform; predicting audience segments likely to respond favourably to the messages; developing customised multi-channel campaigns to capture key audience segments; and reporting on their future scope through campaign performance data. It promises companies that they can learn about every individual in their target audience in order to help them connect with them "on a personal level". It promises its clients in the political division to identify their target electorate, learn more about them and gain more influence over them in order to spur them to action at a low cost. In other words, its business model consists in data exploitation to modify the target audience's behaviour.

In turn, SCL Group (2018) also belongs to Robert Mercer, and as stated on its website. It is a company devoted to developing strategic communication campaigns for governments and military organisations all over the world based on data analytics. Its main objective is to spark changes in behaviour in defence, intelligence and social-change operations.

With regard to the business model, therefore, it is essential to ensure that all the companies' private interests respect citizens' rights and the democratic organisation of society.

Legal insufficiency

Finally, if Wiley's testimony is confirmed, there would have taken place alleged illegalities related to data collection. This section shows that, beyond punishing these illegalities, the legal framework of personal data protection is insufficient to deal with the situation. The reflections are common to American and European cases, which are grounded upon the same individual 'notice and choice' model (Baruh & Popescu 2015). This requires people to be clearly informed about what happens to their data, since based on this information, they can provide their consent (or not) to give up the data.

Data accessibility

Given that the bulk of the information that Cambridge Analytica supposedly used to generate a strategy to influence the electorate is easily accessible (likes), the fact that it obtained them illegally does not seem overly relevant.

In this regard, it seems essential to point out the fact that just because the data are accessible does not mean that they are public. Social media interfaces are spaces designed and managed by private companies with certain commercial interests, and therefore they are not exactly comparable to

traditional public spaces. Besides, the fact that something is public does not mean that it can be used by anyone or for any purpose.

Invalid agreement

Likewise, by lying about the purpose of the data (commercial, not scholarly), there would have been a rupture in the agreement between the two parties: the research who asks for the user's consent to collect their data, and the user who provides it. Beyond this rupture in the agreement, which was punished by the social media itself, the Cambridge Analytica case shows that, as argued in a previous study (Suárez-Gonzalo 2017), individual consent is an invalid instrument to protect personal data, at least for these reasons:

1. It is a requirement to participate in and enjoy products and services. In the case of *This is Your Digital Life*, users had to accept the user conditions of both the Internet browser and those of Facebook and the application itself. Furthermore, in this case the cession of data seems to have been associated with monetary compensation.
2. Due to the capacity of big data analytics technologies to infer latent information in data, users consent to provide access to certain data in their profile but remain unaware of what sensitive information can be gotten by analysing these data (Tufekci 2015). This means that even though the footprints of our basic behaviour as social media users are not necessarily considered personal data, the information that can be extracted from analysing them can become extremely sensitive.
3. On the other hand, the personal information that a person disseminates also affects others, so a person is not necessarily aware of (or has not necessarily consented to) the publication of information that affects them. In this sense, individual consent has a social impact. The case of *This is Your Digital Life* exemplifies this issue in two ways. First, the fact that a group of people participated in the test has been used to harm millions of other people who have nothing to do with it. Secondly, the fact that these people gave their consent helps to shape a business model based on the exploitation of personal information that affects society as a whole.
4. This complexity is compounded by the intentional opacity of big data technologies (Pasquale 2015), which makes it particularly complex for people to be properly informed about what will happen to their data when they consent. This also means that the agreement reached via consent does not entail negotiation, nor does it take place between equal parties.

For these reasons, it is difficult to consider individual consent a valid method to protect personal data.

The influence, in its context

The section above focused on the characteristics of the context in which the Cambridge Analytica case occurred. This section focuses on the context related to the type and level of influence of the case.

Given the seriousness of the facts revealed, there is no doubt that a rigorous study of the veracity of the deeds and their level of influence on Donald Trump's victory is needed. However, focusing our attention exclusively on this matter may be futile, firstly because it is difficult to measure the level of influence that an isolated act has within a complex decision. Secondly, because this could lead us to minimise the importance of the fact that there is a business precisely model devoted to gaining this influence, and furthermore, because if big data technology continues developing in the same way as today, its capacity for influence will continue to grow.

The purpose of this section is to explain the importance of focusing on the social impact of the system which makes possible the Cambridge Analytica case, instead of the specific interference of the case in US voting decision. To do so, this section describes the kind of influence that micro-targeting technique exerts over people. It then questions this influence, on the one hand, in relation to the limitations of the model used to devise the profile of the target audience of that particular campaign and, on the other, in accordance with the current media and sociopolitical context of the case.

Persuasion or manipulation

According to Bennett (2015), the technique of micro-targeting incorporates the trends that are characteristic of current electoral campaign management in Western societies, such as: it uses big data technologies to collect and integrate the data on voters into unified management platforms, including their consumption data and the data generated on the social media, and it signals the shift from mass messages to targeting micro-audiences. Bennett claims that these techniques emerged as the outcome of the decreasing efficacy of traditional techniques. They are cheaper yet more intrusive ways of influencing voters' behaviours. He also notes that these trends are generating a consumerisation of the vote, and therefore they not only affect the individual's privacy but also broader democratic dynamics.

By defining an individualised audience profile, the technique of micro-targeting exposes the individual to certain information selectively. In this way, it does not explicitly say what to consume or whom to vote for but instead shapes some of the referents based on which people spend money and vote. Likewise, the fact that the individual is unaware which of their profiles the person targeting them is using when exposing them to this information places them in a position of being vulnerable to manipulation.

Yet another issue is the fact that Wiley's testimony cites the use of military techniques with a psychological impact. Even though this has not been proven, there are two factors that lead us to

mistrust it. On the one hand, the notable similarity between the range of services purveyed by the company Cambridge Analytica (2018) and the characteristics of the information attacks perpetrated by the US defence forces (United States Force 1999). On the other hand, the experience of SCL Group (2018) in developing strategic defence campaigns and its association with the military elites. This is joined by scholarly studies that show the potentiality of psychological profiles to undertake “psychological operations”.

Biased profile

Micro-targeting is based on defining a precise, individualised profile of the target audience. In the case of the Trump campaign, this profile was devised based on the model developed by Cambridge University (Kosinski, Stillwell & Graepel 2013; Stillwell & Kosinski 2012; Youyou, Kosinski & Stillwell 2015). In this sense, when discussing the influence of the Cambridge Analytica case, it is essential to weigh the possible limitations of this model.

Big data technologies provide an overview of what is being studied, that is, a broad picture of the situation. What is not as clear is that through this picture it is possible to understand or explain complex phenomena such as psychology and human behaviour, which are not mathematical (Boyd & Crawford 2012). For this reason, it seems essential with a touch of scepticism the assumption that through the analysis of a given representation of human behaviour (likes), precise information can be gained on complex personality features (ideology). In this sense, the application of big data analytics to human behaviour as in the case of *This is Your Digital Life* may mean that the profiles developed are biased. In this way, the potential influence exerted by the Trump campaign would be diminished.

Media context

The aim here is to relate the possible influence of the Cambridge Analytica strategy on the US decision to vote for Trump or Clinton with the current media context in which the US election campaign took place.

In a representative democratic system, freedom to elect political representatives is crucial. This requires, among other things, that citizens have access to truthful, diverse and plural information. For this reason, the traditional media, as well as the new social media, should be democratising tools serving the right to freedom of expression. However, media manipulation and disinformation are on the rise, and as a result the credibility of the media is being called into question (Marwick & Lewis 2017; HLEG 2018).

Marwick and Lewis (2017) argue that disinformation online and ideological radicalisation are consequences of online media manipulation. As the result of a deterioration in trust in the traditional media, the main actors in media manipulation (trolls, gamergaters, conspiracy theoreticians, influencers, haters, hyper-partisan news media and politicians) have found their space in blogs and websites, forums and message boards on

the Internet and in the leading social media (such as Facebook, YouTube and Twitter). According to the authors, they are generally motivated by reasons related to ideology, money or the quest for status or acceptance. Thus, the circulation of memes and hoaxes, conspiracies against candidates, the use of bots and the distribution of fake news also played a major role in the election campaign for the US presidency (Marwick & Lewis, 2017). One example of this was the disinformation campaign promoted online about the Democratic candidate's purported ill health, which went viral and made the leap to the traditional media.

On the other hand, the developments in big data technology and artificial intelligence have led what is called the “algorithm culture” (Hallinan & Striplas 2016) to also affect information classification and hierarchisation. In recent years, the use of search engines on the Internet and the social media to check information has become very common (Nikolov, Oliveira, Flammini & Menczer 2015). During the peak of the US presidential elections, 62% of citizens got their information through the social media (Shearer & Gottfried 2017). Due to the multiplication of devices from which information is accessible, personalised recommendation systems have been developed as the best way to get news contents to Internet users in line with their interests (Yingyuan, Pengqiang, Hsu, Hongya & Xu 2015). Numerous recent studies (Borgesius, Trilling, Möller, Bodó, de Vreese & Helberger 2016; Dutton, Reisdorf, Dubois & Blank 2017; Holone 2016; Nicolov, Oliveira, Flammini & Menczer 2015) have focused on the impact of algorithm culture on the rise of disinformation and media manipulation. The majority concur that citizens are exposed to biased information which confirms and reinforces the thoughts and attitudes that they and people with views like theirs already have. This is known as the bubble effect or echo chambers.

On the other hand, the traditional media still play an important role in electoral campaigns. According to Marwick and Lewis (2017), the framing and strategic amplification of certain ideas or messages is one of the most common media manipulation techniques. Patterson (2016) states that the tone used in the media coverage was overwhelmingly negative, while the discussion of political issues was extremely light. However, he also concludes that the candidate Hillary Clinton was treated more negatively than her political rival. Foster, Shoaf and Parsons (2016) claim that gender stereotypes continue to harm female candidates in the media coverage of electoral campaigns. Likewise, the construction of the political frameworks (Oates & Moe 2016) or the different ways the candidates used the social media (Enli 2017) also played a major role in the electoral campaign.

This media context reveals at least three interesting issues which can help us assess the possible influence of the Cambridge Analytica case. First, it shows that the micro-targeting campaign waged by Cambridge Analytica is framed within the new forms of media manipulation related to the bubble effect. Secondly, this would not be the only influence

strategy to which citizens were exposed during the campaign. And finally, the interests of Trump and Cambridge Analytica were not isolated from the interests of the other actors and media influencing the campaign.

Social and political context

The explanations suggested for Trump's victory include many others that are not solely related to the media's actions. According to Gaughan (2016), some of them are related to the economic concerns of white working-class voters (which the Trump campaign managed to identify); the rise of racism and misogyny; the segregation and polarisation of the electorate (which, as seen in the previous section, could be related to media manipulation); the increase in income inequality; and the controversial actions of the FBI director. Thus, another important issue when discussing the influence of the Cambridge Analytica case is the political and social context in which the electoral campaign occurred. Fraser (2017) claims that Trump's win is part of a series of political events that have recently occurred worldwide. They include the triumph of Brexit, Bernie Sanders' campaign in the Democratic Party primaries in the US, the rejection of Matteo Renzi's reforms in Italy and the increased support of Marine Le Pen's National Front in France. These events, explains Fraser, represent citizen pushback to the effects of globalisation, as well as to a new form of "progressive neoliberalism" and the ruling classes that have promoted it. Trump, Fraser says, captured part of the electorate thanks to a "reactionary populism" which was opposed to the mixture of truncated ideals of emancipation and lethal forms of financialisation represented by "progressive neoliberalism".

Conclusions

The argumentation throughout this article gives rise to at least the following conclusions:

1. The Cambridge Analytica case is the probable consequence of a given scientific-technological structure, a business model and a legal framework that make it possible and necessary.
2. Focusing attention on the level of influence that the Cambridge Analytica strategy may have had in the US voting decision is not useful in helping us understand the seriousness of the situation for these four reasons: it deflects attention from the structures sustaining the case and its social impact; the influence of a specific act on a complex decision is difficult to measure; the very biases of the method used to develop this strategy could reduce this influence; and it would be relative to its media, social and political context.
3. The possible influence exerted by the micro-targeting technique used by Cambridge Analytica falls within a broader phenomenon of media manipulation bounded to new technologies and the bubble effect that has been

proven to be an important reason behind the rise of online disinformation and the radicalisation of political ideas and opinions.

The Cambridge Analytica case reveals that the current development of big data technologies is generating a power inequality between citizens and a group that exercises despotic power over information and data exploitation. This affects fundamental rights like privacy, personal data protection and the right to information, as well as the democratic quality of states. For this reason, this study points out the need to:

1. Reconsider the social fitting of the structures that catalyse events like the one waged by Cambridge Analytica.
2. To not lose sight of the social and political impact of big data technologies.
3. Rethink the legal framework of personal data protection to correct its insufficiencies.
4. Establish mechanisms that allow society as a whole to have information and control mechanisms over big data technologies.
5. Impose limits, if needed, to forms of big data exploitation and/or uses that are harmful for society as a whole.

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The challenge of measuring ideological bias in written digital media

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Abstract

This paper makes a proposal to measure the ideological bias of digital media that is based on machine learning. We use a strategy based on the use of texts to identify ideologically charged words, which studies of political science also use to measure the positions of parties and candidates. Our proposal presents two differential features with respect to previous studies: it uses the concept of a frame as unit of analysis to identify ideological bias and it relies on the tweets of politicians as the reference text for identifying ideologically connected groups of word – i.e., frames.

Keywords

Digital media, media bias, machine learning, algorithms, content analysis.

Resum

Aquest treball fa una proposta per mesurar el biaix ideològic dels mitjans digitals que es basa en l'aprenentatge automatitzat de continguts. Fem servir una estratègia sustentada en l'ús de textos per identificar paraules carregades ideològicament, que estudis de ciència política també utilitzen per mesurar les posicions dels partits i els candidats. La nostra proposta presenta dos trets diferencials respecte a estudis previs: fa servir el concepte de frame com a unitat d'anàlisi per identificar el biaix ideològic dels mitjans, i utilitza les piulades dels polítics a Twitter com a text de referència per identificar grups de paraules connectades ideològicament, i.e., els frames.

Paraules clau

Mitjans digitals, biaix ideològic, aprenentatge automatitzat, algoritmes, anàlisi de contingut.

1. Introduction. Why study bias in digital media?

In our country, as in the rest of the western world, digital media are growing. In Spain alone, 579 new media outlets were set up in 2015, most of them only with online versions (APM 2015). This mounting media diversity paints a fragmented picture and is a challenge for researchers in political communication. We do not know the degree of plurality of our digital media, i.e. their diversity from an ideological point of view. Furthermore, in order to learn the possible impact of the media on public opinion, we first need to know what their political leaning is.

The Council of Europe (1994) argues that the degree of

plurality of a country's media system is a positive factor for such system. Accordingly, identifying the ideological bias of the numerous digital media outlets should enable us firstly to evaluate a media system's diversity and ultimately its input into the democratic process, and secondly take action if the rising media offering does indeed mean that the media are increasingly partisan and polarised (Stroud 2011). In addition, providing the audience with information about the bias of new media would add to their media literacy (Buckingham 2007; Gilster 1997) and consequently have a positive impact on their civic skills, on the identification of fake news and, at the end of the day, on more effective control of rulers.¹

As for the media's impact on public opinion, research has shown that their influence is limited by confirmation bias and selective exposure, whereby individuals seek out information which is consistent with the views they already hold (Lazarsfeld, Berelson and Gaudet 1944; Nickerson 1998) and avoid exposing themselves to any that conflicts with their attitudes or beliefs since this comparison generates discomfort (Festinger 1962; Olson and Stone 2014). However, the burgeoning of the range of online information makes it difficult for users to get an accurate idea of the ideological bias of each new digital media outlet and therefore of the congruence between such media and their own attitudes. Hence the public would now be exposing themselves to more diverse stimuli and ideas online because they are unable to identify the bias of all the digital media outlets now available. It remains to be seen which way their influence will go.

There are only a few studies which have addressed this issue in Spain. The most notable exceptions include the papers by Almiron, who has analysed ownership structure and editorial lines for traditional media (2009) and for digital newspapers without a print version (2006). In a more recent study the author has also tackled the ideological diversity of these newspapers by examining the terms they use to refer to the most traditional ideologies, albeit without attributing a specific ideological bias or label to each media outlet and instead depicting the overall landscape presented by these media (Pineda and Almiron 2013). Nonetheless, we still do not have a commonly accepted compass to refer to when we discuss the ideological biases of the new digital media.

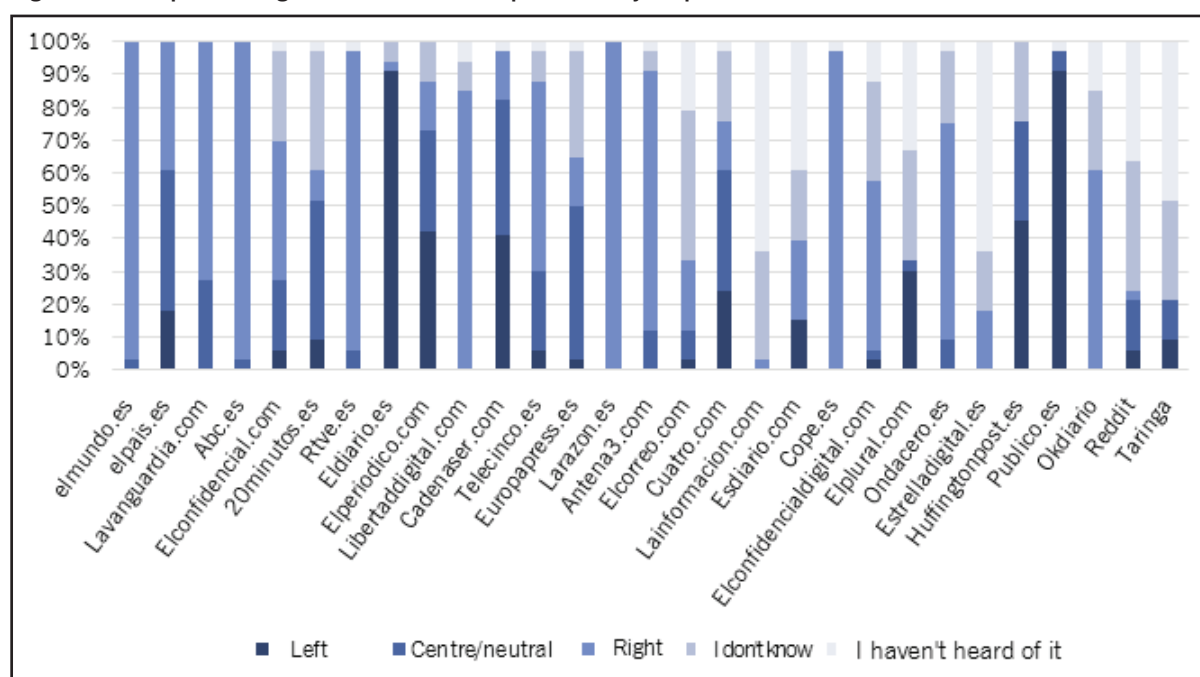
We can initially approach digital media's ideology by analysing public perceptions. We have used three different surveys to

examine Spaniards' perception of the ideology of some of the main national digital media outlets.² The most remarkable thing is the percentage of individuals who are unable to classify the media. Thus between 23 and 33% of people do not know what the ideology of the Huffington Post or 20 Minutos is, even though they are aware they exist. Almost a third of Spaniards do not know what the ideology of media outlets such as eldiario.es or El Confidencial is. If we ask university students, almost half are unable to place eldiario.es, El Confidencial or the Huffington Post on the ideological spectrum. An alternative strategy is to ask the experts. Figure 1 shows the results of a survey conducted in September 2017 with 33 political science and information science experts in Spain. These experts were asked about the ideology of the 30 media sites most visited in the previous year according to Alexa.

If we exclude digital versions of traditional media such as *El Mundo*, *ABC*, etc., we find surprisingly high "I don't know" and "I haven't heard of it" percentages which stand at more than 50% for La Información (3.6% of the digital audience according to ComScore). We can thus conclude that placing these media on a mental map of ideologies is tricky even for media and politics experts.

The purpose of this research is to classify the main digital media in Spain by their ideological bias using machine and consequently efficient and objective content analysis. This information will be useful not only in academia for the debates noted above about selective exposure, but also of vital political importance for evaluating media plurality and improving the public's digital literacy which at the same time is seen as constructive for the political system's democratic quality.

Figure 1. Perception of digital media outlets. Experts' survey. September 2017. N=33



Source: authors.

2. Theoretical framework. Measuring bias in the media

2.1 Definitions and key concepts

Ideological bias does not mean a dishonest and deliberate attempt to twist reality but rather a portrayal of it which is significantly and systematically distorted (Groeling 2013: 130). In turn, ideology has been defined as the distortion of an objective reality that reflects subjective and collective mental constructions (Benabou 2008:1). One of the seminal authors in this debate, Converse, defines ideology as the parts (or subsets) of a belief system, as “a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence” (Converse 1964, 207).

The idea put forward by Converse (1964) suggests that the more functional interdependence there is between the components of a belief system, the fewer cognitive resources will be needed to describe or grasp it. From this standpoint, one of the dimensions of judgment that has been most useful in simplifying events in politics has been the left-right one. Parties, leaders, policies and other political objects are placed along this dimension (Converse 1964, 214). Converse further argues that the interdependence between the components making up a belief system would also explain the fact that ideologies tend to be socially diffused in ‘packages’.³ This impacts the interpretation of the ideologies themselves. Parties, for example, vote on different issues in a connected way (Benoit i Laver 2006, 2007) and present alternative packages to voters (Downs 1957). Voters use the left-right dimension to give meaning to their voting choice and to make decisions about the packages of alternatives on offer.

The media also disseminate political ideologies through packages, in this case a set of words or terms which call to mind other ideologically connected concepts. They use these constructions to appeal to the various belief systems and concepts that define them.

2.2 Limitations of previous media bias studies

Previous studies about the ideological bias of the media have essentially used two approaches to measure it: the first is based on describing the audience and the second on the published content (see also Budak *et al.* 2016). The first approach has used the ideological profile of a media outlet's audience to attribute an ideology to it. For example, the literature on selective exposure to information (Freedman and Sears 1965) assumes that the audience follows ideologically related media. Thus knowledge of the ideology of the media's audience enables us to attribute an ideology to them (Bakshy, Messing and Adamic 2015; Gentzkow and Shapiro 2011; Newman, Fletcher, Kalogeropoulos, Levy and Nielsen 2017; Barberá and Sood 2014).

This approach is frugal and relatively simple. However, the proliferation of media makes it increasingly difficult for the audience to become aware of their ideological bias. Another

drawback is that it provides relative and non-objective measurements of this bias. Bearing in mind that audience shifts can be very sensitive to small differences in bias between media outlets, this method would not enable us to evaluate the differences properly (Budak *et al.* 2016).

The second approach used in the literature to identify media bias draws on the content they produce. However, most media outlets do not take up explicit stances on the issues they cover, which is something of a problem (Barberá and Sood 2016). Given this limitation, existing papers have used three major strategies.

The first is to restrict the analysis to a small but highly informative set of published output, namely editorial content, which does plainly set out the media's positioning on current affairs. However, studies using editorials have been criticised because they measure only the bias of a very small part of the newspaper's output which may exaggerate its overall bias (Barberá and Sood 2014).

The second strategy leverages machine learning to detect (linguistic) patterns in a broad and indiscriminate set of news items. It is based on identifying a set of documents (for example, party programmes) which are used to detect ideologically charged words. Subsequently each of these words is given a score and they are counted and used to assess the media outlet's ideology (Gentzkow and Shapiro 2010; Wihbey, Coleman, Joseph, and Lazer 2017). However, ideologically charged words account for a still very small percentage of the total content published by the media and hence working with this material produces a high volume of noise (Gentzkow and Shapiro 2010). In addition, the words or phrases associated with an ideology are frequently used by opposing ideologies in registers such as humour, irony or sarcasm to criticise political adversaries. Clearly such use makes it difficult to classify the media (Barberá and Sood 2014, 4).

Finally, the third strategy is based on a combination of machine learning and human coding (or crowdsourcing) to overcome some of the limitations associated with the strategy based solely on machine learning. Human coding makes it possible to identify irony and joking and correct false positives (Budak *et al.* 2016).

2.3 A new direction

In this paper we opt for the second strategy based entirely on the use of machine learning to identify or assess the ideology of a strategic sample of media outlets. Nonetheless, our approach does have some new features.

The first is that here we go a little beyond the previous studies and we do not base our analysis on ideologically charged words (or short phrases) but rather on a set of connected noun phrases. This means we can make sure that the terms we begin with have meaning in themselves. The second innovation is that we focus not so much on a list of terms typical of the right or the left but on the discourses in which they appear (frames). The third is that we use politicians' tweets as a reference text

for identifying ideology instead of electoral programmes or parliamentary speeches.

Some studies use the Twitter accounts of media outlet users to figure out their ideology and ultimately attribute it to the media outlet (Barberá and Sood 2014). However, no study that we know of has used the Twitter accounts of politicians to identify which terms and discourses are typical of an ideology. We believe that this may well be an effective strategy because the Internet has helped to polarise online debates. Hence more ideologically charged language would be used on Twitter than in other media (Toff and Kim 2013), albeit quite similar to what can be found in digital newspapers (Mullainathan and Shleifer 2005). Secondly, recent portrayals of political parties present them as loose coalitions made up of actors who share a common agenda and objectives (Bawn *et al.* 2012). The use of words by communication professionals to build a narrative is gaining importance on these sites (Toff and Kim 2013). The context or scenario where this coalition of interests, which is what parties are, would test out this language would not be electoral programmes, which few people read and are quite neutral, but rather social media which are a much more vibrant and expanding venue (Newman *et al.* 2017).

3. Methodology

We have classified digital media by ideology in three stages which we will see in detail below.

3.1 Stage 1: Identification of the corpus to detect ideological discourses

We opted for the tweets of politicians on Twitter as the reference corpus for identifying ideological content because it is a tool characterised by immediacy, brevity and colloquial language which allows the use of concepts and rhetorical resources similar to newspaper headlines.⁴ Specifically, our reference corpus was the Twitter accounts of 296 Spanish MPs in the 12th Parliament.⁵

In order to mine the highest level of contrast and optimise attribution of ideology to the MPs, we have restricted ourselves in this research to the two parties with a more extreme and clear ideology on the left/right axis: the Unidos Podemos (or simply Podemos) coalition and the Partido Popular (PP), respectively. These are the two state-wide political parties with parliamentary representation that Spaniards place most at the ends of the left/right axis (source: 8th wave of the DEC/UAB panel, December 2015).

The dataset analysed consists of almost half a million tweets by Podemos and PP MPs.⁶ Table 1 shows the distribution of tweets per party.

Table 1. Distribution over time of tweets by Spanish MPs in the 12th Parliament from when they joined the social media site

Year	PP users	Podemos users	PP tweets	Podemos tweets
2009	6	7	1.214	270
2010	15	10	2.993	1.492
2011	35	17	21.324	7.377
2012	38	19	48.498	20.362
2013	50	25	77.700	27.010
2014	60	32	94.667	35.147
2015	76	48	166.789	77.927
2016	88	56	203.838	156.512
2017	102	62	173.722	298.474

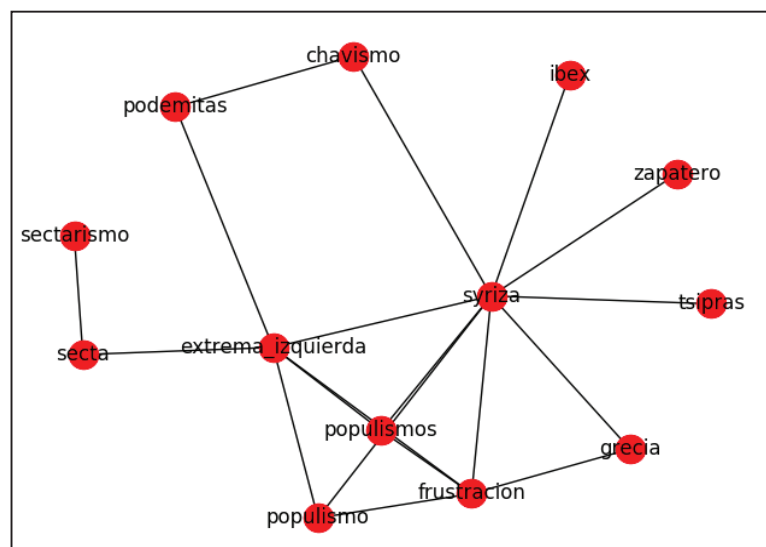
Source: authors.

3.2 Stage 2: identifying the semantic relationships which are characteristic of an ideological discourse (frames)

Methodologically speaking, a frame is a semantic proximity relationship between an *IT* (ideology term, which we could also see as a keyword) in the discourse and some *t* terms in the same discourse.⁷ The conjunction of an *IT* with a series of *t* terms indicates a certain view of things by the *IT*. While for the PP the *IT* “populisms” has associated the *t* terms “populism, frustration, Syriza, extreme_left, Greece”, the *IT* “Syriza” is associated with the terms “Zapatero, frustrations, Greece”. Thus during the period when the tweets were posted, PP MPs related Greece with populism and frustration, etc. Figure 2 shows a network that relates the terms around the *IT* “populisms”. Hence we would not be surprised to find a tweet or the headline of an editorial which said that Zapatero is a populist and has been the Spanish Tsipras. The tweet or the headline concentrates a thesis, a message and some values of the party expressed with particular terms which make up a discourse which in turn is what the frames collate.

These relationships call to mind the frame concept in Lakoff (2004) where concepts have a structure. For example, the word *elephant* is a frame that evokes the image of an elephant and everything we know about elephants. In a similar way our frames seek to capture the structure of relationships that a single word like *populism* or *Greece* has in the discourse of a political party or a group with a particular ideology.

To detect the frames we first identified the noun phrases in the tweets by the representatives of a given ideology. We did this using the Parse Tree tool in the pattern.es package from the CLiPS project.⁸ Once we had obtained the noun phrases we then searched for their *t* terms, i.e. the terms that are semantically closest to the set of all the tweets. To get them we used the Word2vec⁹ method with a Python module which indicates that

Figure 2. Graphic representation of the frame coming out of the *IT* “populisms” for the PP

Source: authors.

two noun phrases p and p' are close if they appear in similar contexts.¹⁰

That is to say, the words that are usually around p are also usually around p' . When applied to identifying t terms, the explanation why “populisms” and “extreme_left” are close is that the words surrounding “populisms” usually also appear close to “extreme_left”.

Next we set criteria to identify which of all the noun phrases are *ITs* (ideology terms). In the first place, the noun phrase has to appear in both the PP and Podemos tweets. Without this condition we cannot decide if there is a discrepancy in the frames between the two parties (since only one uses it). Secondly, the *IT* should appear more frequently in the tweets of one party than the other. We consider that a reasonable criterion here is that a term “typical” of a party must appear in its MPs’ tweets more than twice as often as in the reference corpus of the other party. Thirdly, the frames of the parties (that is to say, the t terms associated with the *IT*) must be different. In other words, the vector generated with the tweets of one party must be a considerable distance from the vector for the same term generated with the tweets of the opposite party. Once the vectors are created by the noun phrases of the PP and Podemos, the distance (cosine similarity) is calculated for each vector. Our candidates to be *IT* will be the ones which have a cosine similarity less than 0.1, thus indicating a big difference.

3.3 Stage 3. Checking correspondences between the frames of a political discourse of a particular ideology and the news items in newspapers

When applying the method we decided to focus on some of the media outlets where there has been greatest audience confusion (see introduction): the Huffington Post, El Confidencial, infoLibre and 20 Minutos. We have also included *ABC* as the most clearly right-wing media outlet in all the surveys analysed which will be our point of reference.

We obtained the texts from the FACTIVA press database and restricted our search to the time from the beginning of December 2016 (pre-campaign period for the 2016 general election) and the end of June 2017 (26 June 2017 general election and the start of the 12th Parliament).

We have considered a number of options to check the correspondence:

Counting the frequency of the *ITs* of a particular ideology in each newspaper. Thus a newspaper closer to the PP will use more *IT-PP* than an ideologically left-wing newspaper.

Determining whether the vectors that describe the *IT* in the tweets and the vectors that describe the frames of these *ITs* in the newspapers are similar.

Focussing on the number of t terms that go with an *IT* for each party which appear in the various newspapers.

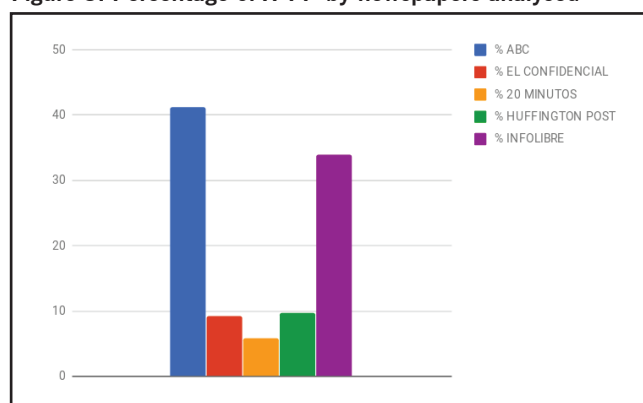
In the next section we set out the results obtained by the different methods and how they might be improved.

4. Results

4.1 *ITs* characteristic of the PP and Podemos

We have obtained 327 *ITs* characteristic of the PP (*IT-PP*) and 113 for Podemos (*IT-Podemos*). They are, then, noun phrases present in the discourses of the opposite party at a frequency higher than double than in the tweets of the ideologically opposed party and with a t vector with a distance (cosine similarity) of less than 0.1 with respect to the vector of the same noun phrase generated with the tweets of the opposite party (i.e. they generate very different interpretative frames).

For example, both the PP and Podemos talk about the “independence process”, but the PP mentions it twice as often as Podemos. The t terms they use to refer to it are extremely different (value of the cosine distance between the PP’s “independence process” vector compared to the vector

Figure 3. Percentage of *IT-PP* by newspapers analysed

Source: authors.

generated by the same *IT* term for Podemos = 0.0978). Therefore, this *IT* is divisive: it has a PP frame (right) and a Podemos frame (left), in spite of being more characteristic of the PP. However, the presence of *ITs* such as *populism*, *pro-ETA* and *ponytail* among the *ITs* typical of Podemos is striking because they are terms that the right uses to discredit it. This suggests that Podemos's tweets have a considerable referential charge to the ideologically opposed party's discourse.

4.2 Correspondence between tweets and newspapers by *IT* frequency

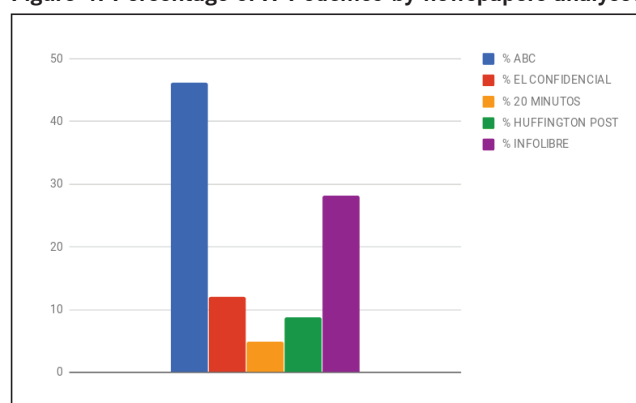
The first option for verifying the correspondence between tweets and newspapers was to verify the frequency of the *ITs* of a particular ideology in the newspapers. Thus a newspaper close to the PP will use more *IT-PP* than another newspaper.

Figure 3 shows the percentage of *IT-PP* distributed by newspapers. A little more than 40% of the appearances of *IT-PP* occur in *ABC*. It is followed by the newspapers infoLibre and El Confidencial. Thus the newspaper closest to the PP would be *ABC*, while 20 Minutos would be the one furthest away. But what happens if we look at the correspondence between *IT-Podemos* and the same newspapers?

Figure 4 shows that *ABC* is also the newspaper with more *IT-Podemos*, albeit less acutely than in the previous example. The relative distribution of the rest of the newspapers is very similar to the previous example. These results are overly far from the assessment of the public and experts to be reliable. Hence it does not seem that the frequency distribution of the *IT* by ideology makes it possible to identify clear alignments between politicians' tweets and newspapers. The appropriation by Podemos of frames derived from *ITs* originally from the right (and more present in newspapers which are presumably more right-wing) could be behind such counter-intuitive results.

4.3 Correspondence between tweets and newspapers by similarity of frames

The next step was to check whether the vectors for the *ITs* in the tweets and the vectors for the frames of these *ITs* are similar. For example, we wanted to see if the newspapers

Figure 4. Percentage of *IT-Podemos* by newspapers analysed

Source: authors.

closer to Podemos tended to link the EU and Angela Merkel with austerity more often than the newspapers closer to the PP.

As we had done with the MPs' tweets, we converted each newspaper's noun phrases into vectors whose dimensions were the *t* terms; i.e. the most semantically related terms obtained with Word2vec. We compared the *IT-PP* and *IT-Podemos* vectors via cosine similarity with the vectors of the same noun phrases of the newspapers. We found that the referentiality to the *ITs* of the ideologically opposite party was also a characteristic of the newspapers, so we obtained results similar to those for *IT* frequency.

4.4 Correspondence between tweets and newspapers by focus on the *t*

The last option explored focused on the *t* terms and their ability to interact with the *ITs* of a different ideology. In terms of frames, this means that with a given *IT*, newspapers which are close to a party will coincide when talking about the same *t* terms.

To verify this we gathered the *t* terms semantically related to the *IT* of the PP and Podemos tweets. We then checked how many *t* terms of each party appeared in the news items of a newspaper and for each *IT* we created a vector with the number of *t* terms of the PP and Podemos co-occurring for each newspaper.¹¹ Table 2 illustrates these vectors with the t_{pp} related to *centrality*, *abyss*, *ponytail* and *populism*. For example, 'centrality' and 'ponytail' has 19 and 1 t_{pp} co-occurring in the newspaper *ABC* respectively, but no t_{pp} in infoLibre. "Populism" has two t_{pp} in *ABC* and one in El Confidencial, but none in 20 Minutos or Huffington Post.

Once the vectors for each newspaper had been created, we took the newspaper in which PP frames appear most as the benchmark: *ABC*. The incidence of PP *t* terms in the rest of newspapers is represented in relation to this newspaper, which has the value 1.

As can be seen in Figure 5, El Confidencial is the newspaper closest to *ABC* in terms of the frequency of appearance of *IT* with PP *t* terms. 20 Minutos, the Huffington Post and infoLibre are further away, with 20 Minutos the most distant. With this

Table 2. Co-occurrence for t term vectors for a series of IT-PP in the newspapers analysed

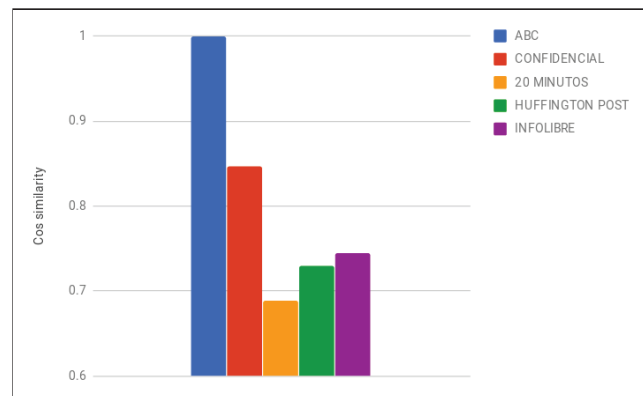
IT	ABC	El Confidencial	20 Minutos	Huffington Post	InfoLibre
<i>Centralidad</i>	19	17	0	13	0
<i>Abismo</i>	8	3	0	0	0
<i>Coleta</i>	1	0	0	2	0
<i>Populismo</i>	2	1	0	0	1

Source: authors.

Table 3. Co-occurrence vector of the 3 t terms associated with the Podemos pro-ETA IT

IT	ABC	El Confidencial	20 Minutos	Huffington Post	InfoLibre
<i>Proetarras</i>	3	0	0	0	0

Source: authors.

Figure 5. Proximity of newspapers with respect to ABC in terms of PP frames

Source: authors.

system - vectors of co-occurrence in the newspapers - we might in principle find “fake” left-wing ITs. For example, Table 3 shows the vector for *pro-ETA*, an IT which it should be recalled is used more frequently in Podemos’s discourse than in the PP’s.

Pro-ETA has 3 t terms with which it jointly appears in a single newspaper, namely ABC. Bearing in mind that these are *Otegui*, *Bildu* and *ETA*, it should be considered whether the co-appearance of an IT with some particular t terms in a newspaper already ideologically aligned (as we have already done with ABC) is a criterion for ideologically (re)classifying an IT even though it is widely used by the ideologically opposed party. At all events this procedure could be used to “clean up” ITs wrongly classified as left or right and seems a possible solution to the problem of the appropriation of frames by the opposing party as a tool to stir up conflict, point out paradoxes in its opponents, etc.

5. Conclusions

Measuring the bias of written digital media is essential because we need to know the scope and meaning of its impact in order

to assess the plurality of the information landscape and improve the public’s digital literacy.

Our review of the literature about measuring the ideological bias of the media has shown that the various methods used to date have a number of limitations. Attributing the ideology of its audience to each media outlet assumes that the public are aware of the media’s bias and selectively expose themselves, yet neither the first nor the second hypothesis are always true. The second approach uses published content in three possible variants. The first is limited to a small amount of text which is highly indicative of content (editorials), the second is to detect linguistic patterns by machine and the last consists of combining these machine procedures with human coding. Using editorials tends to present a more extreme ideology than the one the media outlet really has while the last strategy is quite expensive in terms of resources. We have thus chosen the second one.

However, our approach includes three new features. Firstly, our unit of analysis is not a list of ideologically charged words or phrases but rather a set of connected ideologically charged noun phrases. Secondly, the measurement we use to assign an ideology is based not only on the frequency of use of these word chains but most of all on the discrepancy between them. The last innovative aspect lies in the text corpus we use as a reference to identify ideological frames, namely tweets from political leaders on Twitter and not electoral programmes or parliamentary speeches.

To identify ideologically charged content we have focused on the frames (sets of semantically close words around an IT) which are typical of the two most polarised state-wide parties according to the perceptions of Spanish public opinion: the PP and Podemos. We have identified a series of terms common to both parties but more present in the tweets of the MPs of one party than the other. We have verified that the t terms accompanying them are quite different before identifying frames.

During this process we encountered several dead ends. One of them was counting the correspondences of the frames of each party with newspapers, probably due to the appropriation by

Podemos of frames used by the right to criticise them. Similarly, comparing the distance between party and newspaper frames leads us to the same point: the results seem to make sense if we look only at the PP's frames and the similarities between this party and the media, but this is not the case with Podemos. Forthcoming developments should seek to solve the problem of ironic references to the opponent's interpretation frameworks. This has been previously mentioned as one of the main problems of content analysis using machine learning to attribute an ideology to the media (Barberá and Sood 2014). Our data confirm that Podemos references right-wing criticisms of its "populist" attitudes and arguments to make fun of them which means it is impossible to identify their intentionality by machine. Another option would be to add a time dimension to give more weight to the terms which appear first in time as factors that identify a party's frame. Otherwise, this measurement error could be tempered by expanding the reference corpus to the rest of state-wide parties. Thus this typical Podemos phenomenon would be diluted among Socialist party tweets. Finally, machine learning could be combined with human coding. Although more expensive, this strategy would enable us to discard terms used ironically or sarcastically.

Notes

- Media literacy means the development of reasoned and critical understanding of the nature of the media and their effects, how they create meaning and how they organise their own reality (Gilster 1997, Aparici 1996).
- These surveys were conducted between 2015 and 2016. The first is by the eGovernance Research Group: electronic government and democracy (GADE) at the Universitat Oberta de Catalunya (UOC) carried out by the Opinionet project. The second is a survey by the Democracy, Elections and Citizenship (DEC) research group at the Universitat Autònoma de Barcelona (UAB). The third is also a survey by the GADE group which was answered by UOC students.
- This package format corresponds almost perfectly with the typical interpretation frames in semantic analysis.
- After a number of exploratory tests, we rejected parliamentary speeches as it was not possible to build a large enough text corpus to extract ideologically charged terms or sets of terms. We also decided to dispense with electoral programmes because our preliminary analysis did not identify any significant discrepancies in the parties' frames based on their electoral programmes. Furthermore, electoral programmes (and the coding proposed by the Party Manifesto Project) are no longer used to assess the ideological positions of the parties (Benoit and Laver 2006; 2007). Finally, the parties' programmes use very formal language that is somewhat removed from the more informal and ideologically charged language employed in the media.
- Only 296 of the 350 MPs have an active Twitter account.
- Some people, especially in the PP, were MPs in 2009, but only a few members of Izquierda Unida who became part of the Unidos Podemos coalition had been before 2016. However, we think that they were sending messages and values consonant with this party in their tweets before this date.
- Here we see *semantic proximity* as co-occurrence, or appearing in positions adjacent to the text. It is a concept in quantitative text analysis. The algorithm used to determine it (Word2vec) collates this physical proximity of words while maintaining the grammatical properties of the texts from which they are drawn.
- <<https://www.clips.uantwerpen.be/pages/pattern-es>> Together with verbs the noun phrase is the basic element that structures a sentence, the main seat of lexical meaning and, in a nutshell, the way in which concepts are named. Thus we can gather names such as the *High Court of Justice* instead of the bigram "High Court" or the monograms "Court", "High" and "Justice".
- Word2vec is a method representative of the latest trend in machine learning called Deep Learning with a structure of neural networks (Dikolov *et al.* 2013). It is a method that is being used with great success in machine translation (Mikolov, Quoc, Sutskever 2013), feeling analysis (Acosta, *et al.*, 2017) and document classification (Lilleberg, Zhu, Zhang 2015). Even the abstraction of the idea of context, defined in a vector space, has encouraged the appearance of other applications as recommenders (Ozsoy 2016).
- Word2vec uses an algorithm which calculates the closest nominal syntax for each noun phrase. Proximity is a value that ranges from 0 to 1 (from furthest away to nearest). In this project we have considered as *t* terms ones that exceed the value of the median (0.5).
- We used Normalized Google Distance (NGD) to measure co-occurrence with a range of values between 0 (no proximity) and 1 (maximum proximity). It is a measure of semantic distance according to the degree of co-occurrence of two terms, in our case between the IT and its *t*, the headline and the body of the news item.

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Children's news on television. Topics, information quality and audience reception of *Newsround* (BBC), *Logo* (ZDF) and *Info K* (TVC)

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Abstract

This article analyses children's news on television by comparing three benchmark programmes by European public broadcasters: Newsround, from the British Broadcasting Corporation; Logo, from the German Zweites Deutsches Fernsehen and Info K from the Catalan Televisió de Catalunya. An empirical content analysis identifies the topics covered by these programmes and the way in which these are explained to the audience, young children, considering information quality criteria. The research is completed with a reception study by using focus groups of children discussing their media consumption and relationship with television as a source of information and news.

Keywords

Children's news, journalism and children, children's television, television quality, media, audience studies.

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Resum

L'article presenta una anàlisi comparativa sobre informatius infantils de televisió realitzada a partir de l'estudi de les notícies de tres programes de referència de cadenes públiques europees: Newsround, de la British Broadcasting Corporation; Logo, de l'alemanya Zweites Deutsches Fernsehen, i Info K, de la Televisió de Catalunya. S'identifiquen els temes i com s'expliquen als seus espectadors, nens i nenes, tenint en compte criteris de qualitat informativa. La investigació es completa amb un estudi de recepció a partir de focus groups amb infants sobre el seu consum mediàtic i la seva relació amb la televisió i amb la informació i els telenotícies.

Paraules clau

Periodisme i nens i nenes; televisió infantil; qualitat televisiva; mitjans de comunicació; estudis d'audiència.

Introduction

The Right to Information is a fundamental right established for everyone; a right exercised by citizens fundamentally through journalism. But what about children? When David Buckingham calls them "citizens in the making" (Buckingham 2000), he abandons the concept of childhood as a strictly preparative stage for adult life by giving it its own autonomy. Socialisation starts at the beginning of childhood and whereas adults principally receive their information from the media, it seems logical that children should also have the chance to duly enter into, and be informed about, this world. This means creating sources of information specifically aimed at children since, if they are well-informed, they are capable of making decisions and taking part in a democracy. This idea is not new. Article 13.1 of the United Nations Convention on the Rights of the Child (1989) states that "The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice". Paradoxically, however, few sources of information are specifically for children. The media form part of the everyday lives of children and young

people and, even today, although the internet and new media are gaining ground in the search for information (Metzger *et al.* 2015: 325), television is still the medium to which most children in the world have access (Moore-Russo *et al.* 2013: 255). Children are exposed to adult content, including news, and this has a number of consequences and effects that have been studied (Carter and Davies 2005; Jiménez 2006). The dominant commercial model of television means that a lot of content produced specifically for children is exportable and can be used on more than one occasion. But news cannot. When such programmes exist, they are related to a clear vocation to provide good quality public service television. On the one hand, such programmes have been promoted as of interest to society in order to help children develop their thought processes (García 2003). Historically, and even today, child-specific media experiences have never been a priority, not even on public television, with only a few examples managing to keep hold of their place within the programming. On the other hand, the demand for media literacy (Ferrés 2006; Sánchez 2008; Livingstone and Haddon 2009; Buckingham 1993, 2007) highlights the need for such news programmes specifically for children. Experts warn that certain illnesses which have been related to an excess of information (stress, depression,

indifference to other people's suffering, etc.) are also present at an increasingly younger age (Jiménez 2006) while they also note the importance of children being able to participate in society as citizens (Buckingham 1997, 2000; Carter and Allan 2005; Carter *et al.* 2009). This is impossible if they do not have access to news tailored to them. It therefore makes sense for children to be able to take on the new challenges posed by the information society progressively and not suddenly find themselves confronted by adult news content which they find difficult to understand and grasp. Consequently, children's news today has a public service vocation and such programmes are produced by state-owned TV channels.

Cynthia Carter (2009) notes that, precisely because there are few programmes of this type in the world, children's news has been insufficiently studied by academia. The research carried out for the author's doctoral thesis and which this article aims to summarise underlines the need to examine the role of media education for children by making a contribution to social sciences which have traditionally been concerned with the study of childhood (especially sociology and psychology), from the perspective of media studies and, more specifically, journalism on the one hand and reception or audience studies on the other. There are numerous studies on the effects of television on children tackled from the perspective of child sociology and psychology but few focus on content aimed at children, especially in terms of the news. Research into young people's attitudes towards information, especially looking at the internet and new technologies, has been a prime focus of researchers from many different disciplines (Gillmor 2004; Masip *et al.* 2015; Fernandez-Planells 2015) but addressing this issue at an even earlier age provides a new perspective for research focusing on information quality on children's TV news programmes. Numerous studies have also focused on media education, including the notable EU Kids Online, which investigates internationally the uses and risks of the internet by and for children. As noted by Sonia Livingstone (2002), children today have been born in a multimedia environment characterised by the convergence of media and a multi-screen environment. The report on Young People and ITCs makes this clear: "Television and the internet play a central role in young people's everyday lives." (Fernandez-Planells and Figueras-Maz 2012). "While television allows them to switch off from "hypercommunication" and over-stimulation, the internet provides a constant connection with the world they're interested in. It allows them to have fun and socialise at the same time. However, television still has an important presence in their lives" (Fernandez-Planells *et al.* 2016:3). But the fact the internet exists doesn't mean a news programme specifically for children is less necessary; they need a place where they can find answers to questions about the world they're growing up in and of which they are citizens.

We consider children's news programmes as the media's contribution to accompanying children on the path towards the adult information society. Analysing how this is done can also

represent a first step towards a more democratic society that addresses the concerns of all its citizens, including children.

Methodology

The three cases of children's news programmes chosen for the comparative study are of renowned importance within the context of children's TV. *Newsround* by the British Broadcasting Corporation is the benchmark children's news programme in Europe and the world and was the first to appear, in 1972, providing a model for subsequent news programmes aimed at this audience. It has different daily broadcasts and an average duration of five minutes per programme. *Logo* (1989, Zweites Deutsches Fernsehen) is the benchmark for its area in Germany, a country which has been included in the comparison given its long tradition of children's TV. It's broadcast daily at 7.30 pm and has an average duration of 9:47 minutes per programme. *Info K* (2001, Televisió de Catalunya) has also been modelled on the British news programme and is currently the only news programme of its kind in Spain. This Catalan programme is broadcast Monday to Friday at 6.50 pm and its average duration is 11:40 minutes. All three news programmes can also be seen *a la carte* on the programmes' respective websites.

What are these news programmes like and what do they report on? Which topics are given priority? Using comparative content analysis, the content of the different programmes and also their features in terms of information quality have been identified. The news items analysed form part of the *Newsround*, *Logo* and *Info K* programmes broadcast in May 2013. The choice of this timeframe has taken into account the fact that, during this period, there was no particular event (related to sport, politics or society) that might drastically alter the media agenda. In total, 63 news programmes were analysed (22 *Newsround*, 20 *Logo* and 23 *Info K*), equivalent to 372 news items. A template was designed to provide a semi-structured observation of the news programmes so that the data analysed could be subsequently entered into a database. Coding was carried out by the author of the study and reviewed by a supervising researcher from each country in the sample. Regarding the topics, these were classified into main (Politics, International, Economics, Society, Sport, Media and Weather) and subtopics [Society: Animals, Science, Education, Style (Fashion, Gastronomy, People), Environment, Meteorology, Religion, Health, Events, Technology, Work; Culture: Cinema, Circus, Sculpture, Photography, History, Literature, Music, Painting, Folk Culture (Giants, Human Towers), Drama; Sport: Mountain sports, Basketball, Cycling, Horse-riding, Extreme sports, Football, Handball, Multi-sports; Media: Radio, Television].

Regarding quality indicators, a proposal was drawn up based on the criteria of different authors, official sources and institutions (Alsius 1998; Casas 2005; Crescenzi 2010a, 2010b; González 2011; Gutiérrez 2000; Pereira 2005; Pujadas 2002; among others). There were 15 indicators: information quality; inclusion

of experiences; promoting diversity; promoting values; excluding discriminatory scenes and conduct; stimulation; interactivity; narrative roles; originality; image/graphics; image/narrative coherence; sound/music; sound/effects; decoding the media; and ethics.

A study was also carried out of what the audience for these news programmes thinks about them, and what role these programmes play in forming their view of current affairs and citizenship. Using group discussions with children, it was analysed whether their TV consumption habits affect their notion of current affairs and what strengths and weaknesses they see in this kind of programme. The groups were made up of between five and seven participants aged between ten and eleven and were held within the school environment, since this was familiar to them (Pfaff-Rüdiger 2011). Based on the project sent to different schools, year five tutors were responsible for selecting the participants, taking into account the required criteria (balance between boys and girls, age, reflective and communicative skills, one group made up of children who normally watch children's news programmes and another with those who don't normally watch them, and no children whose parents are journalists or related to the media). In total, two pilot discussion groups were held in Barcelona. These were used to test the semi-structured script produced for the sessions and to improve the specifications in the project's instructions given to the schools. Initially, the plan was to hold discussion groups with between 6 and 8 participants. After the pilot groups, it was realised that, with children at this age, smaller groups of between 5 and 6 participants improved the discussion and gave everyone the chance to speak. Once these conditions had been readjusted, two discussion groups were held in Cerdanyola del Vallès (Catalonia) and two in Berlin (Germany). For the United Kingdom there was already a prior study on the reception of news programmes by children (Carter *et al.* 2009). For this reason, in addition to the limited resources available and the

difficulties of carrying out research with minors in this country, it was decided to exclude UK discussion groups from the project.

A script was drawn up for the sessions, which were expected to last 45 minutes. Nevertheless, the guidelines were not strict and the order and manner in which the topics were introduced were adapted depending on how the conversation developed in each case. This script was divided into 6 blocks: 1. Free time; 2. TV consumption habits; 3. Current affairs; 4. Importance of being informed; 5. News programmes; and 6. Consumption habits for information and media in general, the individual and family. The first block was meant to help break the ice; based on a prior written questionnaire, the children started to explain what they liked to do in their free time, which then enabled the introduction of block 2 related to their TV consumption habits. Within block 3 (current affairs), three news items were watched: one from a conventional news and current affairs programme, one item on the same current affairs topic but from a children's news programme, and a news item on a topic suitable for a children's news programme. The news items selected needed to be current, occurring a few days before the date of the discussion group, lasting approximately one minute and covered by both conventional and children's news programmes. Lastly, blocks 4, 5 and 6 helped to investigate the importance of being informed and information habits in general.

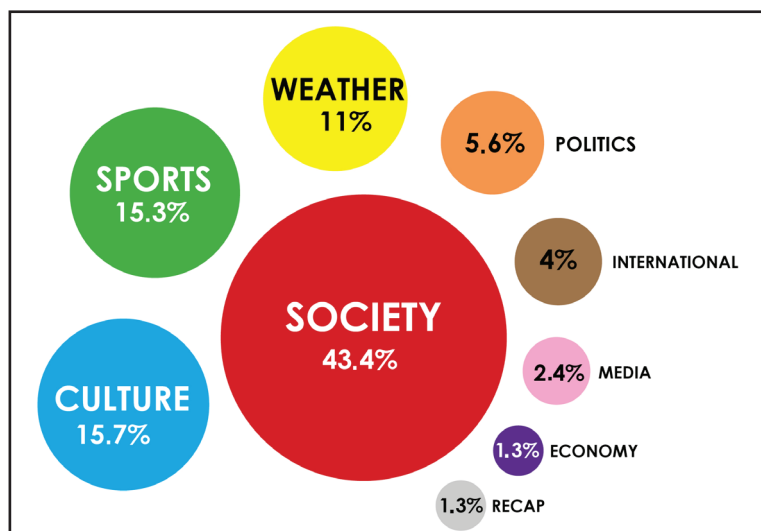
The sessions were recorded on video and audio so they could be transcribed and coded afterwards.

Results

Topics

An overall analysis of the topics covered by the three children's news programmes as a whole shows a clear predominance of Society topics (Diagram 1). Culture and Sport have a similar relative weight when mapped according to volume of topics.

Diagram 1. Map of the spread of topics in the three news programmes



Source: Author.

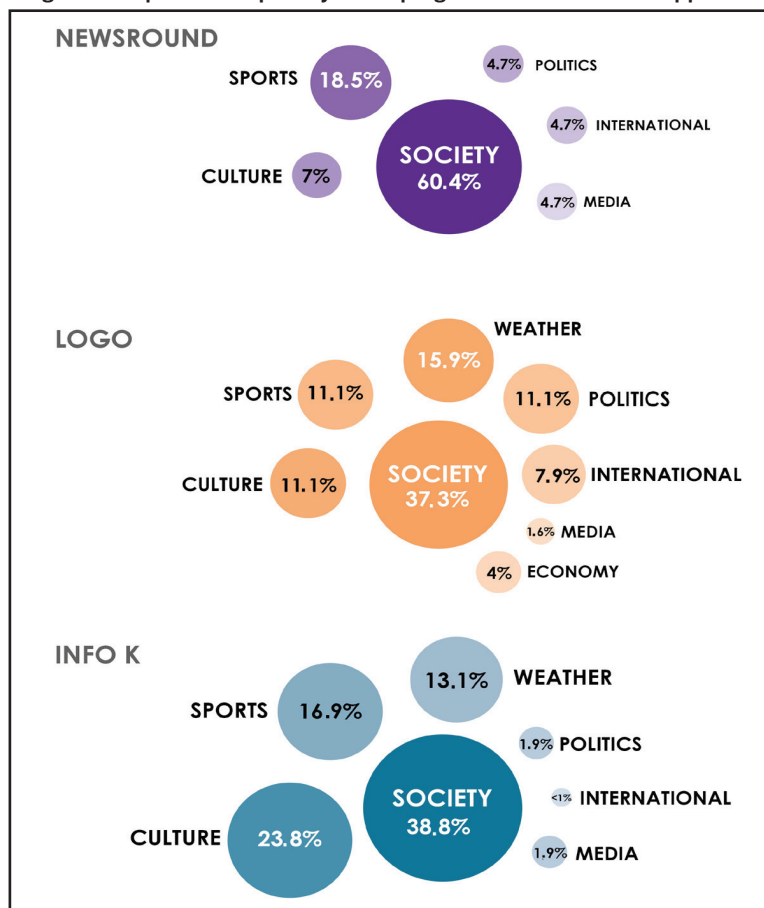
Although Politics, International and Economics are present, their share is not very significant.

Overall, the topics and subtopics of the news items from the three news programmes are distributed in such a way that, within the Society topics (N=161), those most covered are Style (N=30), Animals (N=29), Meteorology (N=24), Education (N=21), Science (N=14), Health (N=12), Technology (N=9), Social Rights (N=8), Environment (N=6), Events (N=5) and Religion (N=3). Of note in Culture (N=58) is the greater coverage of topics related to Music (N=26) than the other subtopics, which appear between one and five times at most. Regarding Sport (N=57), Football is clearly dominant with 27 news items, while the other Sport subtopics appear between one and five times at most. The next section with most coverage on the three news programmes as a whole is Politics (N=21), followed by International news (N=15). International news has a balanced coverage by country as only on three occasions (Russia, Syria and the European Union) was there more than one news item on this topic. In all other cases (Afghanistan, Belize, United States, France, Mali, Romania, Syria/Turkey, European Union/Syria and the World) only one news item was broadcast on the topic during the period of time the sample was analysed. In Media (N=9), the subtopic most covered is Television (N=6, if we add the two on TV3), followed by Photojournalism (N=1),

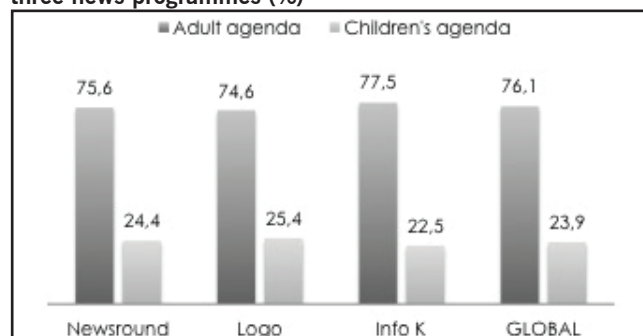
Internet (N=1) and Radio (N=1). Economics appeared on five occasions, all corresponding to the German news programme. The Weather had 41 news items, each one corresponding to the weather news on *Logo* and *Info K* in May 2013. The subtopics categorised as Summary (N=5) correspond to the summary of the week's news broadcast by *Info K* on Fridays.

A comparison of the topics covered on *Newsround*, *Logo* and *Info K* (Diagram 2) reveals that all three news programmes have a predominance of Society topics. The British news programme covers more Society news items than all the other sections added together, while Sport comes a clear second, far ahead of the other sections such as Culture, Politics, International and Media. The German news programme has the most varied and balanced spread of topics in terms of the volume of each section. Sports, Politics and International are of an equivalent weight. On the other hand, *Logo* is the only programme to cover Economics topics. There is also a predominance of Society topics on *Info K* but with a notable presence of topics related to Culture and Sport. Regarding the nature of the topics on the programme's news agendas, as these have been analysed individually, comparatively this can be seen to be equivalent in all three cases (Diagram 3). A quarter of the news items appearing on *Newsround*, *Logo* and *Info K* are specifically related to children.

Diagram 2. Spread of topics by news programme and share of appearances



Source: Author.

Diagram 3. Comparison of the nature of the topics on the three news programmes (%)

Source: Author.

Information quality on the three children's news programmes

Regarding the analysis of the different indicators established to measure the quality of children's news, a difference can be observed between the three programmes. Some programmes emphasise certain criteria more than others. This is surely related to the cultural and journalist traditions of the different countries, as well as their educational and social traditions.

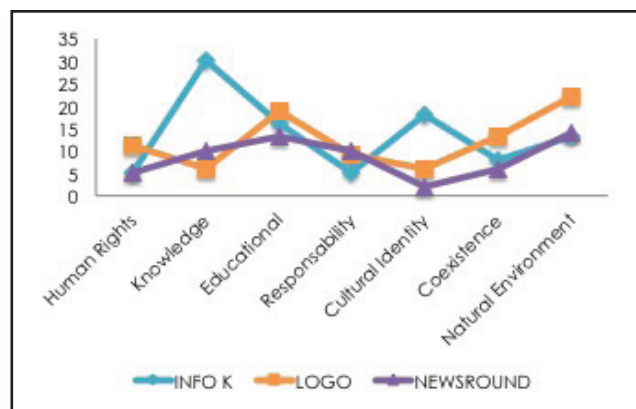
In promoting diversity, *Logo* stands out for including more cases of ethnic diversity and for being the only programme of the three to cover religious diversity. It should be noted that we are not saying that *Newsround* and *Info K* don't promote a diversity of beliefs but rather that they didn't cover Religious topics in the news programmes analysed.

Regarding the values promoted based on the news items, the results show different tendencies on the three news programmes (Diagram 4). *Newsround* has the most balanced coverage of values appearing overall and in more cases (promoting and respect for Human Rights, desire for knowledge (exploration, discovery, creativity), educational values, responsibility, cultural identity, coexistence or social harmony and respect for nature or the environment). *Logo* shows a preference for educational values and particularly for values that promote respect for nature or the environment. *Info K* encourages other values more, such as a desire for knowledge (exploration, discovery, creativity) and cultural identity.

Regarding the inclusion of children's experiences in the coverage of news items, these accounted for 37% of the total (N=372), representing 134 news items with the presence of children.

What does the audience say?

From the discussion groups we can conclude that, when children say they watch television with their parents, most of the time it's to watch the news or films. Where and when they watch television is also affected by the family's daily routine and some differences are evident between the different countries.

Diagram 4. Promoting values on the three news programmes

Source: Author.

All participants state they have a TV in the dining room at home and only in two cases (both in Catalonia) do they say they have a TV in their bedroom. The children of Catalan families also often associate watching TV with mealtimes, especially the evening snack or dinner. On the other hand, in German families the children say that, at most, they snack (*knabbern*) on something while they watch television. Regarding the appeal of television, children identify four categories: entertainment and fun; learning or interest; varied content; and spending time with the family. The opinions discussed during the sessions by the participants concerning the topics of the news items and the different formats used to present them, resulted in a very interesting discussion about news programmes. Regarding conventional news programmes, in general the children interviewed find them boring even though they believe they could be useful as a source of information or to learn something.

Based on the children's conversations, proposals were made to improve news programmes and demands for news programmes to be more agreeable, such as:

- Use of less sophisticated language.
- Superimposing on the screen concepts which aren't very clear or are difficult to understand.
- More gestures by the presenters, who often seem like they're as stiff as a board.
- The features of children's news programmes they like the most are:
- The presenters' informal clothes.
- The colourful set (they think the set for adult news programmes is too serious).
- Children as reporters (*Inforeporters* and *Kinderreporter*).
- That examples are given to explain topics, because then they're much easier to understand.

In general, there was agreement among the participants of the different discussion groups that it's important to be informed. Some children have a clear opinion about the reasons why it's important, others firmly believe this even though they can't explain why while a few children believe that being informed

is only important for adults. Among the reasons given are highly practical objectives closely related to the usefulness of information in their everyday lives. Four categories can be established concerning the reasons why the children in the study believe it's important to be informed:

1. Avoid being stupid
2. Be able to converse
3. Knowing what's happening
 - a. Illnesses
 - b. Strikes
 - c. Wars
 - d. Sport
 - e. New laws
4. Services
 - a. Traffic
 - b. Weather

Conclusions

1. The three children's news programmes analysed prioritise Society topics and a quarter of the topics covered belong to the child agenda.

Almost half the topics covered by the children's news analysed are Society topics (43.4%) and the other major focus is related to Culture and Sport which, together, account for over 30% of the news items covered. The structure of children's news programming shows a clear predominance for these topics, which are seen as child-friendly, while topics related to politics (9.6%) and economics (1.3%) are covered infrequently.

The three programmes coincide in this balance and also in their concentration of adult agenda topics, which is very high considering these news programmes are designed specifically with children in mind. The adult focus that predominates news media content (Feixa 1993; Figueras and Mauri 2010) is also evident in this case, added to the fact that, when news is provided on children, they are mostly represented as having problems (Davies 2010: 157).

On the one hand, this 25% share of child agenda topics are covered by such programmes when they aren't covered anywhere else, which the children consider to be interesting and necessary (Carter *et al.* 2009; Narberhaus 2013, 2016). But on the other hand, we might ask why they only account for 25% of the content on children's news programmes, the rest being made up of adult agenda news items. Perhaps this is because the maxim of editors for news items aimed at children is that you can talk about everything but not show everything, which encourages coverage of the same topics as on conventional news programmes. Regarding the concentration of topics, *Logo* (ZDF) had the most balanced distribution during the month analysed. The German news programme is the only one to cover Economics topics and the one presenting the most news items on Politics and International. In this respect, it's the programme

that is most similar to adult news programmes, as it explains all the topics thoroughly and intelligibly, albeit adapted to its intended audience.

Newsround (BBC) tended to prefer more sensationalist topics during the month the sample was studied. The fact that the broadcast is shorter (five minutes on average) means that topics need to be presented briefly and also fewer topics can be covered by the same programme, with the result that the news items broadcast are mostly related to Society, principally Animals and Meteorology (the programme doesn't have a specific Weather section, unlike the other two), and also Football. Such topics are always narrated directly with less explanation than, for instance, *Logo's* news items.

Info K (TVC) is the programme with the most news items on current affairs, with topics mainly concentrating on Society and Culture and particularly Style and Music. It also covers the most news items from the adult agenda (77.4%) and the most current affairs items (81.3%). The Catalan programme concentrates mainly on explaining topics it believes are of particular interest to children, so that it rarely includes news items from Politics or International in its content and, during the study period, no Economics topics were covered.

2. *Newsround*, *Logo* and *Info K* meet most of the quality criteria and particularly the one related to promoting values.

Children's news programmes on the BBC, ZDF and TVC are of considerable quality. This can also be seen in the numerous awards and distinctions they have received for their work. Our research shows that the form and content of all three news programmes comply with what we have defined as elements related to information quality for children's news. These three children's news programmes vary slightly in terms of the values they promote through their news items. The British programme emphasises the promotion and respect for Human Rights, a desire to learn, educational values, responsibility, cultural identity, social harmony and respect for nature or the environment. *Logo* shows a clear preference for educational values and especially values promoting respect for nature or the environment, while *Info K* particularly encourages values such as a desire for knowledge (exploration, discovery, creativity) and cultural identity.

The analysis has also shown that the different programmes make an effort to contribute positively to decoding the media for children, including spaces in which children themselves can become reporters for news items, an explanation of the bluescreen technique used in TV studios (*Info K*) and references to further sources of information if the children find the news item disturbing (*Newsround*). In this respect, the children's news programmes can be considered as elements within a non-formal environment that contribute towards children's media literacy.

3. Children who often watch children's news programmes show more interest in current affairs than those who don't tend to watch such programmes.

The discussion group participants who watch news at home, and also those who have carried out a radio, blog or newspaper workshop at school, are more interested in the news during the discussions, provide more ideas regarding what they would like and defend more strongly the importance of being informed. Although it's true that the study has not produced clearly differentiated data between the discussion group participants who normally watch children's news programmes and those who don't, it has been observed that various factors affect their interest in news, most particularly their family and school environment. In other words, children's relationship with the media and news has a notable impact on their interest in this area. This reinforces the proposal put forward by David Buckingham and Cynthia Carter who state that, the closer children's relationship with the media, and also with the news and its production processes, the more interest they have in such matters (Buckingham 1997; Carter *et al.* 2009). Although there were no significant differences between regular and non-regular viewers of the programmes, it can be stated that those children who remember having seen the topics viewed during the sessions on *Info K* or *Logo* are perfectly aware of what the item is about and can also explain it, and have the initiative to do so. Consequently, although regular watching of children's news programmes is not the only or most decisive conditioning factor for children's view of current affairs, it is nevertheless a factor which influences this conception. Media literacy is crucial to ensure this influence is conscious and that media messages are not consumed without a critical, reflective attitude (Masanet 2015; Masanet, Contreras and Ferrés 2013). However, as previous studies have pointed out, media education must go a step further, taking into account education related to emotions, attitudes and values, a media education based not only on knowledge but also on experience and attitude (Masanet 2015).

4. Older children perceive these programmes as too infantile and express a desire for a news programme for older children.

Most regular viewers of the programmes analysed consider themselves to be loyal viewers, they've been watching the programme for some time and, in general, like how the news items are explained. Some of them, however, believe the tone used by presenters and reporters is sometimes too much "for young children", too infantile. At a time when adolescence begins at an increasingly early age (Piracón and Palma 2010), it's logical for an audiovisual product aimed at an audience aged 6 to 12 not to be able to satisfy all the preferences of its range of viewers.

5. Television is still the preferred medium for news and the family's media consumption habits affect those of the children.

Children's media consumption habits are strongly influenced by their family and everyday lives, in line with what Pfaff-Rüdiger (2011) has claimed. If, at home, a parent reads the newspapers, it's easier for children to leaf through them because they have access. Some of the children interviewed say that they are interested not only in the specific pages for children which might be included in a newspaper some time during the week, but are also interested in the headlines and photographs. Some also use the press for the information they provide (for example, TV and cinema schedules) but this is an introduction to the media which is not available to those children living in family settings where no newspapers are present. Regarding radio, most children associate it with music and only with information when they are in the car. A few say that they get information from the internet and those who do explain that they consult search engines and websites such as Wikipedia to do schoolwork. Some families subscribe to digital providers and the children are aware that newspapers can be consulted via apps, mobile phone or tablet. In spite of evidence of children's growing interest in the internet, television still plays a key role in their media consumption habits (Fernandez-Planells *et al.* 2016: 3). The discussion group participants confirm this for the German and Catalan cases and Carter *et al.* had already noted this in their study published in 2009 for the British case: "Television is children's 'favourite place for news'. 52% mentioned TV by itself as their 'favourite.' When TV plus another medium, e.g. 'TV and newspapers', was included, it was mentioned by 67%" (Carter *et al.* 2009: 11).

6. The children taking part in the study see themselves as citizens and believe it's important to be informed, showing an interest in news.

The children in the study also showed great interest in news, stating that they believe it's important to be informed both of what's happening close to home and also around the world, and equally for adults as for themselves. Although some were not able to explain very well why it's important to be informed, most did find specific examples to illustrate this, principally their everyday lives, ranging from service information to the weather but also, in some cases, they expressed the desire to take part in society and it was therefore necessary to be informed, and they even saw it as a responsibility, citing the case of elections. Another important reason for being informed was not to feel stupid, the knowledge provided by knowing what's happening and being up-to-date, which at the same time means they can converse in the social circles typical at their age: family, friends and school.

This is a common point in all three countries, demonstrating the need for children's news, as stated by Carter *et al.* regarding children in the United Kingdom: "The research provides strong evidence that most children see themselves as citizens even though they are not yet of the age where they have full citizenship rights, and consider themselves to be keenly interested in issues relevant to the world around them." (Carter *et al.*, 2009: 5).

As we said in the introduction, the right to information is fundamental for all citizens in any real democracy and helping to transmit universal human values is also a duty and responsibility of the media as a public service. This study has tried to assert this right and demonstrate the importance of specific news spaces designed for children so they can truly be considered as citizens and be prepared to play their part completely in society.

Final note

This paper presents the results of the research *Children's news Topics, information quality and audience reception around Newsround, Logo and Info K*, which received the First prize of the XXIX CAC Awards for research on audiovisual communication.

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Betevé: From hyperlocal television to transmedia? An analysis of its evolution

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Abstract

Barcelona Televisió sprang from the desire of a group of neighbourhood television stations to broadcast over a shared channel. The project has developed into a multiplatform medium and, more recently, a transmedia system. The aim of this study is to analyse this process, which took place due to the fact that it broadcast content adapted to the potential of each different platform and its constant effort to innovate. This study sets forth the challenges, such as how to move project design away from a television-centred approach, and the opportunities which transmedia represents for local media in relation to the structure of the media.

Keywords

Barcelona Televisió, betevé, digital era, transmedia, local television.

Resum

Barcelona Televisió va néixer de la voluntat d'un grup de televisions de districte per emetre a través d'un canal compartit. El projecte s'ha convertit en un mitjà multiplataforma i, més recentment, en un sistema transmèdia. L'objectiu d'aquest treball és analitzar aquest procés, que va ser resultat de la difusió de continguts adaptats a les possibilitats de cada plataforma diferent i d'un esforç constant per innovar. Aquest treball planteja els reptes —per exemple, deslligar el disseny del projecte d'un enfocament centrat en la televisió— i les oportunitats que representa el transmèdia per als mitjans de comunicació locals, en relació amb l'estructura del mitjà.

Paraules clau

Barcelona Televisió, betevé, era digital, transmèdia, televisió local.

1. Introduction

Digitalization has forced most local media to evolve to adapt to new technological platforms for broadcasting content. Migration to Digital Terrestrial Television (DTT) was one of the main factors affecting the communication ecosystem of local channels, especially in Catalonia and other places with a similarly high concentration of local media. Elsewhere, these changes have had a less dramatic impact and have even led to the appearance of local television channels, as in Scotland.

In Catalonia, which had more than 100 analogue local television channels, adaptation to the digital age occurred by both the transition to DTT and the appearance of new channels — airwave-transmitted or not— that broadcast synchronously and asynchronously over the Internet. Moreover, the economic crisis had an impact on the television system, negatively affecting local channels' budgets. These changes have had a major impact on local channels, which often do not have the resources to innovate in response to the development of new technologies.

Adaptation has been accompanied by structural adjustments in reporting that have led to both a convergence between television, radio and digital projects and the creation of structures aimed at updating information online via websites and social media. In fact, innovation has emerged as a key structural lever in ensuring media prosperity. In this framework, channels become multiplatform entities that distribute content in different ways and forms. The reality faced by most local channels is that their financial and human resources limit them from exploring the possibilities offered by this new paradigm.

However, the Barcelona-based television channel betevé has taken the steps needed to restructure as a transmedia system and thus distribute content via several platforms and in different media, thereby taking advantage of the potential to recycle and update content. By differentiating itself from other conventional media, the channel is an exceptional example in the field of local communication. This case study, which analyses how it has adapted to the digital era and evolved into a transmedia system, highlights betevé as a model within the emerging field of transmedia systems.

2. Theoretical Framework

The theoretical framework behind this research is threefold, with theories on public service and the way it has adapted to the digital era as the point of departure. We can use these theories to classify betevé as a public medium and specify its purpose, especially bearing in mind that innovation and interaction are now as important as the traditional public-service goals of informing, entertaining and educating. The second theory relates to the way in which local television has been conceptualized and helps us understand the role it plays. Finally, it is useful to analyse the concept of transmedia in order to define how transmedia systems work.

The digital age has brought with it new characteristics to supplement the traditional functions associated with public-service broadcasting (education, culture, aesthetics, identity, political plurality, social issues, economics and development, humanism and moralizing). Different media service providers can no longer be considered independent from each other; rather it is more pertinent to look at how Information and Communication Technology (ICT) providers can develop as one and converge while communication platforms diversify.

With the growth of new technologies, Public Service Broadcasting (PSB) must be reformulated due to the multiplicity of ways to disseminate content and the need for it to insert itself into the digital era. Owen (1999) points out that the Internet can provide information and entertainment to compete with digital television, and nowadays online video consumption is rising while conventional television is showing a decline in audience numbers. PSB is facing a paradigm shift that is affecting all audiovisual models, and these media must adapt to the new existing reality by reinterpreting its concept.

Some European scholars have analysed the role, functions and challenges of Public Service Broadcasting (PSB) (Brevini 2013; Van Cuilenburg and McQuail 2003; Ferrell Lowe and Steemers 2012; Bardoel and d'Haenens 2008), paying special attention to the transition and adaptation to the digital era (Moragas and Prado 2000; Trappel 2010; Jankowsky 2012; Iosifidis 2007; Dönders 2012).

The advent of the digital era has added new functions to those traditionally performed by public television. Consequently, public television must now consider issues such as developing a communications strategy, guaranteeing universal access, mediating in the face of multiple information sources and balancing and putting restraints on the new oligopolies. It must also act as the driving force to bring the communications sector and other social sectors together, among other things. In addition, new technologies must be taken into account when constructing theories on the role of public service in the digital age.

As Dönders (2012) argues, European Public Service Broadcasting is now in a third stage, after a first stage of the birth and consolidation of public media (20's-70's), and a second stage of liberalization of audiovisual services and

appearance of private media coexisting with publicly owned media (70's-90's). The features of last few decades are the rise of new technologies and the adaptation of audiovisual services to the digital era.

In this context, the change in terminology from PSB (Public Service Broadcasting) to PSM (Public Service Media) stems from a technological evolution that has been influenced by political interests and social demands. Given the diverse number of ways in which audiovisual public service providers can broadcast, especially with the rise of the Internet, referring to public service broadcasting ceased to make any sense. Hence, the B (for broadcasting) was changed to an M (for media) as media encompasses the new modes of public communication which use the Internet as their medium and often comprise various formats. The digital era requires public-service television providers to take on a new role, since they are now integrated into a more global system of public communication services. Moragas and Prado (2000), proponents of redefining the mission of public service, have argued that this mission needs to adapt to the digital age.

The digital age has given rise to more efficient data-compression systems and has witnessed the convergence of different sectors –especially the broadcasting and telecommunications sectors. The number of public-service providers has also multiplied, and even those that are not necessarily broadcasters can now offer an audiovisual public service. The literature on public service in recent years has focussed on identifying the dangers of the decline in public service and the challenges it has to face. Jankowsky (2012) pointed out that public service is subject to rapid changes in technology, shifts and decline in public support, concern surrounding the functions of institutions, an increase in media competition and a redefined relationship between audience and service providers.

The literature on public service has identified several challenges to be tackled, such as leading the way in high technology, offering interactivity and immediacy and creating a sense of community among all citizens. We are currently inundated with media providers, and therefore some scholars are questioning the added value of public broadcasters when consumers' options are seemingly unlimited (Armstrong and Weeds 2007). New technologies facilitate citizens' participation in the media through the Internet and social networking sites while allowing public-service providers to diversify their distribution channels. With so many different information services available, public media providers must adapt to this online environment, since they play a crucial role in the communications ecosystem and should provide a quality service that is diverse, pluralistic and representative.

One of the cornerstones of public service is its representative nature, which extends to local domains. According to Straubhaar (2007), individuals identify themselves on a variety of levels (multiple layers of identity). In a context of globalization and media globalization (Stiglitz 2002; Mattelart 1998), not only has the identity of individuals become global or transnational,

rather different layers of geographical identity coexist (local, regional and transnational) that are linked on the basis of cultural-linguistic and national regions (Anderson, 1983). According to Straubhaar (2007), local television is popular because people live out most of their lives in a local area and consequently want to remain well-informed about this area and strongly identify with it.

Straubhaar (2007) argues that global technological infrastructures exist as follows: a North American Empire centred on Hollywood; other global exporters; transnational cultural-linguistic producers and geocultural producers associated with geographical proximity, cultures, languages and similar shared stories; translocal producers, who cross borders; national producers; regional producers, metropolitan producers and local producers.

If we look at the closest layers of identity, we can see that Straubhaar distinguishes between metropolitan and local producers. In the former, he includes global cities that are related to global networks and produce a high volume of their own content targeted at both the city and regions, nations and transnational spaces. Local producers are found in the smaller cities, districts or even neighbourhoods.

Local media play an important role taking into account the fact that citizens look for their own signs of identity in their immediate community (Moragas, Garitaonandia and López 1999). Local television accomplishes the goal of representing local culture, traditions and politics, one of the cornerstones of Public Service Media, and they are crucial to tracking what is happening in a small territory and illuminating the relevance of general news to the local area. These media are more specific on local issues and explain them in greater detail than general broadcasters. They report stories, save all stories related to the local area and make them available online.

Costera (2010) identifies seven social functions carried out by local television in relation to its audience: (1) to provide background information (impartial, reliable and comprehensive); (2) to foster social integration and provide citizens with knowledge of how the city works; (3) to guarantee representation (give voice and recognition, and reflect society); (4) to increase local knowledge; (5) to create civic memory; (6) to contribute to social cohesion; and (7) to improve a sense of belonging. According to the author, local television stations must represent the local area and provide reliable stories about their residents.

Local broadcasters are linked to local areas and have the capacity to produce in their territories and promote citizen participation. Moreover, these media perform a public-service function by representing local communities and bringing decentralization to the audiovisual models (Martori 2017).

Local producers are comprised of the hyperlocal media, which are service providers -many of them digital natives- that serve small geographical areas and are community-oriented. They broadcast original information and fill perceived information gaps (Metzgar, Kurpius and Rowley 2011). Williams, Barnett,

Harte and Townend (2014) refer to the hyperlocal media as those that cover information of civic and cultural value, including news about the local community, local groups, events and council issues.

The situation of local television in the digital era is the result of structural changes from the analogue system. In Spain, and specifically in Catalonia, DTT regulated local television and introduced a new model different to the pre-existing ones (Guimerà 2010). These media had to deal with not only the digitalization of the signal but also the new challenges of online consumption, where the audience is fragmented and active. Most local channels became multimedia in recent years, but some of them have the goal of going further to become transmedia.

As part of our analysis, we must examine the concept of transmedia. Nowadays, viewers can engage with television without ever turning on a television set (Evans 2011). According to the author, the television industry has exploited the emerging technologies and the extent to which audiences have embraced them. Journalists can better engage their audiences by adapting transmedia methods storytelling to journalism (Moloney 2011).

For a story to be considered transmedia, it must contain a set of characteristics, such as that the production must consist of more than one medium and all forms of production must be integrated according to their specific potential; furthermore, the content has to be distributed and accessible through a range of devices, such as personal computers, mobile phones and television, and different media platforms should be used according to the needs of the topic, story or message (Scolari 2013).

Jenkins (2003) argues that in defining transmedia narratives, we must differentiate between adaptation and extension. An adaptation consists in telling the same story in different media, while an extension seeks to add new information or arguments to the original. An adaptation can be considered transmedia if the story is told from different perspectives. Jenkins (2007) also defined transmedia storytelling as a process through which the integral elements of a piece of fiction are systematically distributed through multiple channels in order to create a unified, coordinated entertainment experience.

A transmedia story must make sense on all the different platforms, as well as separately on each platform. Therefore, the whole becomes broader and receives more public input. Transmedia involves using new technologies and adapting the medium to the technological paradigm through the use of innovative resources, and it has an impact on the industry. To adapt to the digital environment, media must make internal changes, such as by organizing convergent newsrooms. Despite the multiplicity of platforms to inform citizens, local online services do not always use all its possibilities; likewise, sometimes work routines are based on the production of daily news stories, and then the videos are published on the web pages (Martori 2017). In Catalonia, the websites of the Corporació Catalana de Mitjans Audiovisuals (CCMA) and Betevé

are the most interactive, with more navigating possibilities and the integration into social networks (Gómez-Domínguez 2016), taking into account that much of the audience accesses online news from social media (Fontaine and Grece 2015).

At the intersection between technological change and the provision of public-service news, it should be noted that the PSM have to deal with challenges and opportunities while still grappling with political and economic challenges, taking into account the decline in the financing of public-service facilities in several countries in recent years (Sehl, Corina and Kleis Nielsen 2016).

3. Methodology

The aim of this article is to analyse how Barcelona Televisió (today named betevé) has developed and to examine whether it has become a transmedia system adapted to the digital paradigm. The initial hypothesis is that although betevé was born as a sum of different neighbourhood television channels, it has professionalized so much more that it has become a transmedia system integrated into the digital age. The research has taken the following questions as a starting point:

- How did betevé develop into a transmedia system (if it did)?
- What does it mean for a television channel to become transmedia, and what changes have taken place? What was the strategy?

A case study linked to the theoretical framework described above has been carried out to answer these questions. To provide some context, the case study includes a detailed explanation of the birth of the television channel and how it developed. It also gives a description of the media provider's current situation, which focuses on the multimedia and transmedia aspects of betevé.

A qualitative methodology was used, consisting in researching official and unpublished documents as well as in-depth interviews of the following people:

- Sergi Vicente. Director of betevé.
- Xavier Muixí. Head of news at betevé.
- Ernest Maragall, General Director (1983-1989) and CEO (1991-1995) of Informació i Comunicació de Barcelona (ICB).
- Pepi Rafel. Coordinator of Barcelona TV, Televisions de Districte de Barcelona.

4. Analysis: The evolution of the Barcelona-based television channel

The origins of Barcelona Televisió

In 1982, the Associació d'Amics de la Ràdio i la Televisió del Clot i Camp de l'Arpa (Association of Friends of the Radio and Television of Clot and Camp de l'Arpa) began broadcasting

over the radio. In 1984, at a meeting in Cardedeu with other local television channels to set up what would later become the Federació Pro-Legalització de Televisions Locals de Catalunya (Catalan Federation for the Legalization of Local Television), the members of the association, representing Barcelona, expressed their intention to set up a district television channel, the flagship of which would be its general news service, as explained in an interview by Pepi Rafel (2015), president of the entity which coordinates the neighbourhood television channels. In the two years that followed, other groups started to appear which would also turn their hands to making television.

In 1987, for example, TV Clot offered programmes such as *Parlament català*, which covered issues ranging from neighbourhood association meetings to debates on the future of the Encants market; *Trenkant Aigües*, which was a collection of ideas, projects and reports by people in the neighbourhood; sports news; *Ets jove*, a news programme for young people; and *Això no és Hollywood*, about amateur films. Another television channel broadcasting was TV Eixample, with programmes such as *Barcelonart*, focusing on artistic activities; *Endavant salut*, about health; *El Magazin*; and *L'informatiu Crònica 08*, a news programme. TV Gràcia was also in operation, although it did not broadcast regularly. RTV Popular Sants and RTV Poble Sec were two fledgling television channels in Barcelona at this time.

In 1989, it was decided that a single television channel for the city would be set up; it would broadcast on Channel 39 with a linear emission and operate in different districts on a weekly basis. The aim of this system was to divide the broadcasting time of the channel over the week, with two districts broadcasting every day and repeats at weekends (Rafel 2015, personal interview). District television wanted to offer a public-service television channel to inform its audience of social events in the neighbourhood as well as local council matters.

On 7 November 1994, an agreement was signed between the Coordinadora Barcelona Comunicació (Barcelona Communication Coordinator, CBC) and the Barcelona City Council, to which we were given access for the purposes of this research. The document explains that the CBC was a conglomerate of the television broadcasters operating in the city's ten administrative districts. The document describes the City Council's plan to set up television studios to produce, direct and broadcast programmes for the local community. These programmes would consist in a thrice-daily news broadcast and a weekly debate programme, and it would provide a way for the CBC and the City Council to continue working together.

The City Council's idea was that this measure would give the district television stations a centralized point of coordination for all their work. Both parties agreed that the CBC should be given better technical equipment and materials to improve the quality of its broadcasts, and that the programmes should become more homogenous in terms of quality and style.

The agreement stipulated, first of all, that the City Council and the CBC would use the Barcelona Televisió brand and logo, registered under the ownership of the City Council of

Barcelona. The second part of the agreement explains how Barcelona Televisió was intended to continue being a local public television channel meant to serve society and broadcast mainly informative programmes about the city and its districts and neighbourhoods.

The City Council promised to make the necessary investments to improve the transmission and reception quality of the programmes broadcast by Channel 39 and therefore agreed to transfer CBC's television transmitter to Telefónica's installations at the Collserola Tower (Torre de Collserola) overlooking the city. The agreement also stated that the weekly programming schedule would be agreed upon between the two parties.

Barcelona Televisió (BTV) began broadcasting on 3 November 1994 from its studios on Via Laietana in Barcelona. It was conceived as a local television service designed for the people of Barcelona offering high-quality programmes, focusing particularly on culture and public engagement. According to Ernest Maragall (2016), the former CEO of ICB, the aim of BTV was to show that Barcelona was more than just a conglomerate of districts at a time when other cities around the world were also launching their own television channels. BTV was devised as an instrument of self-expression, since district television stations were unable to tackle all aspects of life in Barcelona and it was not the role of TV3 — the Catalan public broadcaster — to take on this function (Maragall 2016).

Maragall states that district television channels continued to play an important role by producing information and collaborating with BTV. However, it was decided that additional resources would not be allocated to the district television channels, which differed in terms of size and resources and employed different criteria and styles, as it would be hard to respect their individual characteristics; furthermore, any content produced would not be for the exclusive use of BTV. Maragall (2016, personal interview) claims: "We were not working against them but rather in favour of creating a television service for the whole city".

The agreement was revised on 2 January 1997 and referred to the document signed in 1994 as regulating the relationship between the City Council and the CBC and as confirmation that both parties acknowledged their desire to create a single television project. Mention was also made of the request to the Government of Catalonia to grant a licence for a local public television channel. The agreement stated that the Plenary Council of Barcelona City Council commissioned the private municipal company *Informació i Comunicació Barcelona, SA* (ICB) with the task of managing Barcelona Televisió.

The document also stipulated that the CBC would produce news programmes for Barcelona Televisió and that it would collaborate on the channel's own news programmes. Subsequent agreements were signed on 29 December 1997, 1 December 2000 and 23 May 2000, essentially for the same purpose and with content similar to the initial agreement.

According to Vila-San-Juan (2007),¹ BTV soon became a quite accessible TV station with a participatory spirit. The author pointed out that this "open-door policy" was translated

into many discoveries, the creation of work teams and a host of projects filmed on the streets instead of in the indoor sets. Experimentation was one of the goals in the early stages of the channel -with Manuel Hueriga as a director in association with the company Oviedo TV as Moebius TV, after a public tender- in order to be different from others, both technically and in innovative ways of reporting stories. "BTV is a young public TV station that puts as much emphasis on creativity and innovation as on the presentation and content of its programming". (Hueriga's declaration in Zinger's study 2000).

The differentiation from other media was one of the goals pursued in order to carve out its own niche different to the competition, as Zinger (2000) pointed out. The author argues that Barcelona Televisió worked in a format that clearly had the potential to create urban narratives because it was cheap, entertaining and could offer dozens of ways to involve viewers in the pulse of city life on a daily basis.

The videomathon (where citizens could record a message), the broadcast of live chats or short newscasts in different languages are examples of this spirit. The culture and the city were the unique features of the programming, which was usually made up of short pieces combined with long programs to more deeply explore some topics, such as thematic nights.

The goal of neighbourhood channels to obtain a licence

As BTV became more professionalized and production was outsourced to external audiovisual producers, less content was being produced at the district studios (Rafel, 2015, personal interview) since their budgets were low and, as a result, their technical teams were less stable and professional. Financially, after 1998, municipal subsidies ceased to be awarded directly to the district television channels and were instead given exclusively to BTV, and the funds were then distributed to the district television stations to enable them to continue collaborating.

District television channels saw that their collaboration with BTV was diminishing, and they feared for their future. Then, with the arrival of Digital Terrestrial Television (DTT), these channels realized that there were different options open to them for broadcasting local programmes. They submitted a bid to secure one of the Digital Terrestrial Television licenses being awarded for the Barcelona area. Their aim was to operate one of the four programmes within the multiplex (MUX) reserved for private and non-profit channels, given that there was no specific space for third-sector entities and that the terms of the tender process appeared to favour public-service proposals. The CBC defended a mixed television model where the City Council worked together with civil society.

Despite the inclusion of a legal report corroborating the activity carried out by the local channels for years and their ability to operate a channel, the *Direcció de Mitjans i Serveis de Difusió Audiovisual de la Generalitat* (Government of Catalonia's Audiovisual Media and Broadcasting Services Department) announced that the request had been denied on 3 May 2005 in

a document to which we gained access. The Directorate General based its adjudication of frequencies on a report prepared by the Catalan Audiovisual Council (CAC) which was binding on the issue of granting licenses. The decision-making power was given to the CAC as an independent entity while the law on Audiovisual Communication in Catalonia was being drafted, which would appoint the CAC as the adjudicator of audiovisual licences.

However, the licence request was denied before the results of the tender had been announced. The Government of Catalonia explained that the main reason why district television channels could not be awarded a DTT licence was because of a clause in the aforementioned agreement stating that “both parties [the City Council and the CBC] broadcast on the same UHF channel, which is deemed public, in which the City Council has committed to directly investing, and the programming of which is agreed on by both parties”.

Because the Plenary Council of the City Council had already explained in the agreement signed in 1997 that an intention existed to apply for a local public television licence, and it was specified that both parties would broadcast jointly, the Government ruled that:

“It cannot be concluded that the CBC has exclusive ownership over a local television channel, even though it may have had initial exclusive ownership at one point or during a given period. What is clear is that since 1994 CBC has been working with the Barcelona City Council on a joint project to develop a local television channel, known as Barcelona Televisió.” (Statement by the Government of Catalonia’s Department of Media and Audiovisual Broadcasting Services, 3 May 2005).

Since neighbourhood television channels were not awarded their own DTT channel, the CBC has continued to periodically renew its agreements with ICB, which is directly responsible for managing the public service channel BTV, now betevé.

The situation of district broadcasters in Barcelona

Below is a list of local television broadcasters in Barcelona, according to a list provided by CBC:

- TV Clot – Sant Martí: Associació d’Amics de la Ràdio Televisió del Clot-Camp de l’Arpa [Association of Friends of Radio and Television of Clot - Camp de l’Arpa]
- TV Eixample: Barkeno, Associació Cultural de Mitjans de Comunicació Popular [Cultural Association of Popular Media]
- Horta – Guinardó TV: Associació d’Amics de la Ràdio i la Televisió d’Horta-Guinardó [Association of Friends of Radio and TV of Horta-Guinardó]
- TV Ciutat Vella: Associació d’Amics de la Televisió de Ciutat Vella [Association of Friends of TV of Ciutat Vella]
- TV Sants-Monjuïc: Associació Audiovisual de Sants-Montjuïc [Audiovisual Association of Sants Montjuïc]
- TV Les Corts: Associació per al Desenvolupament de la

Comunicació Local [Association for the development of local communications]

- TV Sant Andreu: Centre d’Arts Visuals [Centre for visual works]
- Nou Barris TV: Associació Projectart [Projectart Association]
- Gràcia TV: Associació d’Amics de Gràcia Televisió [Association of Friends of Gràcia Televisió]
- TV Sarrià – Sant Gervasi: Associació d’Amics per a la creació de la TV Sarrià-Sant Gervasi [Association of friends for the creation of TV in Sarrià – St. Gervasi]

The district television broadcasters have the legal status of associations and are closely related to other local associations with which they sometimes organize joint activities. TV Clot, for example, organizes educational activities at schools and events for the women’s association at its studios. They would be included in the category of hyperlocal media outlined in the theoretical framework.

All ten district broadcasters operate from premises lent to them by the Barcelona City Council, although the terms of the agreements vary for each of them. Some of the local stations share a studio, as in the Clot district, where four television broadcasters operate from an audiovisual centre, part of which is also used as a centre for the elderly. Journalists use this studio as a base, and because of the restricted budget, they must travel to each district on public transport. Due to this limitation, sometimes they are unable to cover some news items promptly. These television broadcasters are equipped so that footage can be sent to betevé via fibre optics.

Some of the local channels have their own websites and YouTube channels in addition to the space given to news from each district at betevé’s website. TV Clot, TV Ciutat Vella, TV Horta Guinardó and TV Eixample share the same server and portal structure, and their websites can all be accessed from each other. The local television stations use these websites to post the information they have produced for betevé and sometimes the information is expanded upon (Rafel 2015, personal interview). The websites also serve as a document archive of everything that happens in each district.

A new era for Barcelona Televisió

In the mid-1990s, the Barcelona City Council took over the direct management of local public service televisions in the city, while maintaining its collaboration with the CBC to ensure that local television continued to be produced. In 2004, Barcelona Televisió began a new era with 24-hour broadcasting. This new era was also marked by the relocation of its studios, in September 2005, to a new building located in the heart of the 22@ technological district of Barcelona.

This relocation was the culmination of the digitalization process of Barcelona Televisió, which had started in 2003. The new infrastructure enabled the channel to take an important step forward in terms of producing and carrying out more ambitious

projects, and it increased its range of technological possibilities. That year, 2005, was also when BTV began broadcasting in digital format.

As part of this new phase, the channel also took over management of the municipal radio station. By virtue of the agreement with the Government of Catalonia on 17 March 1998, the Barcelona City Council became the owner of the radio station broadcasting on VHF frequency modulation 91.0 MHz. As part of the Government Commission agreement dated 18 December 2013, the Council provisionally commissioned the private municipal company *Informació i Comunicació de Barcelona, SA*, to oversee radio broadcasting, to take effect on 1 January 2014. Technical and organizational measures suitable for this purpose were also adopted, and it was determined that this delegation of responsibility would be temporary until the City Council defined a framework for the public service function and organized the public service through the corresponding regulatory policy. However, the radio station has become an integral part of the *betevé* structure, offering an additional broadcasting channel and becoming part of its transmedia strategy.

Organization

ICB is directly responsible for managing the public-service television channel of Barcelona, in compliance with the law on Audiovisual Communication in Catalonia. The share capital of ICB was provided by the Barcelona City Council, and the company is governed by its bylaws, as well as by the rules of organizing and operating the local public television service of Barcelona. The governing bodies of the ICB are the Plenary Council of the Barcelona City Council, which acts as a shareholder board; the Board of Directors, which is responsible for the management and administration of the company and consists in professionals appointed by each political group represented in the City Council, and which elects a director of the channel; and the director, who is responsible for the executive management of the public service. The channel also has an Advisory Council, which must ensure that social and political actors take part in managing the service.

The channel has a staff of some 200 people, but only 16 workers were traditionally employed by the municipal company. Staff who work to prepare news items and technical staff were outsourced to an external company through a public tender, which was usually won by the audiovisual production company *Lavínia*, BCN Audiovisual. Programme-making was also outsourced to outside producers and freelancers. In addition, the channel has a large pool of interns who carry out traineeships as part of their university degrees.

Production was outsourced following a legitimate model in Catalonia, governed by Law 22/2005 dated 29 December 2005 on Audiovisual Communication in Catalonia. However, it has caused some problems since *betevé* workers have requested the same rights as internal staff and are appealing to be hired directly by the public company ICB. Nearly all staff complain about a

loss of employment rights, and 170 employees -according to the Workers' Committee- have formally complained about their contracts and initiated legal proceedings, triggering the start of a process for personnel to be hired directly by the City Council.

The Plenary Council of the Barcelona City Council has approved the amendment of the contract between the City Council and ICB for the management of *betevé*. The document contemplates the direct employment of 177 workers from news services and technical staff currently subcontracted from BCN Audiovisual (subsidiary of the *Lavínia* group).

The *Col·legi de Periodistes de Catalunya* (Association of Journalists of Catalonia) has suggested that appointing the director of *betevé* by means of a public competition would be an example of a good practice. At the end of 2014, the Board of Directors of ICB appointed the journalist Sergi Vicente as director of BTV to replace Àngel Casas, who left the post to retire. In a statement, the Association asserted that a successful appointment depended on having applied the professional criteria set forth in the rules of the organization and functioning of the BTV public service.

5. The goal of becoming a transmedia station

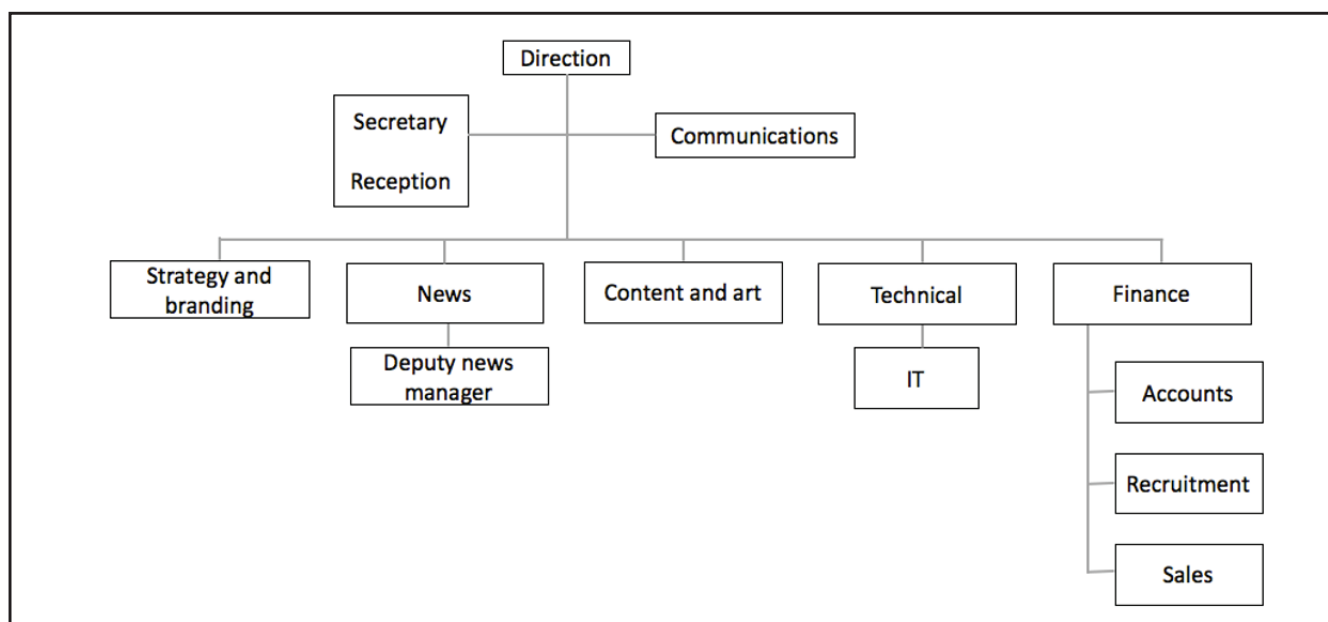
Organizational changes

According to the channel's organizational chart, the financial and technical managers report to the director (Sergi Vicente, since 1 January 2015). Until June 2015, there was also a chief of television broadcasting, a chief of communication and sales and a chief of radio broadcasting. As explained by Vicente (2015) in a personal interview for this research, the chief of television broadcasting has been replaced by a director of content and art, the sales area has been outsourced (given the 50% decline in revenues from advertising with respect to the amount stipulated in the contract) and communication is now under the responsibility of management.

Radio is no longer managed by a separate team, as a multimedia integrated approach has been adopted and a strategy and participation area was created. This area was created to develop a transmedia strategy for content and a participation strategy as part of a new paradigm to break with a one-way philosophy, open up doors and provide people with new ways of contributing. The diagram below (Figure 1) shows the organizational chart following the aforementioned changes.

In addition to the changes in the organizational chart introduced by management, the entity has implemented structural changes and modified its working methods. In terms of content distribution, DTT is now just one of the media used. Others include a remodelled website (*beteve.cat*); radio, with its corresponding online portal for downloading podcasts (*betevé radio*, included in *beteve.cat*); and mobile applications and social media (Facebook, Twitter, YouTube and Instagram). Plans are underway to extend the use of WhatsApp to distribute media content, but now the strategy is more geared towards

Figure 1. BTV Organization Chart



Source: Author, information provided by ICB.

developing a project in order to deliver Over-The-Top (OTT) multimedia content. The aim is for betevé to operate as a transmedia platform able to offer contents that can be adapted to the channel's different distribution methods taking into account the audience fragmentation, and for the content to evolve through the different platforms.

Betevé is practically the only local public television channel to broadcast fictional programmes (in many cases, reruns of old programs acquired from other channels), and it offers more news and entertainment programmes than any other. The channel aims to reflect the international and metropolitan character of the city and has not ruled out producing news items in English and Arabic (Vicente 2015, personal interview). It also has an accessibility service for the deaf and hard-of-hearing through news bulletins offered in sign language as well as subtitled news programmes, films and series. In 2018, these projects are still waiting to be promoted, but a pilot to introduce Chinese subtitles in some content and distribute it through social media is close to starting in order to reach these communities living or interested in Barcelona (Vicente 2018, personal interview).

The media has a single integrated editorial team, and content is distributed in the different media formats according to urgency. There is an editing team, presided over by the television news, website and radio editors. Following the decisions taken by the editing team, teams are distributed and a pair of reporters (ENGs) is sent to cover a particular news item using different media formats.

Different uses of mobile phone technology have been explored to be used in live broadcasts. At the 2015 Mobile World Congress (MWC), an entire programme was conducted using mobile phone technology. While the quality is lower, this technology allows for greater immediacy. The station has

one mobile unit and four backpacks. Tests have also been conducted using the iPhone 6, which can even be used to edit and send videos. There are still external challenges to explore in this way of producing content such as the implementation of 5G to assure video quality. The idea is to move progressively away from producing news content to be distributed mainly via DTT and to veer more towards providing the most appropriate outlet (website, Twitter, DTT, etc.) for each type of content.

By incorporating radio into the project, the station has consolidated its commitment to working as an integrated, multimedia news producer which distributes content –mostly news– through television, its website, social media and, since 2014, radio. In addition to offering television and radio news broadcasts, betevé also provides up-to-the-minute news on its portal *beteve.cat*. The website now offers more live streaming of official events, press conferences and other events, which can often not be slotted into television and radio schedules.

The tendency to have different platforms to distribute content and producing it in convergent newsrooms is an international trend –as this article pointed out in the theoretical framework– and the first stage to becoming transmedia. However, if we compare the case of betevé with other local stations in Catalonia, we can see that it is a pioneer in exploring technical innovation, narratives and a new internal organization. There are other local channels with transmedia goals, such as Radio Calella Televisió, but with much fewer resources, so the particular case of betevé is even more unique.

Brand change

The new management has promoted several initiatives to accompany the decision to change the media brand. In January 2017, Barcelona Televisió was rebranded betevé. Sergi Vicente

justified this change in the following way: "We no longer want our name to highlight the importance of just one of our screens".² According to the director, BTV included the word television, and that was a loaded term. He argued that the choice of betevé as a name reflected the desire to no longer place all the emphasis on television and the fact that they view betevé as encompassing everything, including other media forms. Moreover, the change emphasizes the differences between the broadcaster and the city council, because the previous logo was similar to the image of some municipal areas.

The name change came about as a result of the station director's desire to move towards becoming a transmedia system integrating television, radio, Internet and social media. The most obvious result of this new media concept is the change in the graphic representation of the name.³ For Sergi Vicente, transmedia is already a reality, and the way content is generated should mirror that. He therefore proposes that changes be made to the way content is generated, reflecting a fragmentation of actors and screens where users have already modified their behaviour and become transmedia.

By adapting this media system, betevé is responding to the reality, as Vicente observed, that "the slice of the pie for the television market, as it was understood until now, is becoming ever smaller". For this reason, the director understands that all screens are important in their own way, and choosing one or another depends on the content, since each has a different use.

The aim of the channel's direction is to go beyond crossmedia, where the same content is distributed on different screens and in different media. Transmedia means that the content evolves, goes through an entire process and grows as it passes through different media. In this sense, the betevé brand applies to television, radio, the website and social media. Therefore, the brand change reflects a willingness not only to break with its exclusive link to television but also to move the brand away from its singular focus on the Barcelona area.

Specific transmedia projects

Some specific projects have been launched that illustrate how the channel is conducting its transmedia conversion. Betevé has established ties with Pompeu Fabra University (UPF) to set up a project based on pilot shows which use new formats. The channel and the university will work together to generate content and innovate since technological innovation and the use of new formats are the cornerstone of betevé.

Tube d'assaig (Test Tube) is an initiative that explores new formats in fiction and non-fiction series. The best projects in this area are chosen jointly by betevé and the UPF among the students' Final Degree Projects. The crowdfunding initiative Verkami is used to raise the funds needed to produce a pilot episode. Public response is then gauged and, if it is positive and accompanied by the necessary funding, a first complete season of the series is produced and broadcast by betevé via social media. Hence, this is a transmedia project that goes beyond the screen; ten projects have been completed so far. In addition, the

programme goes up for auction so that the authors can choose to produce second and third seasons of the series in conjunction with an audiovisual producer.

The director of betevé, Sergi Vicente, summarized the objective of the project:

"We don't want it to be a traditional TV show where we do it all ourselves. The aim is for public participation tools to play a crucial part and for the audience to give us their opinion and ultimately decide whether or not it's worth continuing with a programme. It's a new way of making television, beyond the traditional audience ratings". (betevé, 2015, news item).⁴

During the Three Wise Men parade in 2016 and 2017, a transmedia initiative was launched to allow children in Barcelona to see their wishes on a giant screen just as the parade passed in front of them, thanks to a geolocation application that allowed the video to be projected when the float passed in front of a particular child.

Another significant project was the innovation laboratory, BTV Media Lab, which acted as a business accelerator and a place for testing out different programmes to potentially be included in the programming schedule. The idea was for start-ups to develop their ideas about big data, data journalism, citizen journalism, virtual reality, smart cities, service information, etc., and create synergies with the sector so that the channel could take advantage of interesting projects, preferably with a transmedia focus. This project was a trial run, but the results did not meet expectations. Betevé realized that some results were interesting for the audiovisual sector but did not fit the corporation's plans and were too expensive. In that sense, in a personal interview Vicente (2017) argued that the focus is now on innovative formats, narratives and languages more than on technical developments due to the economic resources that technology needs.

In that sense, *Ciutadà Novell* (Citizen Novell) was launched in 2018. Produced by Minoria Absoluta, it is a ten-part documentary series which shows the inner workings of the public services, emblematic sites and representative organizations of the city of Barcelona. The objective of this project is to use social media in a transmedia way, with characters created only to interact with audiences in the social media.

Challenges and opportunities

As transmedia offers a new way of communicating, different methods must be tested to find out what really works. Experimentation with new formats and platforms is one of the opportunities proffered by transmedia, but the challenge of limiting the budget spent on innovating still remains, taking into account that the funding comes mostly from public coffers.

While the television window is shrinking and transmedia formulas are expanding, investment in advertising continues to be concentrated on television, and there are limited resources to innovate. Therefore, a business model needs

to be found to diversify the sources of advertising revenues. Having more windows open does not have to translate into additional distribution costs if the platforms are free (Internet or social media), but it does mean more costs with regard to technological development, as in the case of mobile phone and tablet applications, for example. Moreover, the channel is present in Movistar+ or Vodafone TV, which entails a cost for the broadcaster.

When diversifying platforms, the audience of each is lower, but betevé is able to receive real data on audiences from connected televisions instead of the incorrect share from the low measurements of DTT. Engagement is also increasing in the social media. For example, the Twitter profile betevé notícies tripled its number of followers in several months.

The shift from conventional media to transmedia is taking place to adapt to new consumer habits. However, as the channel's origins are in television, there are many working methods and procedures aimed basically at making television which need to be revised. This also involves structural changes in the way of working, some of which have already been implemented, and training so that the workforce is skilled in the new formats. Another challenge is working as a fully integrated newsroom and giving equal importance to all platforms, especially when breaking news occurs. The radio station is not yet as important as the television or online windows.

Another essential consideration is to ensure that transmedia projects do not get lost in the debate on aesthetics and that they actually focus on what is most important, i.e. the story. Today, there are many more storytelling tools available, but we should not forget the importance of producing quality content.

Betevé also faces the challenge that part of its production is outsourced to producers, who have to be convinced of the need for a shift in model so that the projects presented are not solely focussed on television. Currently, most of the projects that betevé receives, even those described as transmedia, continue to be television-based, since the content is weighted towards television, with extra screens tagged on. To encourage the promotion of transmedia projects, the new way of receiving projects includes the need to specify the way different platforms and social media are used. Therefore, an immense task has been undertaken and will need to be continued if the commitment to transmedia is to be taken seriously.

6. Conclusions

This case study of betevé is framed within the theoretical framework described above in relation to public service in the digital era, local television and the concept of transmedia. In these terms, betevé is a public-service medium that has successfully adapted to the digital age and provides information of local interest. It is adopting strategies currently taking place worldwide, such as diversifying platforms to reach audiences,

but it is a unique case in Catalonia as the local DTT channel with the most ambitious transmedia goal.

Betevé has evolved from being a loose conglomerate of hyperlocal, community-oriented amateur media to being a professional, metropolitan channel, and efforts are now being focused on becoming a transmedia system. The neighbourhood-based television channels that initially launched betevé to share local content of common interest continue to exist as hyperlocal correspondents, and many of them have also launched their own websites to generate and distribute content online.

The transmedia focus of betevé is evident in the wide range of platforms it uses to broadcast content, in the technological innovation underpinning this approach and in the broadcasting of content adapted to the unique potential of each different platform. Moreover, the rebranding of the station also followed this objective.

This current functioning of the channel is the outcome of the combination of several elements. First, content is distributed via both the traditional television medium and others newer media. Secondly, content is not simply distributed in different media but is devised from the outset to be adapted to and recycled in different platforms. Behind this approach is a director, Sergi Vicente, who has firmly advocated this way of adapting to change. Finally, structural changes were implemented in the organizational chart and the newsroom, which were integrated. The changes have also had an impact on production routines and programming. In particular, when choosing programmes proposed by external producers, priority is given to transmedia projects.

Although steps are being taken to make the project fully transmedia, we can assert that the crossmedia stage has been reached but that there is still some way to go before becoming fully transmedia. The two main challenges facing betevé are to ensure that the conception of the programming is not only television-centred and to diversify sources of advertising revenue. Furthermore, this case study has revealed that research to develop technological innovations is very costly for providers, especially for local channels as the BTV Media Lab project has shown, and too expensive and difficult to implement. In this sense, it is necessary to create clusters and technology transfer among providers, especially among those that offer a public service.

Despite the challenges, betevé has a clear capacity to evolve and become fully transmedia. Its management is aware that in our digital era characterized by ongoing innovation and constant changes in formats, formulas to ensure success as a transmedia system need to be continuously explored.

As future research, we could cite the need to examine how former directors and personnel working at betevé (internally but also workers of the company Ovídeo -owned by Mediapro- or Lavínia, to which the informative content production has been outsourced for years) have adapted to the changes in terms of routines, and how the transmedia goal impacts the organization

of the company and the medium itself. Moreover, future projects about betevé projects should look at how the internal hiring of workers –a process that recently started– is unfolding and affecting the organization of the channel.

7. Funding

This analysis of betevé was part of a case study corresponding to a doctoral thesis by the author that referred to several local public television channels in Catalonia. The thesis was recognized by Catalan Audiovisual Council (CAC) with the Second prize of XXIX CAC Awards for research on audiovisual communication.

Notes

1. Read more: <<http://lab.cccb.org/es/de-btv-a-beteve-la-television-imprevisible/>>
2. Information taken from the debate, 'Una nova narrativa, el món transmèdia' (A new narrative, the transmedia world") held on 11 July 2017 at La Seca Espai Brossa, with the attendance of Sergi Vicente, director of Betevé. <<https://www.youtube.com/watch?v=ntMa6MEfHb8>>
3. <<http://beteve.cat/canvis-identitat-btv-logo-a-logo/>>
4. <<http://beteve.cat/btv-impulsa-talents-emergents-tube-dassaig/>>

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Sensory accessibility services in TV stations broadcasting in Catalan: the current situation and proposals for the future

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Abstract

This paper presents the main results of the project “Sensory accessibility services in TV stations broadcasting in Catalan: current situation, needs, and proposals for the future”, funded by the Catalan Audiovisual Council. Its aim is to offer an overview of the state of the art of the accessibility services that are currently offered from a sample of seven television stations broadcast in Catalan. The main conclusion is that although Spanish TV stations are legally obliged to produce accessible contents, accessibility is still a pending issue for the majority of broadcasters.

Keywords

Media accessibility, audio description, subtitling for the deaf and hard of hearing, sign language interpreting, Catalan-language television.

Resum

En aquest article es presenten els resultats principals del projecte “Serveis d’accessibilitat sensorial a les televisions catalanes: situació actual, necessitats i propostes de futur”, finançat pel Consell de l’Audiovisual de Catalunya. El seu objectiu era oferir una visió panoràmica de l’estat de la qüestió dels serveis d’accessibilitat que s’ofereixen actualment a partir d’una mostra de set televisions que emeten en català. La conclusió principal és que, malgrat que les televisions a Espanya tenen l’obligació legal d’emetre continguts accessibles, l’accessibilitat és encara una assignatura pendent per a la majoria d’emissores.

Paraules clau

Accessibilitat als mitjans, audiodescripció, subtitulació per a sords, interpretació en llengua de signes, televisió en català.

1. Introduction

People with disabilities or functional diversity represent 15% of the population¹ and access to communication is a right recognized in the United Nations Convention on the Rights of Persons with Disabilities (CRPD), a text which Spain ratified in 2007 with the optional protocol of Porto and later, the European Union in 2010. This ratification represented the acceptance of an international human rights treaty for the first time. Following the accession to the CRPD, the European Union has launched

various initiatives with the aim of guaranteeing and enforcing the rights of people with disabilities, such as the Audiovisual Media Services Directive of 2010, in which Clause 46 reads as follows:²

“The right of people with a disability and of the elderly to participate and be integrated in the social and cultural life of the Union is inextricable linked to the provision of accessible audiovisual media services. The means to achieve accessibility should include, but need not to be limited to, sign language, subtitling, audio-description and easily

understandable menu navigation.” (Directive 2010/13/EU of the European Parliament and Council 2010, 6)

Additionally, Article 7 of the same Directive states that “[t]he Member States shall encourage media service providers under their jurisdiction to ensure that their services are gradually made accessible to people with a visual or hearing disability” (Directive 2010/13/EU of the European Parliament and Council 2010, 15). In 2016 a proposal³ was presented to amend this Directive which did not directly address issues of accessibility but referred to the European Accessibility Act⁴ which has already passed the first steps in the European Parliament and establishes accessibility requirements for a wide range of products and services, including those of audiovisual communication. However, this proposal has been negotiated in recent years and, finally, in April 2018 the Council of the European Union and the European Parliament reached an agreement to definitively amend Directive 2010/13. This modification provides for new requirements for Member States to make their audiovisual content increasingly accessible to people with functional diversity. The latest action of the European Union regarding matters of disability took place in 2016, with the approval of Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies.⁵ Meanwhile, both in Catalonia and in Spain as a whole, there is also legislation on media accessibility; in Spain, this can be seen in State Law 7/2010: General Order on Audiovisual Communication; and, in Catalonia, in Catalan Law 13/2014 on Accessibility, the introduction to which states:

“The importance of promoting accessibility as an instrument to enforce the principle of citizen equality was first translated in Catalonia in Decree 100/1984, of 10 April, regarding the suppression of architectural barriers. Seven years later, Parliament passed Law 20/1991, of 25 November, on the promotion of accessibility and the suppression of architectural barriers, and later the Government approved Decree 135/1995, of 24 March, by which the aforementioned Law was unfolded and the Accessibility Code was approved. These regulations laid the foundations for the suppression of architectural and communicational barriers and for the promotion of technical aids to improve the quality of life and autonomy for people with disabilities or reduced mobility. This regulation has brought about an important breakthrough for Catalonia, but, even after years of being in force, there are still people with physical, sensory, intellectual or mental disabilities, as well as the elderly or persons with other functional diversity who experience situations of unequal opportunities, discrimination, and difficulties with social participation and the exercise of their rights due to the existence of physical and/or communicational barriers holding them back”. (Catalan Law 13/2014, of 30 October on Accessibility 2014, 1)

This new legislative context has also been accompanied by a change of perspective as to what is meant by “disability” and “accessibility”. Toledo (2018, 1), taking inspiration from the definition provided by the United Nations (UN), argues that “accessibility consists of ensuring equal access to everyone and breaking down the barriers between people with disabilities and their goals, while also ensuring their civil, political, economic, social and cultural rights”. Toledo (2018) also notes that media accessibility is now finding refuge in the area of translation studies, and specifically in Audiovisual Translation, since both accessibility and translation share a common denominator: providing access to information and entertainment. Additionally, ‘sensory’ accessibility services could be interpreted as specific cases of intralingual, interlinguistic, and intersemiotic translation.

On the other hand, Greco (2016) argues that accessibility is not a human right by itself, but rather a tool and a prerequisite that allows the achievement of human rights. Furthermore, in 2017 the UN’s International Telecommunication Union (ITU) published a report on the access to telecommunications by people with disabilities, in which it was supported a transition from the medical model of disability –which only takes into account the physical problems of the individual and whose sole purpose is rehabilitation– to a more social model, which sees society as bearing sole responsibility for preventing people with functional diversity from being able to interact with their environment. In this regard, Li and Looms (2015, 268) state that the barriers to information which viewers may experience are due to the lack of appropriate accessibility technologies and services rather than to the disabilities they may possess. Therefore, this change of paradigm entails the empowerment of this group by providing them with tools and services to allow them to have equal access to audiovisual content. It is precisely in this context that this work has been prepared, presenting the main results of the project “*Sensory accessibility services in TV stations broadcasting in Catalan: current situation, needs, and proposals for the future*”, funded by the Catalan Audiovisual Council.⁶

The project sought to examine the situation of accessibility services offered by television stations that broadcast in Catalan from a representative sample that included stations of varying ownership, reach, and characteristics, in pursuit of the following objectives:

1. To analyse the type of available accessibility services (focusing on audio description, subtitling for the deaf and hard of hearing, and sign language), including both live or linear broadcasts as well as the à la carte service;
2. To analyse web accessibility;
3. To analyse the degree of accessibility and accessibility services of the applications.
4. To evaluate the volume of services offered and their level of legal compliance.

The achievement of these objectives has allowed us to gain an overview of the current situation and to be able to identify future work objectives to increase accessibility services, both in terms of quantity and quality, in order to ensure universal access to television stations broadcasting in Catalan.

2. Methodology

The study, which is of a descriptive nature, opted for a qualitative approach. It was decided that the study would include *betevé*, Radiotelevisión Española, and Televisió de Catalunya (TV3, Esport3, Super3/33, and 3/24) as the public broadcasters and Televisió de Girona, 8tv, and El Punt Avui TV as the private ones. Though not belonging to the Autonomous Community of Catalonia, IB3 Televisió (from the Balearic Islands) and À Punt Media (from Valencia) were also included because they broadcast in Catalan as well. However, in the end À Punt Media had to be discarded because it was found that the broadcasts had not begun and, furthermore, we were unable to collect information about their accessibility policies. Thus, the final sample included a total of seven television stations, both public and private and at the state, regional, or local levels, which provided the desired level of representativeness.⁷

This study is based on two main sources of information. On the one hand, we used laws, reports, websites, applications, and content of online television stations. And on the other, data and information provided to us by those responsible for the accessibility of the television stations included in the sample. Below we shall explain in greater detail the methodology used and the different steps that were followed to collect and analyse the data.

In order to evaluate the web accessibility of the television stations, we analysed each of their websites. First, we searched for information about accessibility and accessible content by reviewing one by one the various items we deemed essential. We then analysed all the television stations in the sample with the help of Achecker⁸ and TAW,⁹ two specialized tools that automatically evaluate the different aspects of web accessibility for which they have been designed. These tools were not applied with the intention of commenting on all the problems individually, since some aspects are very technical and must be resolved by professional web developers, but rather to obtain an overview of the situation.

We also studied the degree of accessibility of applications for mobile devices and tablets of all the television stations that had them. Since in this case there are no international standards or automated tools that can be used, we produced a list of criteria that we systematically reviewed with a sample that included eight channels corresponding to five stations with 20 different programs and 57 broadcasts in total.

Regarding accessibility services through the *à la carte* service, our analysis was also carried out from a sample of programs and broadcasts viewed by computer and/or through mobile

applications. In total, there were eight channels corresponding to seven stations, 62 different programs and 170 'chapters' or broadcasts in total.

The evaluation of linear television accessibility services consisted of the viewing and analysis of a sample including 8 channels corresponding to 5 stations with 18 different programs and a total of 70 broadcasts viewed. In the case of television stations in the sample which we already knew did not offer any accessibility service, no programs were selected.

It is important to mention that a visually impaired researcher, acting as a super-user, helped us to carry out part of the analysis of each of the websites, as well as of the applications for mobile devices and tablets. In this way, we were able to complete the analysis with a subjective assessment based on the experience of a user with a functional diversity who is accustomed to interacting with this type of environment with a screen reader, and more specifically with VoiceOver.

Quantification of the accessible content was made possible thanks to the data provided to us by the persons in charge of accessibility from each television station. Once the information was obtained, it was compared with the applicable law in each case (state or regional).

Finally, in order to conduct the interviews, the people from each television station responsible for accessibility were contacted. As noted by Fàbregues et al. (2016), researchers who opt for a more qualitative methodology tend to be inclined towards the use of interviews in order to better understand the object of study from the perspective of the interviewed person. The interview was considered a key research tool for several reasons: firstly, to contrast and add to the information obtained by other channels; secondly, to resolve doubts arising from the first observations and preliminary analysis of the available data; thirdly, to gain an understanding of their experience in the field of accessibility, which included the difficulties they had to face, the feedback obtained so far from viewers, how they are organized, and their future plans, among other things; and, finally, to offer them the opportunity to explain themselves, since it was anticipated that the results would highlight all of the work that was lacking with regard to accessible services. Some of these arguments coincide with those presented by Fàbregues et al. (2016), who consider interviews to be a good option when the intention is to triangulate the data or when the researcher deems that the participant should have more control over the "questioning", for example. For this reason, we prepared a semi-structured interview with a series of generic questions organized into thematic blocks, such as the organization of the accessibility department of the channel in question (if there is one), whether or not they offer accessibility services or website accessibility, etc., which was then adapted to the specific attributes of each case. The people who agreed to be interviewed in person or who responded to our questions by email were:

- a. Rosa Vallverdú, Head of the Accessibility Department of TVC (01/02/2018).

- b. Jordi Colom, Technical and Innovation Director of betevé (01/02/2018).
- c. Àlex Martí, Director of TV de Girona (02/02/2018).
- d. Joan Carles Martorell, Director of IB3 (interview sent by email on 24/01/2018 and returned 04/02/2018 and 07/02/2018).
- e. Francisco Armero, Director of Broadcasting and Accessibility of TVE (sent by email on 10/02/2018 and returned on 19/02/2018).

In the case of 8tv and El Punt Avui TV, the people we contacted to discuss issues of accessibility felt that an interview was unnecessary since they did not offer accessibility services. Once transcribed, the interviews were used to more precisely present and contextualize the current situation while reproducing, among other things, the explanations given on why, in some cases, certain stations still do not offer accessible content or, in other cases, why the volumes thereof still fail to meet the legal minimum requirements.

This paper presents the results of the study in five sections. In the first section, the results of the web accessibility analysis are reviewed; in the second, the types and presence of content accessible via linear television stations are presented; in the third, accessibility services offered through their on demand services are analysed; in the fourth, we review the degree of accessibility of applications for mobile devices and tablets; and lastly, in the fifth section, we evaluate the volume of accessible content from each television station in the sample in accordance with the established legal minimums. Finally, we summarize the main conclusions of the study and offer a few proposals to improve the current situation.

3. Web accessibility

With regard to web accessibility, the following is stipulated in the annex of the European Accessibility Act:

“In order to maximize their foreseeable use [of the products and services offered by media providers] by persons with functional limitations [...] shall be achieved by [...] making websites accessible in a consistent and adequate way for users’ perception, operation and understanding, including the adaptability of content presentation and interaction, when necessary providing an accessible electronic alternative [...]”. (Annex to the Proposal for a Directive of the European Parliament and of the Council on the approximation of the laws, regulations and administrative provisions of the Member States as regards the accessibility requirements for products and services 2017, 7)

Also note that Article 33 of Catalan Law 13/2014 of 30 October 2014 on accessibility states that “websites must at least comply with the determined level of accessibility and must contain information regarding said level and the date on which the last review of its accessibility conditions was made.”

Although Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies exempts television stations from complying with said directive and the fact that Catalan law is not applicable to all the television stations in the sample, we still wanted to evaluate their level of accessibility to determine the current situation. As shown in Table 1, we have verified that in most cases the situation is far from being ideal in terms of accessibility.

According to our analysis, we have found that none of the websites analysed are totally accessible and that they all present some problems. In any case, Televisió de Catalunya is the broadcaster which best meets the desired standards, followed by betevé, 8tv, RTVE, and TV Girona. However, even Televisió de Catalunya, which ensures that it is designed to meet the AA level –which is the level used as a reference for the analysis–¹⁰ presents problems according to the technical tools used for the automatic analysis, as shown in Table 2.

The websites of betevé and IB3 Televisió have the most known problems. It was also shown that in most cases the problems are

Table 1. Web accessibility of the television stations in the sample

	8tv	Betevé	El Punt Avui TV	IB3	RTVE	TVC	TV Girona
Claims to meet the AA level	✗	✓	✗	✗	✗	✓	✗
Offers information about web accessibility and/or accessible content	✗	✗	✗	✗	✗	✓	✗
The structure of the website and the distribution of headers is suitable for screen readers	✓	✓	✓	✗	✓	✓	✓
All images, links, and buttons are accessible or tagged with alternative text	✓	✗	✓	✗	✓	✓	✓
The screen and the video playback buttons are accessible	✗	✓	✗	✓	✗	✓	✗
Presents problems according to the specialized technical tools used	✓	✓	✓	✓	✓	✓	✓

Source: Authors.

Table 2. Amount and type of problems detected

Televisions	Achecker			TAW		
	Known errors	Probable errors	Potential errors	Issues	Warnings	Unverified issues
8tv	5	0	540	38 (25 P)	172	16
Betevé	277	0	1.286	236 (177 P)	2,164	14
El Punt Avui TV	48	0	340	4 (1 P)	1	18
IB3	250	18	1.149	194 (143 P)	1,156	14
RTVE	60	6	2.277	11 (7 P)	86	17
TVC	48	0	1.149	85 (65 P)	1,423	18
TV Girona	108	2	961	30 (22 P)	260	17

Source: Authors.

related to perceptibility (P), which entails that the information and interface components should be shown to users in a way they can understand. For example, to ensure accessibility it is necessary to include alternative text for all types of non-textual content (links, buttons, images, etc.), to provide synchronized alternative options for time-dependent synchronized multimedia content, and that the content can be presented in various ways without losing any information or content in any way. Therefore, it seems that this is one of the aspects in which the television stations should strive to improve the accessibility of their websites if they wish to ensure the right to information of all of its users, especially those with functional diversity.

4. Accessibility services for linear television

Once the analysis of all the programs and channels in the sample had been completed, it became clear that Televisió de Catalunya is the most complete broadcaster (as summarized in Table 3), since it incorporates the three accessibility services we evaluated. However, as we will see later, the volume of each service offered varies enormously.

Televisió de Catalunya, which subcontracts the preparation of all its accessible content, subtitles almost of all its programs apart from a few related to sports or music. Audio descriptions are provided in particular for fictional content, but not exclusively. However, this service is only available for Smart TVs. The midday and evening newscasts on channel 3/24 are

provided in sign language each day. It is worth mentioning that Televisió de Catalunya is the only broadcaster that incorporates audio-subtitles –subtitles read by a voice in order to ensure that blind or visually impaired people also have access to this service– as part of the accessibility services it offers. It is also the only one to offer accessible content for younger audiences, which is a worrying fact that must be taken into account in order to evaluate the discriminatory treatment often faced by children with functional diversity. It should be noted that the program grid includes icons for subtitles but not for programs with audio-descriptions or sign language interpretation.

IB3 Televisió and betevé also offer accessible content, but they still have not taken into account the needs of the blind or visually impaired. In particular, IB3 Televisió subtitles all the news (midday, evening, weekends, and its rebroadcast programs), 80% of films –which it obtains from Televisió de Catalunya through the Federation of Autonomous Radio and Television Organizations (FORTA)– and a few previously recorded programs. They also broadcast the Tuesday sessions of the Parliament of the Balearic Islands with sign language interpretation, as well as the Ramon Llull Awards once a year.¹¹

Betevé broadcasts the evening news edition of *Btv notícies* from Monday to Sunday at 8 p.m. with subtitles through teletext, a method which they are currently modernizing. In terms of fiction, the teletext subtitling service is offered for films which have been previously broadcast on TV3. Additionally, from Monday to Friday betevé broadcasts an informative bulletin at 8:55 a.m. through DTT in Catalan sign language which is

Table 3. Accessibility services offered for linear television

	8tv	Betevé	El Punt Avui TV	IB3	RTVE	TVC	TV Girona
Offers accessibility services	×	×	×	×	×	✓	×
Allows searches for accessible content	×	×	×	×	×	×	×
Grid with icons identifying accessible content	×	×	×	×	×	✓	×

Source: Authors.

then shared through its social networks. Each year, they also broadcast the *Pregó de la Mercè* with a Catalan sign language interpretation service through DTT and online. It is worth emphasizing that during the interview we were informed that they intend to launch an audio-description service for fictional products soon.

5. Degree of accessibility of applications for mobile devices and tablets

Of the seven broadcasters in the sample, only four have apps for smartphones and tablets, but Televisió de Catalunya is the only one to offer accessibility services. Even so, only those from IB3 Televisió and RTVE present a simple browsing design for screen readers and only Televisió de Catalunya has all the buttons and links labelled with alternative text to make them accessible. Therefore, it seems that with regard to applications the accessibility situation is even worse than in the case of websites (see Table 4). The reasons for this could be the fact the law doesn't explicitly state anything about this, nor are there any international standards in this regard.

6. Content accessible through the à la carte service

The only broadcaster that offers accessibility services for à la carte programming is Televisió de Catalunya, but at the moment this only includes subtitling for the deaf and hearing impaired as well as sign language (see Table 5). In the case of audio descriptions, the service is currently only available for Smart TVs.

7. Volume of accessible content and level of legal compliance

Beyond the qualitative aspects linked to accessibility, we wanted to complete the analysis with a quantitative assessment of the current situation. The Spanish accessibility law approved in 2010 calls for a volume of broadcasting hours for different accessibility services depending on whether they were public or private stations until 2013. Additionally, the Plenary Session of the Audiovisual Council of Catalonia issued Agreement 19/2013, of 20 February, which approved the General Instruction of the Catalan Audiovisual Council on accessibility to broadcast audiovisual content. The objective of this document is to ensure accessibility to televised media by progressively incorporating subtitling services, Catalan sign language interpretation, and audio-description, which affects all broadcasters of the Generalitat as well as local entities in Catalonia. It has been established that this agreement is based on the General Law of Audiovisual Communication, since the obligations to be met by providers of audiovisual communication services with regard to the volume of accessible content are the same. Table 6 shows the percentage and number of hours of accessibility services offered by type in 2017, based on the data provided by the interviewed people responsible for such matters at each station. Although current legislation does not mention it, we also included audio-subtitling since TVC has offered this since late 2008 when foreign languages are spoken and subtitled.

The figures show that there is a clear lack of compliance with current legislation. Only in the case of Televisió de Catalunya, despite an unequal distribution between channels, did the subtitling percentage approach or even exceed the threshold indicated by law. In the case of sign language interpretation

Table 4. Accessibility of applications for mobile devices and tablets

	8tv	Betevé	El Punt Avui TV	IB3	RTVE	TVC	TV Girona
Has an app	✗	✓	✗	✓	✓	✓	✗
Has accessibility services	-	✗	-	✗	✗	✓	-
Has a section dedicated to accessibility	-	✗	-	✗	✗	✗	-
Simple navigation design for screen readers	-	✗	-	✓	✓	✗	-
All buttons and links are tagged with alternative text	-	✗	-	✗	✗	✓	-
Accessible playback screen	-	✗	-	✗	✗	✗	-

Source: Authors.

Table 5. Accessibility services for à la carte programming

	8tv	Betevé	El Punt Avui TV	IB3	RTVE	TVC	TV Girona
Offers accessibility services	✗	✗	✗	✗	✗	✓	✗
Allows searches for accessible content	✗	✗	✗	✗	✗	✗	✗

Source: Authors.

Table 6. Volume of accessible content (2017)¹²

Accessibility service	Private television stations				Public television stations				
	Llei	8tv	El Punt Avui TV	TV Girona	Llei	Betevé	IB3	RTVE	TVC
Subtitling percentage	75%	0%	0%	0%	90%	1.2% ¹³	24.3%	0%	Esport3: 30.7% 3/24: 70.75% TV3: 85.76% Super3/33: 96.6%
Weekly number of hours with audio-description	2 h	0	0	0	10 h	0	0	0	Super3/33: 8.3 h TV3: 8.9 h
Weekly number of hours with Catalan sign language interpreting	2 h	0	0	0	10 h	0.4 h ¹⁴	2 h	0	3/24: 9 h
Yearly number of hours with audio-subtitling	-	0	0	0	-	0	0	0	477 h

Source: Authors.

and audio-description, it fails to reach the stipulated number of hours but it far exceeds that of the other broadcasters. It should also be noted that the sign language interpretation service is limited almost exclusively to the news.

8. Conclusions and proposals for improvement

The main conclusion of this study is that despite the shortcomings detected, the situation has improved significantly taking into account that the publication of the law coincided with the beginning of the economic crisis and that the managers of the television stations in question mostly attribute the lack of more accessibility services to issues of budgetary availability. This improvement was already noted at the state level by Díaz-Cintas (2010), but in the specific case of Catalan the improvement can also be seen by taking into account, for example, that betevé did not offer any accessible content prior to 2007 and now it is conducting tests to incorporate a third accessibility service: audio-description. The increase in the volume of accessible content published in the annual report of the Catalan Audiovisual Media Corporation, as well as the progressive incorporation of new services by Televisió de Catalunya, also show that the issue of accessibility is starting to have a palpable weight in the public agenda. Now, whether for economic reasons or for internal organization, the only broadcaster from the sample which currently has a specific department and staff responsible for accessibility is Televisió de Catalunya. It is also worth noting that this broadcaster, together with the Autonomous University of Barcelona, has been participating for years in various European projects for technological innovation with the objective of improving its accessibility services. Therefore, besides the budgetary issue there is also an important factor involving the internal policies of each chain and of the concept of accessibility not only as a fundamental right but also as a

service that benefits society as a whole. Apart from deaf or congenitally blind people, there are also those who lose their vision or hearing with age, foreigners who want to learn Catalan and use subtitles for support, or citizens who want to learn foreign languages and listen to programs in their original version with the help of subtitles in Catalan, as well as other cases.

In summary, Table 7 offers an overview of the accessibility situation of television stations that broadcast in Catalan based on the sample studied. It is thus worth considering if the low volume of accessible content is simply due to an economic issue or if there is also an important component of a lack of social awareness. Additionally, it would be interesting to propose a new line of research to compare the case of Catalonia with other European countries in order to see where we are in relation to other places with a similar socio-economic situation. Studies such as Toledo's (2018), which compares accessibility legislation and the preparation of subtitles for Brazilians who are deaf or hearing impaired with the situation in the United States, Canada, and the United Kingdom could serve as a good starting point or reference of interest.

The results indicate that it would be necessary to implement various measures in order to ensure compliance with the law, not only in terms of legal considerations but also ethics and respect for the rights of people with functional diversity. In this sense, it is important for there to be channels of communication between users and television stations in order to understand their needs and degree of satisfaction. It would also be advisable to establish working groups with the demographics involved in order to monitor the improvements to be introduced. For example, with regard to the television stations it was detected that sometimes there are complaints due to technical problems with the user's television set rather than causes attributable to the broadcaster.

Throughout this study we detected various elements concerning accessibility to television stations that broadcast in

Table 7. Overall situation of the television stations in the sample

	8tv	Betevé	El Punt Avui TV	IB3	RTVE	TVC	TV Girona
Complies with applicable laws	x	x	x	x	x	x	x
Has accessibility services for linear TV	x	✓	x	✓	x	✓	x
Has accessibility services for TV on demand	x	x	x	x	x	✓	x
Level AA web accessibility	x	x	x	x	x	x	x
Accessible apps	x	x	x	x	x	x	x

Source: Authors.

Catalan which could be improved with little or no economic effort. First: there are a number of technical aspects which could be addressed with relative ease. It would also be advisable to incorporate icons for all accessibility services pertaining to à la carte television. However, it should be emphasized that it would be advisable to opt for icons that do not include letters – such as, for example, those suggested by the Danish Television Corporation¹⁵ which is an indispensable requirement for any pictogram intended to be universal since there are many writing systems and it is thus necessary to find an alternative that everyone can understand. The content can also be grouped by type of accessibility service in order to conduct searches according to this criterion. Another aspect that could be taken into account is the recommendation of Orero *et al.* (2007) to be mindful of the implementation of certain programs because it would not be necessary to add audio-description to all programming if this service is provided. Finally, it is necessary to review the formal subtitling parameters such as position or colour, since we have observed that subtitles are often poorly segmented or overlap with other types of text on the screen, such as in the case of the news, which can make reading difficult.

Second: given that most broadcasters are interested in increasing the amount of accessible content, new approaches should be explored in this regard. This could be done in a variety of ways. On the one hand, it would be appropriate to examine automatic solutions, which is an option to which certain groups have shown to be receptive since this could reduce costs and facilitate an increase in supply. On the other hand, greater collaboration could be promoted among broadcasters, between broadcasters and associations of people with functional diversity, or perhaps even between broadcasters and the university, which is training professionals with these professional profiles. Finally, the possibility of offering official aid to promote the implementation or maintenance of these services could also be assessed.

Third: except for Televisió de Catalunya and probably RTVE for its experience in Spanish, broadcasters would need to receive more information and training on issues of accessibility since the general impression we got from the interviews is that these areas are most often lacking. Although the services are

subcontracted, the contracting party must establish the quality threshold it wishes to set. In collaboration with the Catalan Audiovisual Council, a conference could be organized at the university regarding television accessibility in order to promote positive synergies between the various broadcasters, to bring together practices that work to the benefit of all the rest, and to facilitate dialogue between the television stations and users in order to establish regular channels of communication.

Fourth: Televisió de Catalunya has a supplementary information service that which consists of the weekly issuance of an email message through a distribution list that provides information about all the programming that week with audio-descriptions directly to the subscribed persons or entities.¹⁶ We feel that this is a very good practice that could be extended to the other television stations with accessibility services.

Fifth: although Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies excludes broadcasting service providers from compliance therewith – the final processing of which is still a pending matter for the European Parliament – it *does* require them to make their websites accessible. Therefore, given that the final approval of this law is planned for the year 2018, we feel it quite advisable for television stations to take into account the problems detected on their websites and to take steps to resolve them.

Sixth: we propose the establishment of a protocol to gather and use the Catalan sign language interpretation offered at public events with the aim that all television stations will be able to benefit from it and re-broadcast it as well.

Seventh: collecting some of the proposals of Orero *et al.* (2007), it would be good to resume the idea of a reasonable timetable set by law which establishes the times and volumes of accessible content. The case of Brazil may prove to be especially illustrative because the official calendar decided in 2006 has been extended by 11 years which has allowed for a more progressive transition towards media accessibility (Toledo 2018). It would also be prudent to devise policies to encourage audiovisual accessibility, such as tax deductions for example.

Finally, television stations could consider incorporating workers with functional diversity who also know the field of audiovisual accessibility, since their experience would surely provide an

enriching contribution. This would contribute to greater internal awareness and would also help to increase the social visibility of these groups. At the very least, it would be good to have regular spaces for communication and exchange between those in charge of television stations and representatives of user associations in order for them to jointly evaluate the current situation of accessible broadcasts and to plan new avenues for action and future improvement.

It's worth noting that Orero *et al.* (2007, 41) had already stressed that "in order to promote the development of media accessibility, five key factors have been identified: regulation, communication, training, production and signalling". As far as we have been able to determine, these recommendations continue to be valid and are still very necessary more than ten years later. We therefore hope that this new reminder will bring about important changes and will serve as a starting point to qualitatively and quantitatively improve the accessibility services of television stations broadcasting in Catalan.

Notes

1. See <http://www.un.org/en/events/disabilitiesday/background.shtml> [Accessed: 29/04/2018]
2. The excerpt below, as well as the other quotations originally in English, have been translated by the authors of this article.
3. See <https://ec.europa.eu/digital-single-market/en/revision-audiovisual-media-services-directive-avmsd> [Accessed: 29/04/2018]
4. See http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/583859/EPRS_BRI%282016%29583859_EN.pdf [Accessed: 29/04/2018].
5. See <https://ec.europa.eu/digital-single-market/en/web-accessibility> [Accessed: 29/04/2018].
6. You may access the full report at <http://ddd.uab.cat/record/189381>.
7. It should be noted that TVC, specifically TV3, has a significant audience in Catalonia during 2018, and thus the inclusion of more local broadcasters with a very limited viewership would not have produced a greater degree of representativeness of the results.
8. See <https://achecker.ca/checker/index.php>.
9. See <http://www.tawdis.net/index.html?lang=es>
10. Levels A, AA, and AAA of web accessibility are achieved by complying with the Web Content Accessibility Guidelines (WCAG) developed by an initiative of the World Wide Web Consortium. Level AA, which is the benchmark in this study, has the requirements of offering live subtitles, audio description, and changes in text size, among other things.
11. It should be noted that it was impossible for us to view the subtitles from Catalonia because the option to transmit the subtitles outside of the islands was deactivated. As a result of our consultation, they are currently working on being able to offer the content with the corresponding

accessibility services outside of the Islands.

12. The data is presented in percentages or hours depending on how the volumes of accessible content required by current legislation and in the aforementioned Agreement are expressed.
13. See http://pagines.uab.cat/umag/sites/pagines.uab.cat/umag/files/UMAG_files/conference/presentations/final_umag_presentation_marie_junge_ernst_dr_290518.pdf [Accessed: 09/07/2018]
14. This is not done with subtitling and Catalan sign language interpretation because, in the first case, almost everything is subtitled, and, in the second, this service is provided mostly only for the news.
15. This data is approximate, since it was not possible to take into account subtitling hours from movies given the variable nature of such information. In any case, although the percentage may be a bit higher than what is shown here, it is clear that it remains far from what has been established by law.
16. This data is approximate, since it does not include the Pregó de la Mercè which is also issued in Catalan sign language.

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Constructing a television format: the case of the *Telenotícies* news programme on Catalan public television (TV3)

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Abstract

The consolidation of any television format requires a long period of time in broadcast, so that the audience can recognize the narrative conventions used. This article contemplates the evolution of 33 years of Telenotícies newscast on the Catalan public channel TV3 from the perspective of the format, analysing the factors that have made it a product with its own entity. Based on the analysis of a sample of editions, complemented with interviews with the actors directly involved in their development, there is a significant influence of the shape on the content and an outstanding role of technology in the art of explaining the news.

Keywords

Audiovisual journalism, newscast, format, public service, TV3.

Resum

La consolidació d'un format requereix una llarga trajectòria d'emissions que faciliti el reconeixement de les convencions narratives emprades per l'audiència. Aquest article aborda l'evolució dels 33 anys de Telenotícies a TV3 des de la perspectiva del format, analitzant els diferents factors que l'han convertit en un producte amb entitat pròpia. A partir de l'anàlisi d'una mostra d'edicions, complementades amb entrevistes als actors directament implicats en el seu desenvolupament, es constata la significativa influència de la forma sobre el contingut i com la tecnologia participa de l'art d'explicar notícies.

Paraules clau

Periodisme audiovisual, teletinformatiu, format, servei públic, TV3.

1. Introduction

TV3 began regular broadcasting on 16 January 1984 with a programme that remains in TV listings today: *Telenotícies*. Those behind the TV3 project created the channel as a tool for Catalan linguistic and cultural normalisation, thus making the most of television's prominent position as a mass media. News had to be the backbone of the channel's scheduling and *Telenotícies* the showcase programme. The main challenge was to consolidate a universal kind of television channel that provided global news from a Catalan point of view. TV3's creators looked to various European and North American channels, which served as technological, organisational and structural examples to follow.

Over these 33 years, *Telenotícies* has evolved in timing with society's technological, social and cultural trends. TV3 has had to overcome internal and external difficulties¹ to remain a news

leader in an increasingly competitive and complex environment. Overall, quantitative and qualitative audience data combined with a historical perspective can corroborate the consolidation of TV3 daily newscasts as a benchmark for news in Catalonia.

2. Theoretical framework

The term 'format' in a television context has been interpreted in disparate ways by different authors, but almost always in reference to entertainment and fiction products. Saló (2003, p. 15) defines it as "the shell, the packaging or structure in which the content is wrapped", while other definitions, such as Schmitt's (2005), limit this label to a programme that has been exported to at least one country outside its country of origin (Schmitt 2005).

This study on the evolution of *Telenotícies* has also taken

into account aspects of news production, not just structural elements of the programme. For this reason, the chosen approach coincides with that of Villafañe, Bustamante and Prado (1987), who define format from a broad perspective, including production routines. With this approach, the elements of each stage of news production can influence the boundaries of the format.

The process of creating a running order for any news programme involves selecting certain stories and ruling out others. Editing teams use news values to choose the pieces to include in the programme, define their duration and place them within the running order. However, news criteria are not the only elements that decide these variables. Extra-journalistic criteria, such as the editorial line and the audience at which the message is aimed, competitors' content and the availability of resources to cover a story (Wolf 1987) also carry weight.

Faced with the need to select some stories and rule out others, the media carries out an information filtering function. It acts as a "gatekeeper" (Lewin 1943) or selector of the stories that will reach the audience. For this reason, many consider that the media determines the agenda for the society at which it is aimed, as put forward by the "agenda setting" theory (McCombs and Shaw 1968). This influence is especially relevant in terms of political parties and lobbies, which often see the media as a tool to spread their ideas. "The most important communication channel between the political system and the citizens is the mass media, the leader of which is television". (Castells 2008).

Unlike the written press, broadcasting television messages involves two dimensions: semantics, or the *what*, and aesthetics, or the *how*. The former includes the content of the newsworthy story, while the latter covers staging and adaptation to television format. A balance between the two perspectives must be struck to maintain journalistic rigour and avoid spectacularisation.

The transformation of a journalistic message into an element of a television spectacle can occur in various situations. Some of the most common techniques to create this effect are personalisation, protagonism and dramatisation of the news (Rodríguez 2003); meanwhile, Luzón and Ferrer (2007, 2008) highlight the use of shocking images and content hybridisation.

Apart from these resources, instances of spectacularisation can be found in the use of new technologies, which have gained a place in the news in recent years. They manifest both as the generation and insertion of television effects (bumpers, transitions and opening sequences) that define the format's style and exert a direct influence on the narrative structure, and as the regular use of computer graphics (diagrams, text boxes, maps) and virtual and augmented reality techniques to illustrate content. Although newscast staging has been improved by audiovisual aesthetics that are more attractive for viewers, overuse of these technologies in a news context can contribute to the spectacularisation of the information disseminated.

Within this context, television has both a need to inform and a desire to transform reality into a consumable object and spectacle (Imbert 2003). At this point, the noun 'spectacle'

must be differentiated from the verb 'spectacularise', which may be understood as distorting the spectacle (Rossell and Pineda 2014).

The need to achieve high audience ratings to increase advertising revenue tends to be evidenced more clearly on private television networks, where content is mainly determined by commercial and audience criteria. Public television networks, meanwhile, must balance their public service programming, which loses money, with other, commercial content to achieve high audience figures and, therefore, more advertising revenue (Ramonell 2006).

However, the rise of private channels has inevitably pushed many channels to redefine their public service scheduling (Olmo 2012). The search for financial profitability has had a negative effect on some public television channels, which have looked to their private counterparts for ways to increase audience figures (Hill 2005). This factor clashes with European public television networks' foundational aims of guaranteeing pluralism of information, the promotion of cultural identity and the respect of minorities (HMSO 1994; CCMA 2010).

The need to flee from the spectacularisation of the message, both from a content point of view and from a staging perspective, encourages rigidity of format in news programmes, supported by authors such as Sabarís (2002). The new, multi-platform nature of digital communication, with content accessible from various windows, opens the door to innovative news formats (Vicente and Monclús 2009).

Since its creation in 1983, TV3 has been studied on various occasions: from the definition of the television project and the first years of broadcasting (García Altadill 1989) to the analysis of production routines following the rise of the internet (Luzón 2001) and Mateo, Bergés and Sabater's (2007) comparative study on production-related aspects. More recently, Montoya (2011) has analysed how the channel has adapted structures to new routines and to cross-media content in its scheduling, both in newscasts and entertainment and fiction programmes.

Beyond accompanying viewers for 34 years, for many, *Telenotícies* has given a name to the daily television news format. The choice of name was not random; according to Ràfols, the director of TN, "it could have been called *Telediari*, but to differentiate from TVE's *Telediario*, *Telenotícies* was chosen". Initially, the programme was broadcast once daily in the evening. Other editions at different time slots were later added; the Catalan public television channel decided to maintain the *Telenotícies* name for each slot and add the time of day at which it goes out (*Telenotícies Migdia*, *Telenotícies Vespre*, etc.). This expansion has led to clearly different versions of the same format.

3. Methodology

This research was carried out within the field of television newscasts. The main objective was to demonstrate the

interrelation between the aesthetic and semantic dimensions in the definition of a daily news format, through an analysis of the evolution of TV3's news programme: *Telenotícies*.² As a public channel, TV3 is run as a public service that is "committed to ethical and democratic principles and to the promotion of the Catalan culture and language" (CCMA).³ This study aims to provide an answer to the following questions: 1) which variables have had the most influence on the definition of the format? and 2) how have these variables affected the organisational structure and production processes?

The sample was defined in line with the following factors: 1) the edition that represents the 'access prime time' slot and 2)

the oldest variant of the programme and, therefore, the version that gave the format its name. In accordance with these criteria, *TV Vespre*, the edition broadcast from Monday to Friday, was selected for analysis. From the first regular broadcasts in 1984 to the 2016 season, based on the set aesthetics⁴, a total of eleven stages have been counted (Table 1) that illustrate the evolution of the format.

To analyse the format, a sample of 17 programmes broadcast between January 1984 and February 2016 was chosen at random, with a minimum interval of two years between each programme. Prior to analysis, in order to ensure the sample did not include any special editions that may skew the results due

Table 1. Time period of each stage and visual identity












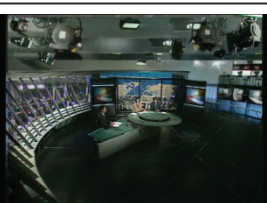



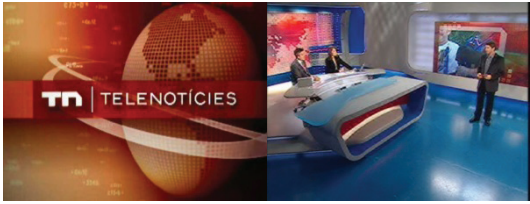

Stage	Time period	Examples	Visual identity
First	16/01/1984 to 08/04/1985	16/01/1984	 
Second	09/04/1985 to 28/02/1986	04/02/1986	 
Third	03/03/1986 to 30/05/1988	05/04/1988	 
Fourth	01/06/1988 to 14/10/1990	01/01/1990	 
Fifth	15/10/1990 to 23/01/1994	02/03/1992 and 10/01/1994	 
Sixth	24/01/1994 to 22/09/1996	20/02/1996	 

Table 1. Time period of each stage and visual identity (continues)

Seventh	23/09/1996 to 23/02/1999	23/02/1998	
Eighth	24/02/1999 to 17/03/2002	28/01/2000 and 04/02/2002	
Ninth	18/03/2002 to 08/05/2005	13/02/2004	
Tenth	09/05/2005 to 19/01/2014	02/03/2006, 26/03/2008, 10/02/2010 and 03/02/2012	
Eleventh	From 20/01/2014	24/02/2014 and 19/02/2016	

Source: Created by the authors, using images from the TV3 archive.

to changes to the usual structure and rhythm, all the material was viewed.

In terms of methodology, an instrument that combines quantitative and qualitative parameters was created. The former allowed in-depth analysis of the format through viewing and completing a report made up of three variables:

- **Formal structure of the content:** articulated through subvariables that affect the duration and order of each of the programme's constituent parts.
- **Presentation of stories:** observed through the formal treatment of the content (videos, sound with voice-over, newsreader, etc.).
- **Roundup:** given its importance, extracting this segment from the whole was deemed essential so that it could be observed separately and subvariables such as number of stories, type of opening, etc., could be noted.

Qualitative parameters applied through a series of semi-structured interviews highlighted professionals' involvement in

the format's creation. The sample group was composed of a total of 24 professionals, including presenters, editors, writers, producers, directors and technicians. Through a combination of participant observation, which facilitated access to the channel's own documentary archives, and the use of semi-structured interviews, the aim was to compare and contrast the results of the analysis with views from various perspectives, all within the context of daily professional life at a public television station.⁵

4. Results

4.1. Formal structure of the content

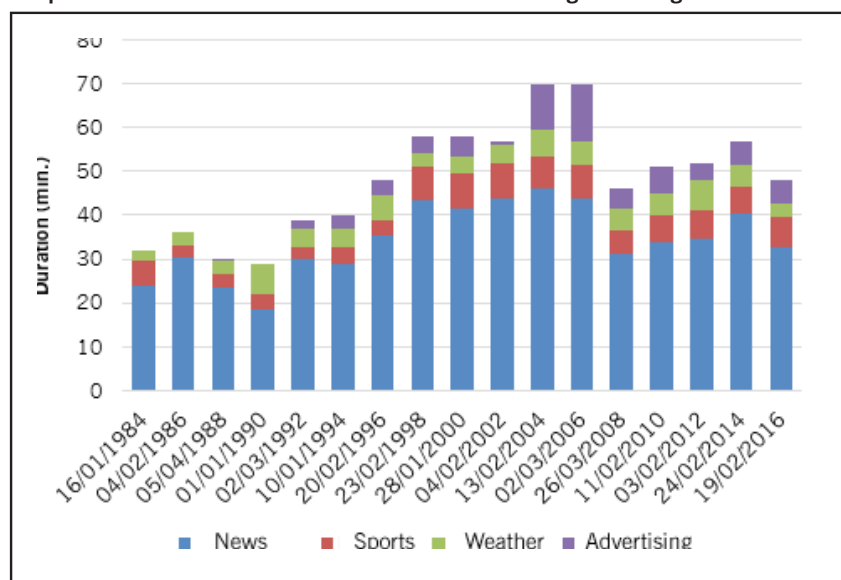
Currently, a standard edition of TN is made up of four different formal sections, around which the content is assembled: News (political, economic, social, etc.), *Espots* (Sports), *Ei Temps* (Weather) and Advertising (slot for advertisements). Initially, TV3 was inspired by newscasts on the main European

television channels, which, at that time, broadcast bulletins of 30 minutes. However, Graphic 1 demonstrates that, from 1992, the total duration was increased; this mainly affected the news segment, which, on the other hand, is the section that occupies the most airtime in the programme, varying between 60% and 85% depending on the stage. These developments were mainly associated with scheduling criteria. A prime example is the case of the significant reduction in early 2007, caused by the implementation of a series of measures, such as a change in director and editorial team,⁶ to combat a loss of audience to Antena 3 TV news in the preceding months.

Over time, the presence and duration of all four sections have been altered for reasons strictly related to their corresponding

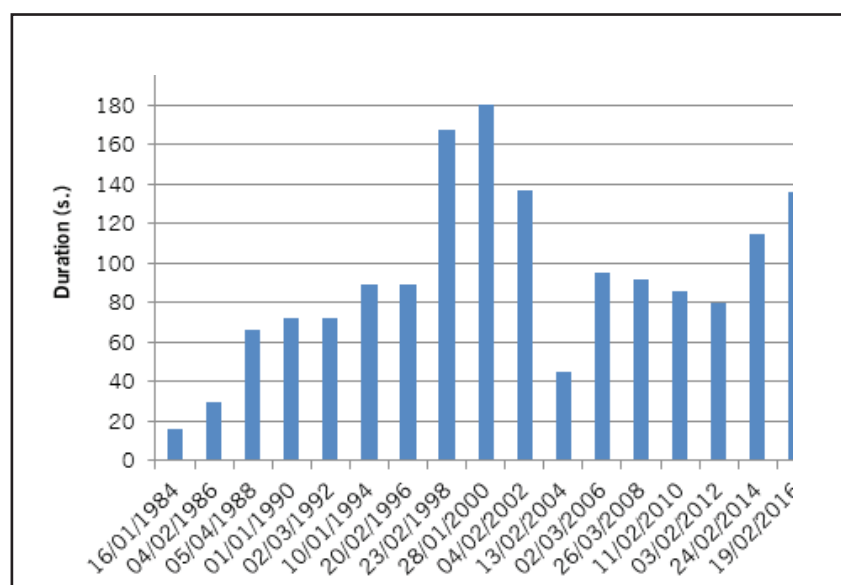
stage (Graphic 1). It was not until 1986 that TN began to broadcast advertisements; until then, legislation did not allow advertising in news programmes, political debates or broadcasts of civic or religious ceremonies (García Altadill 1989).⁷ Although the insertion of advertising did not significantly affect the total duration of the programmes,⁸ with the exception of seasons between 2004 and 2006,⁹ it generated other effects as a form of public television content. The explosion of private national networks¹⁰ on the Spanish television market increased direct competition at prime time and modified the usual advertisement contracting criteria. This situation was a blow to TN's financial profitability; as a public network, its advertising time was limited. The strategy taken was to sponsor the sports

Graphic 1. Evolution of the total duration of TN through the stages



Source: Sañas (2017, p. 87).

Graphic 2. Evolution of roundup duration



Source: Sañas (2017, p. 97).

and weather sections, which led to the separation of the *Sports* and *Weather* sections with their own opening sequences, thus modifying the structure of TN.

The news section always begins with the roundup, during which the most significant events from a news standpoint are highlighted in hierarchical order depending on news criteria. According to the data, this segment has generally been extended (Graphic 2) as its structure has been modified.

The trend towards longer roundups, from 15 seconds in the first broadcasts to three minutes in 2000, was broken in the ninth stage (2002), when the roundup was limited to 40 seconds to adapt the voice-over to the rhythm of the opening music. This translated into eight-second slots for each story, with a view to making this segment as dynamic as the main body of TN. These stories were read out live by the newsreaders themselves as part of a musical-verbal montage that adapted the spoken words to the opening music, generating dynamism to enhance the images. It must be noted that the structure predetermined a duration of eight seconds per story, from which the time needed for the transition animation must be subtracted, leaving six seconds for the verbal text. Voice-overs were thus incorporated as a formal element of the roundups. This strategy enriches the TN format as, regardless of the order of the news in the roundup, the voice-over meant that certain stories could be highlighted over others. Similarly, greater importance is usually attributed to a news piece when, before the images are shown, the newsreader is seen on the set. The way the news was presented, and not just its position in the roundup, created a hierarchy between stories. Another enriching factor detected in the final two editions analysed (2014 and 2016) that has also extended the roundup is the addition of live transmissions from the scene during broadcast.

The roundups that opened the first TN programmes included 3 news pieces from different sections, one of them being Catalan news and another international. Later, the duration increased (Graphic 2) along with the number of highlighted stories, which has remained fairly stable over the years; generally, between 6 and 8 pieces have been observed. The treatment of these highlighted stories at the beginning has undoubtedly been one of the aspects of the programme that has changed most radically (stories read out by both newsreaders, start with images and voice-over, newsreader segueing into images, live transmissions from correspondents, etc.).

As for *Weather*, its duration has not increased significantly over the years, though its narrative has varied due to the incorporation of technological resources. From this point of view, it is evident that any evolution in the treatment of content has been associated with the general news section, which, nonetheless, has maintained a similar percentage of airtime within TN over the analysed period.

4.2. Presentation of newsworthy stories

Beyond the programme's structure and the organisation and

duration of each of its segments in the running order, its information presentation techniques were examined and are detailed as follows: 1) reading without images, 2) voice-over and concealed voice-over, 3) video without lead, 4) video with lead, 5) voice-over with video wall and 6) live transmission.¹¹ The evolution of the number of news stories has followed a trend that corresponds to the duration of TN. The edition with the most news stories (24) is from 2004, which coincides with the programme's maximum duration (70 minutes) (Graphics 1 and 3). This datum suggests the duration of each piece has not varied significantly over the years, despite the incorporation of new presentation techniques.

Another notable feature is the correspondence between the number of news stories and the number of pieces into which the story is divided. A news story may be developed through one or more separate pieces, depending on the relevance attributed to it or the resources available. This relationship has evolved unevenly overall, with a striking trend towards separation from 2004¹² (Graphic 3). This indicates that the overall duration of each news story has not varied over the period, but the duration of each constituent piece has, in general, fluctuated.

From 2006, the incorporation of new story presentation formats was observed, mainly due to the digitalisation of the image editing process and the definitive obsolescence of tapes. This system meant both audio and video pieces could be segmented and editing could be carried out in parallel; for this reason, increasing the number of pieces that made up a news story was viable. With a greater, more diverse wealth of options, the most traditional presentation method – video with lead – has lost popularity over the years.

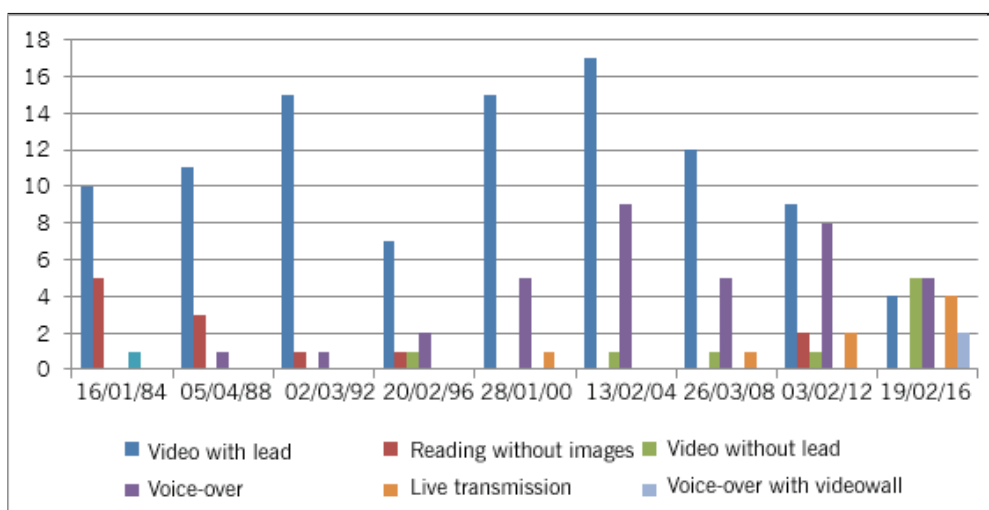
A type of introduction that has practically disappeared is the verbal piece with no images, as this may be considered a solution for reporting a story when the channel cannot obtain any related images or graphics. Digital technology and the internet have simplified the process of finding resources – whether they come from the channel itself, agencies or even social media – to add images to breaking news. As a final resort, a map illustrating the location of the event may be displayed with a voice-over as a solution for breaking news stories.

4.3. Presence across the territory

Although coverage of events outside Catalonia evidenced the universal nature of the Catalan television model, moving it away from localism, the programme needed to travel all over the Catalan territory to increase its visibility and strengthen emotional ties with its potential audience. This focus set the Catalan public television model apart from that of Spanish state public television. The adoption of Betacam cameras was a key part of this process; this equipment was light and therefore allowed professionals to move around “just like photographers and other European television channels did” (Marqueta, head of news and director of TN). This strategic decision was one of the pillars of this television model, influencing its news narrative

Graphic 3. Evolution of number of stories and informative pieces

Source: Sañas (2017, p. 92).

Graphic 4. Evolution of news presentation techniques

Source: Authors, using Sañas (2017, p. 94).

significantly,¹³ facilitating the movement of ENG teams around Catalonia to cover events in person and, therefore, familiarising the audience with TV3's image.

To further strengthen its connection with the territory, in 1990, TV3 set up regional delegations. Each functioned like a mini news team, with its own staff and resources, initially integrated and coordinated from the Catalonia section. This strategy aimed to broaden the local news provided, as a response to criticism that the programme was too Barcelona-centric.¹⁴

This willingness to make the presence and coverage of the whole territory clear to viewers also influenced staging and the formula used to close reports, still used today, that "includes mention of the location from which the news has been reported, along with the reporter's name and the channel" (Sañas 2017, p. 30).

4.4. Immediacy

The incorporation of ENG teams made up of two professionals equipped with Betacam cameras who, taking turns, carried out all the news production tasks, from recording images to reading the story, reduced the time needed to produce the news. According to Marqueta (head of news and director of TN), TV3 chose the British model, sending small teams out to cover all kinds of event. This circumstance has influenced the channel's method of dealing with news narration and has created a sense of ubiquity in the eyes of the viewer, thanks to the production's immediacy.

Another formula employed to highlight this ubiquity is live transmissions from correspondents. Currently, a significant proportion of these transmissions is ensured by a series of

devices known as a '4G backpack', which broadcasts via the 4G network. Thanks to their technical viability and agile production, the use of live, on-the-scene transmissions complies with practically all format and editorial criteria decisions. In this sense, considerable variation was observed in the number of live transmissions, depending on the news team.

An analysis of the programmes and the TN editorial team's own experience do not corroborate Peralta's (2005) proposal; he defines live transmissions as the production of news simultaneously with the occurrence of the event and from the location in which it takes place. In most cases, the newsworthy event had passed or appeared as a secondary element. Questions such as 'Is a live transmission necessary from a protest that has already finished?' and 'Is it worth reporting live from a motorway with no traffic to illustrate the measures taken to reduce holiday traffic?' have been and still are part of the debate within TN news teams, which make the final decision. The answer usually depends on a consideration of two factors: news value and physical presence in the territory. The definitive question is: what does this live transmission achieve?

Apart from live transmissions, other resources have been used over the programme's history to evoke the idea of immediacy. In 1994, for the first time, images of the editorial team were shown on a green screen, creating the illusion that they were located behind the newsreaders. Viewers could see the editors working and deduced that they would be informed of all the latest news. For the same purpose, the use of communication devices by TN newsreaders – including telephones, laptops and tablets, depending on the era – made this up-to-the-minute communication clear to viewers.

4.5 Graphic design

The birth of TV3 coincided with a renaissance in graphic design, thanks to the introduction of the first computers. From the beginning, the channel created a news programme where graphic design played a leading role, keeping the TN brand visible at all times. In fact, Roure (producer) reveals that the great graphic designers from the written press ended up working in Catalan television. The first opening sequence designed by TV3 graphic designers is that of the third stage, as before this time, the necessary infrastructure and qualified professionals were not available at the channel. From this moment on, graphic design is present in most of TN's opening sequences, which seek to accentuate the ideology of Catalan public television. For

Matas (digital archive administrator and producer), one of the opening sequences that best represents the universal nature and multiperspective approach of this television project (Image 1) is that of the tenth stage.

In the early years, a sort of 'lectern' held a graphic element that identified the news story being reported. Unlike TVE, this was not a photograph, but rather a graphic creation or infographic. This method of illustrating the news through a fixed image has been maintained throughout the years, though technological advances have gradually improved this technique.

Creating an in-house graphic design team meant that this discipline could be integrated into the news itself. According to Sansa (TN producer), the decision was taken following the 11 September terrorist attacks in New York. That day's TN edition was hours long, and the need to provide graphic material clashed with logistical limitations, due to the lack of in-house team.

This was a highly significant step, as it meant graphic design was incorporated into the news team's journalistic production routines. It ceased to be exclusively a source of images and became part of the news itself. Graphic design as an element of the news has evolved towards highly complex virtual and augmented reality representations, the origins of which lie in a simple screen: the video wall.

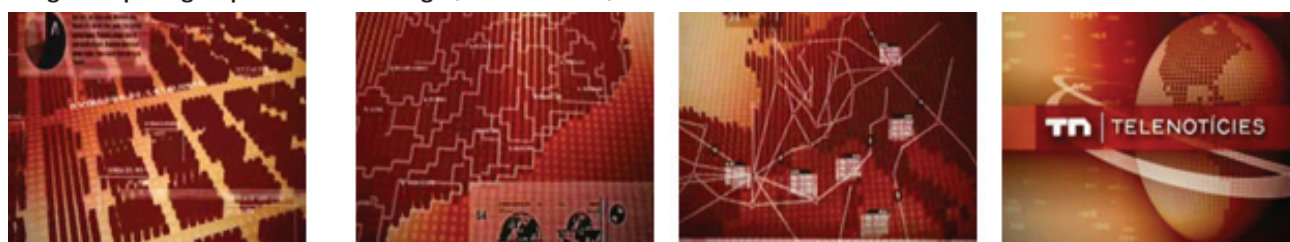
The video wall was introduced in 1999 to facilitate live transmissions from correspondents. However, over the years, it stopped being just a support tool and became another key part of news narration. In the ninth stage, the newsreaders moved around the set and interacted with the video wall. New graphic design techniques made it possible to illustrate complex stories, especially those of an economic nature, in a much clearer way.

4.6. Production processes

The newscast creation process has changed significantly over TN's more than 30 years on the airwaves. In this period, production routines have been adapted to technological advances, which can be summed up by 3 main changes: the computerisation of reports, the internet and the digitalisation of images.

The last typewriters were replaced by computers in the early 1990s. According to Grau (engineer), this transformation encouraged coordination between all the teams, who could access the running order from any computer in the office. For example, this meant that linguists could work on the original text

Image 1. Opening sequences. Tenth stage (2005 to 2014)



Source: Created by authors, using Sañas (2017, p. 109).

directly, without making corrections by hand. It also favoured the democratisation of information (Luzón 2001), as all the journalists had access to the information provided by agencies, which, until then, were filtered through the head of department.

Internet access made websites a new type of information source and, over time, resulted in the creation of new professional profiles (Luzón 2001). With a view to optimising the task of research, a database was created with the website addresses of political parties, institutions and associations. This new content, accessible to all users in the editorial department through the Intranet, was met with reticence from some professionals, who were used to having their own sources and even keeping information under lock and key.

In the early twenty-first century, the digital transformation of images meant that video tapes were replaced by data that could be created, transported, edited and shared electronically. Within the production routines, images were integrated into a system that had been computerised years before, through the introduction of Basys and devices connected through a network. Taking into account the status of images as a raw material in television, digitalisation must be understood as a transformation in all phases of news creation, from locating sources to the final TN broadcast.

4.7. A new way of informing: *El Temps*

From a Catalan language perspective, the role played by the weather forecast over the years must be highlighted. This section, designed as an opportunity to offer viewers day-to-day, useful, local information, normalised meteorological language in Catalan, using the nomenclature proposed by Eduard Fonserè (1948), founder of the Meteorological Service of Catalonia in 1921. Terms such as *calamarsa* [hail] and *clarianes* [patches of blue sky] were thus introduced into everyday language (Sañas 2017, 30). Another significant feature was the fact that the professionals who presented the weather were meteorologists, not specialised journalists; this criterion has been maintained throughout the years.

The digital technology evolution has led to improvement and diversification in the resources used for weather forecasting. A notable example of innovation is the introduction of Meteosat images to show how the weather is evolving, which has altered the narrative structure of the section. Over time, this space has ceased to be destined exclusively to the weather forecast, and now includes meteorological information from the past – through maps showing weather changes – and the present – through live pictures from certain locations.

Audience interaction was included from the mid-1990s onwards, coinciding with the popularisation of the internet and email throughout the population. Thanks to new technology, viewers could send in images and videos much more easily and quickly.

5. Conclusions

The main change observed in this analysis is probably not directly identifiable for the viewer. Digitalisation transformed professional tasks and every stage of TN production routines and, of course, influenced the shaping of the format. The eradication of tapes as a physical medium meant that audiovisual content could be found, edited and shared easily and in parallel among various users. Furthermore, an increase in narrative resources altered the information and editorial relevance protocols applied when devising the TN running order, which traditionally focused on position within the order and the duration of the piece.

In a similar vein, the main technological innovations were accompanied by professionals' willingness to implement them and, above all, make them visible to viewers. The use of technological potential as a prestigious tool resulted, on some occasions, in the overuse of new gadgets, especially in the first few weeks of their implementation. The "desire to try out the new toy", as defined by some sources, has not always been compatible with the protocols that govern the news on a public television channel. Overall, this analysis has demonstrated that time and learning have enabled the programme to harness new technology while striking the right balance between content and staging: a balance that, up to now, has guaranteed journalistic rigour.

TN has been a showpiece for the channel ever since it was founded; for this reason, the changes made must be understood from an organisational, logistical and, above all, strategic standpoint. Each piece of new technology has therefore not been incorporated until it has been proven effective in other programmes.¹⁵ On another note, the need to advance with new TN projects while broadcasting the existing programmes has also been a considerable obstacle.

The rigid format called for in newscasts by authors such as Sabarís (2002) has also been observed in TN, especially in the ninth stage. A change in posture for the newsreaders, from sitting down to standing up, increased both the diversity of the staging (set design, travelling, etc.) and the narrative possibilities.

Beyond TN as a television programme, there has been a desire to create a distinct brand for TV3 news. The editorial team's experience and know-how have created and consolidated a unique style of news creation and presentation, separate from the more media-oriented figure of the newsreaders. The strategic decisions taken over the years have contributed towards creating a continuous news model, with the aim of making viewers loyal and differentiating the product from that of the competition.

The *El Temps* weather section has played a highly relevant role in the search for closeness to and empathy with the audience, thus strengthening the emotional link with the TV brand. The incorporation of technological resources has generated new narratives in a space in which the weather forecast itself has relinquished quantitative weight in favour of audience

interaction. The consolidation of the internet and mobile phones in the late 1990s meant that viewers could collaborate by providing images, with the incentive of seeing their contribution on the television.

This study has highlighted that technology, while remaining an important element that participates in the definition and evolution of a format, is not a decisive factor. Without a coherent project based on journalistic rigour, it is difficult to avoid technological innovations becoming a simple aesthetic element that encourages spectacularisation. Before adopting a new piece of technology, its potential contribution to the television news narrative must be weighed up. This analysis has also revealed the importance of involving the audience: sometimes as a protagonist, sometimes as a spectator. This challenge must be considered and planned carefully, both quantitatively and, especially, in terms of recognising interests and expectations between the channel and the audience. Given the results, this analysis has evidenced that TN continues to prove its ability to adapt to the future: an essential quality for any format.

Notes

1. Tension between the Catalan and Spanish governments threatened the Catalan television model on numerous occasions, at a time when the only television reference points in Catalonia were the two Televisión Española channels.
2. From this point onwards, 'TN' will be used as a synonym of Telenotícies.
3. <<http://www.ccma.cat/corporatiu/ca/missio-i-principis/>>
4. Except on one occasion, set changes coincide with the introduction of a new opening sequence.
5. The authors would like to thank TV3 and all the interviewed professionals for their willingness to collaborate with the study.
6. In addition, the winter and summer time slots were unified, at 9 p.m.
7. As compensation, advertising airtime could be increased by 50% in the hour before and after TN.
8. The duration is defined as the time between the opening clock and the final credits.
9. In this period, it reached 13 minutes, prolonging TN to 70 minutes.
10. Between 1989 and 1990, three media groups created their own television channels: Atresmedia (Antena 3), Mediaset España (Telecinco) and Prisa (Canal+).
11. In the sample viewed, no representation of augmented reality was observed live on the set. For this reason, it has not been included in this analysis.
12. The clear difference between the number of stories and individual pieces observed in 1986 is neither representative nor conclusive. A second analysis of this programme revealed that the reason for this deviation is the news story on the debate in the Congress of Deputies. In just one news story, up to seven short pieces were included, most of which being declarations from each political entity with parliamentary representation.
13. One of the stories with the most international resonance in the first months was the arrest of El Vaquilla in 1984, which a TV3 ENG team covered live from the centre of Barcelona to provide the latest information.
14. In 1986, a group of teachers from Lleida endorsed a text entitled *El català, llengua nacional o idioma municipal?* [Catalan: a national or municipal language?], which accused the Catalan used on TV3 of being dominated by language used in Barcelona.
15. The potential of augmented reality was initially tested in electoral programmes. 4G backpacks, meanwhile, were introduced for the first time in non-news programmes.

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Critical Books Review

REDONDO, M. *Verificación digital para periodistas. Manual contra bulos y desinformación internacional.*

Barcelona: Editorial UOC, 2018, 172 pages.

ISBN: 9788491801290.

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Apostles of certainty

In a context of urgency and information overabundance, journalistic verification has resurfaced as a fundamental task in newsrooms, industry and academia. Plagued by traditional partisan propaganda, conditioned by algorithmic hierarchies and deafened by the noise of social networks, citizens are now demanding that journalism involve verification of the truth. In addition to the classic functions that the press contributes to democracy (Schudson 2008), this new scenario demands, adds and underlines that of verification. “Apostles of certainty” is the apt expression that C.W. Anderson (2018) has coined it to designate data journalism professionals, and we could well use it for all reporters.

Digital verification for journalists is therefore an activity that urgently needs its place in journalistic practice. As with other emphatic labels or names of journalism, its rapidly-increasing prominence reveals the shortcomings and defects of the industrial media structure, obsessed with productive routines with dizzying urgencies and information units that impact upon the quality of the message. In the communicative ecosystem of the network society (García Avilés 2015), the user is exposed in the transmedia flow to multiple broadcasters during brief communications (Noguera 2018). This multiplication – together with the disintermediation of the poles of hierarchy – unleashes a torrent of disinformation or falsehoods that haunt the participatory sphere.

In this short and practical manual, Myriam Redondo proposes a frequent reference guide, a map of clues to disable the spread of hoaxes and to combat the mechanisms of post-truth and international disinformation. In this text, the author gathers techniques and digital resources for the verification of contents and individuals. This is a practice book, with little theory on the fundamentals, but with a useful approach for journalists, students and anyone involved in content creation.

This pragmatic mission of the book makes reading more convenient in front of a computer or mobile device, due to the abundance of digital resources mentioned above. Thus, the discourse is fragmented and, as the writer herself acknowledges, “may perhaps be overwhelming”. Therefore, more than a reflective reading, as recommended, this manual is proposed as an essential tool for the journalist’s desk. A quick reading of the book reveals the shadowy area of digital journalistic practice, a realm often overlooked for the sake of speed and agendas in the face of ‘scoops’ or breaking newswatches. Therefore, it is a good idea to read it carefully to put the tips into practice as a tutorial. The book does not theorise excessively, as discussed earlier, for that is not its objective: Redondo builds on the foundations of practice, places the reader at the origins of this discipline and assembles a very clear structure around the classic five essential questions of journalistic information.

With a critical eye – rather with a cynical eye – the more experienced editor could claim that the old methods of verification are sufficient: indeed, haste is counterproductive, it is advisable to trace the origin of the information, examine who says what and why, to determine what ideological preferences they have, and to never publish anything without contrasting. But, in the face of this kind of superficial diagnosis, this book reveals the immense task of digital verification that opens up to the professional journalist in the current panorama. In addition, it is most of the traditional media, perhaps unknown in the digital arts, or maliciously seeking clicks, that tend to propagate the hoaxes or inaccuracies (Silverman 2013).

The book begins with a brief history of digital verification, in which Redondo situates the future of this phenomenon, links it with the classic elements of journalism (Kovach and Rosenstiel 2012) and relates it to other similar phenomena (political *fact-checking* and traditional *fact-checking*), a distinction that is not entirely clear. The digital verification that the author is talking about would thus focus specifically on user-generated content,

an approach that is consistently maintained throughout the book. The three phenomena, Redondo writes, are united and have the same objective: to avoid errors and lies.

This approach means that the clues, tools and resources in the manual are primarily aimed at verifying external content circulating on the Internet and messaging services. As a whole, it is tremendously useful and revealing, since it illuminates those digital dens where the vicious cycles of disinformation originate. First of all, it attunes the reader to cybersecurity and the effective management of one's own computer in order to ready it for the task of digital verification; these are not complex tasks and it is likely that most 'digital native' readers have already taken on board some of these tips. Next, Redondo presents a very relevant chapter focused on the search for information, where hints are given to get the most out of social network platforms, websites and search engines.

The author then uses the classic five questions of journalistic information to illustrate the most useful resources for the reader. Verify the sender ("who" are the sources, i.e. the users who broadcast the content and how to research them on their pages or on third-party platforms) and verify the message ("what" has been spread and "when"), where numerous tools are specified to determine the veracity of images, texts and videos. It then explains how to verify the "where" of the content using Google Maps and Google Earth, how to geolocate information on social networks, which is a very favourable terrain in the current context. Finally, Redondo offers a brilliant chapter on the biases of sources, and their motivations to propagate inaccuracies or hoaxes, and reflects on anonymity, political polarisation and algorithmic bubbles. The book closes with a list of resources and readings, which help to complete this updated digital verification manual. The manual also includes very practical techniques to combat disinformation in the face of bots and attacks by disinformation factories.

A simpler version of this text could serve as a digital literacy manual; such is its further useful beyond its main target groups – professionals and journalism students. For this reason, some of the practices may seem a little obvious or well-known; as the author acknowledges, it is possible that they are often not put into play, not because they are unknown, but because of the vices of urgent information or economic pressure. It also lists dozens of resources that require some computer skills, which the author explains and, when not relevant, links to tutorials or refers to instructions from the resource provider.

In short, this is a book that helps to reflect on journalistic practice in the current context and to understand the relevance of digital verification in the new media ecosystem, through very well explained hints and examples. It is a recommended guide for any professional in journalism (and content in general) at a fascinating time for the industry. As the author says, "good journalism has verification and digital verification, or else it isn't good".

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The concept of fake news became forever associated with Donald Trump at the press conference on 11 January 2017 during which, once already president and at a time when it was thought his behaviour would become more moderate, he refused to respond to CNN journalist Jim Acosta, saying “... *You are fake news*”. The book written by Brian McNair, begins by recounting this event, which we feel is a very interesting approach to this phenomenon from a geographic distance. We say geographic distance because when he wrote the book, which was published in 2018, the author was a professor at the Queensland University of Technology in Australia, and although some of the examples he cites are from that country, the bulk of the content pertains to the United States. This is appropriate in this case, since this is where the wave was generated which afterwards spread to the French elections, Brexit, and the annexation of Crimea by Russia, as well as the elections in Germany in September 2017 and in Catalonia on 01 October, though the book does not mention the last two since it was completed in August 2017.

In chapter 1, very aptly named #FakeNews, McNair takes a theoretical approach to fake news while also reflecting on the profession of journalism. According to the author, we are faced not only with a deep debate about what truth is, but also about the role of journalists in the current democratic game. Although *fake news* was already mentioned as such in 1926 (p. 17), the author places the origin of this phenomenon in 2014 in an article in the Washington Post which talks about a ‘*propagator of false alarms*’ (hoaxer) (page 6). Rochilin (2017) thus describes fake news as deliberately false headlines and stories published on a website appearing to be a source of real news. Within this context, fake news is positioned as a kind of meme with a very high potential for dissemination.

Once the framework has been established for understanding what fake news is, in the second chapter the author identifies what it is not. This vision is supported by the fact that in the political arena fakes news can be used (and in fact *is* used) along with many other things. The author goes on to describe

some examples of fake news, often juxtaposing *fake* in relation to *fact*. In this sense, fakes news is considered part of the same information ecosystem as false alarms, conspiracy theories, journalistic errors, political satire, and state propaganda, though with a few differences. The author describes how “on the one hand, the concept of *fake news* has become a political tool for denouncing journalistic content with which there is disagreement, yet it is also a way to attack independent and free means of information” (p. 37). As such, sometimes in the game of politics everything becomes fake, as if finding ourselves in a mental framework in which the opposing position is framed as far from certainty. As a result, the press as a ‘*fourth power*’ is judged by its ideological framework rather than by the validity and objectivity of its content. It is at that moment that the author forgoes descriptions of the right-left or liberal/conservative perspectives to describe fake news, but instead what seems more important to him is to reflect on the nature of journalism.

In the third chapter the author delves deeper into the *post-truth* notion and the various factors, both philosophical (increase in relativism), cultural (loss of prestige of the elites), technological (the arrival of social media), and political (increase in nationalism, populism, and the alt-right) (p. 41). Alsius has also pondered the implications of post-truth and post-ethics in our country (2017). In fact, Alsius notes the importance of media literacy as a mechanism of reaction and counterbalance to this *post-truth* era. McNair concludes that although fake news has always existed, as it is currently described it is part of a “unique cultural moment in our common history, reflecting a transformed environment in which political actors are enabled by the existence of the Internet and social media to turn information into a weapon potentially more damaging than at any other time” (p.89).

In chapter 4, *Makers, Fakers, Sharers*, there is a description of a few of the actors who are known and necessary for the existence of fake news. This includes websites like Infowars and Breitbart, in addition to elements of dissemination through social media

such as cyberwarriors (p.66) with regard to Russian propaganda and the effects this has had in American politics, as has already been addressed in other studies (Journell 2017). Since merely analysing and diagnosing the causes will not automatically solve the problem, in chapter 5 the author proposes some measures to manage the phenomenon in the short and medium term. He feels that there must be several approaches, some of which include government administrations and regulatory measures. Civic and cultural organizations also play their part, as well as professionals in the fields of communication and journalism who must continue to equip themselves with tools of verification and validation in order to serve as social beacons to distinguish what is true from what is not. In this sense, he emphasizes once again the importance of training citizens to be able to discern between truth and falsehood and to be able to recognize fake news and the intentions behind it.

Fake news is just a symptom of a wider crisis of liberal democracies

One noteworthy point of the aforementioned book is the fact that fake news is not the disease but the symptom. It is an expression of a wider crisis involving the elite, whose members do whatever they can to maintain their traditional roles in liberal democracies. It is thus a symptom of a deeper crisis in society. However, in the broth in which fake news is cooked up, one can also find populism and a loss of prestige of the elites and of mass media, and by extension a debasement of journalists as well. It is in this new environment, full of new digital media which are not well-referenced, that it is more important than ever to evaluate sources of information. At the global level, social media such as Facebook and Twitter, as well as Google – all of which are very fast-acting, since their survival depends on their strategy (López-Borrull *et al.* 2018) – have taken a step forward, at the real-world and media level, to fight against fake news since they have been deemed the necessary collaborators of ‘viralisation’ (Bessi 2016). It should also be taken into account that recent studies have shown that fake news is disseminated virally more quickly than the truth (Vosougui *et al.* 2018).

We believe that these types of works, with a suitably academic format, are appropriate and advisable to properly contextualise the phenomenon they describe, in which former certainties and traditional sources of information are questioned and threatened by new and often more collaborative ways of producing and disseminating content. Not only is it important to know the source, but one should also understand the scope and depth of such information and try to conceive of its future implications. The dissemination of allegedly true information and the social impact thereof is relevant to a range of disciplines from sociology and journalism to politics, which have all seen how information and communication technologies have changed the pre-existing social uses. In short, this book is a quick read though it takes time to digest and it may serve as a benchmark in the global arena. Nevertheless, it requires – in addition to

dialogue – new works carried out in two specific ways: firstly, a European perspective with the necessary cultural nuances, and, secondly, an attempt to capture the effects of the evolution of artificial intelligence and the manual handling of content, both of which are strategies prioritized by the media and social networks to respond to this phenomenon. This book is therefore an excellent initial examination of this phenomenon but new works are needed in order to reflect further on these issues.

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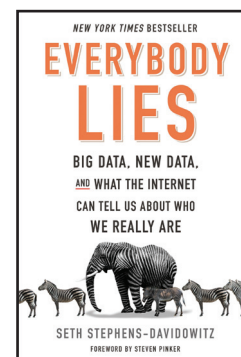
STEPHENS-DAVIDOWITZ, S. *Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us about Who We Really Are.*

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Pantagruel in the Panopticon

It was the indescribable Dr House, the doctor-cum-detective star of the eponymous TV series, who popularised the scathing saw that “everybody lies”. An expert in diagnosing rare diseases based on strange or unusual symptoms, experience had convinced him that the last thing he could trust was what the patients themselves told him, as they were more concerned, even in those circumstances, about protecting their reputation than helping to clear up the source of their ailments. At all events, the social sciences have long assumed everybody lies since their primary source of data, people, exhibit an irrepressible tendency to say what they are, think, feel and do by passing it through the sympathetic sieve of what they would like to be, think, feel and do. Hence they lie and it is only with great difficulty that social scientists are able to control these well-known phenomena (social desiderability, spiral of silence, etc.) when determining the attitudes, states of opinion or behaviour prevalent in human societies. And this is where we were when big data came along.

Stephens-Davidowitz has a PhD in Economics from Harvard and is a former data analyst for Google and currently a specialist columnist at *The New York Times*. He thus has a solid academic background, extensive experience in dealing with digital data and an undoubted vocation for communication, qualities which he pours into a book designed to show big data’s potential for social research by celebrating the advent of what he has no qualms about announcing as a “revolution”. The result is a vibrant and suggestive book, almost always carefully argued albeit sometimes a little over the top.

The author suggests at the start of this celebration that much of what we know about people is wrong. This is because what we think we know about them has no more empirical backing than what they tell us about themselves, and it is well known that everybody lies. However, henceforth we no longer need to trust what people tell us because the tracks left by Internet search engines (for example Google) and social media (for

example Facebook) are a sort of “digital truth serum” which finally discloses what people actually think, want and do. This is the potential of big data, honest indicators of what goes through people’s minds (almost a “cerebroscope” says Steven Pinker in his preface to the book) and which are especially useful for probing the kinds of behaviour most likely to being subjected to the nefarious psycho-sociological intermediations (reputation, desiderability, protecting your own image, etc.) that lead people to lie: discriminatory attitudes (racism, homophobia, sexism), sexual behaviours, health problems, stigmatised conditions (for example mental illness) or socially frowned upon, banned or straightforwardly criminal practices (addictions, abortion, child abuse, harassment, etc.). A gargantuan data party, in short, that would turn these big data into a genuine panopticon from which little or nothing of what happens in the human mind could be removed.

But what exactly is big data’s potential to open up that “new path for social science in the 21st century” which Pinker envisions in the preface? At the end of chapter 2 (pages 53-54), Stephens-Davidowitz gives a summarised answer to this question by sketching the plan he will develop in the central part of the book (“The Powers of Big Data”), where, the burden of proof, he provides the results of the dozens of studies he has conducted with digital data, albeit with a deep-seated fondness for what can be done using Google algorithms.

To begin with, these digital data are “honest data”: “In the pre-digital age, people hid their embarrassing thoughts from other people. In the digital age, they still hide them from other people, but not from the internet and in particular sites such as Google or Pornhub, which protect their anonymity. These sites function as a sort of digital truth serum”. (page 54). And they are “honest”, says Stephens-Davidowitz, not only because anonymity is protected, but also because the user has an “incentive” not to distort the digital trail they leave in their wake (searches, visits to websites, etc.): getting their needs met. If I am depressed, I may not admit it in a survey, but it does not make much sense for me to search the internet for information

if I really am not or unless I want to help someone who is. There are no two ways about it.

More subtle and revealing is the argument that the potential of these new big data is not, against all expectation, that they are “big” but rather that they are “new”. They are “a new type of data”, “unconventional” data; at first glance trivial, even ridiculous, yet available with no restriction other than the analyst’s imagination to turn them into relevant social indicators. “The big data revolution is less about collecting more and more data. It is about collecting the right data” (page 62). The right data; that is to say, the significant data from among the inextricable digital tangle we have to hand. The potential of this revolution that the author foretells (and exemplifies with his books and papers) depends on setting off the imaginative spark in social scientists which examines searches for jokes about people of colour to map racial prejudice in the United States and relate it to the territorial distribution of electoral support for Donald Trump. Or which investigates pornography websites to estimate the high percentage of American homosexuals who have not yet dared to “come out of the closet” in the most intolerant states. Or which traces interest in ways of inducing an abortion (pills, herbs, vitamin C overdoses, etc.) to challenge the credibility of official figures in this field. Or which observes the frequency and distribution of “my mum/my dad hits me” searches to reconstruct the state of child abuse by linking it to the unemployment rate in particular places and at certain times.

This is the meaning of the revolution heralded here by Stephens-Davidowitz: shifting this “evidence” to the category of “data” which are significant for social research. A revolution whose advent will require, probably more than ever before, that intangible factor which hangs around his proposal: the “scientific imagination”, which in this arena can only be nourished by rigorous epistemological training that helps to pose the relevant questions and look for the best way to give them an empirically-based answer. It is not surprising, then, that it is these *apostles* of the algorithm (some excessive; others restrained) who are once more advocating (see also Finn, 2018) what had already been proclaimed half a century ago by Wright Mills (1961): turning the “sociological imagination” into the only valid attitude to properly address the world’s previously analogical and now digital complexity.

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Books Review

BOUNEGRU, L.; GRAY, J.; VENTURINI, M. (EDS.)
A field guide to "Fake News" and other information disorders. A collection of recipes for those who love to cooke with digital methods
 Amsterdam: Public Data Lab, First Draft, 2017, 216 p.



The Public Data Lab and First Draft have published a guide that explores the use of digital methods to study fake news and other information problems caused by the new socio-technological ecosystem.

The publication is practical and has a dynamic and visual format which makes extensive use of icons and infographics. It gives readers step-by-step "recipes" to solve

specific problems by using specific tools and following detailed procedures. It gives particular attention to the case of the social network Facebook.

The guide is structured into five thematic chapters. Each one has a brief introduction and is then organised in the form of answers to a series of proposed key questions. These chapters are devoted to the following topics: identification of the triggers that provoke the appearance and distribution of fake news on Facebook; an analysis of the dynamics of the circulation of such news on the web; the use of search and tracking programs (tracker signatures) to determine the techno-commercial structures that support fake news websites; a study of the content generated and distributed by political memes and the spaces that these occupy on Facebook; and, lastly, the detection and characteristic practices of trolls on Twitter.

Some of the responses to the problem of misinformation in the network presented throughout the book include: the strengthening of media education, the promotion of initiatives, educational projects, and the verification of facts, or the development of new laws, policies, and sanctions for companies which fail to fulfil their obligations. Finally, there is a section with general conclusions and a glossary of the main terms used.

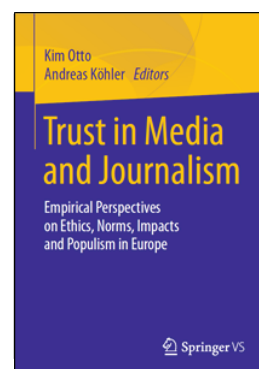
Available at: <<http://fakenews.publicdatalab.org>>

OTTO, K. | KÖHLER, A. (EDS.)
Trust in Media and Journalism. Empirical Perspectives on Ethics, Norms, Impacts and Populism in Europe.
 Wiesbaden [Germany]: Springer VS, 2018, 179 p.
 ISBN: 978-3-658-20764-9.

Trust in Media and Journalism presents a general perspective on empirical research regarding the causes, consequences, and determining factors of mistrust in the media and journalism.

This volume, edited by Kim Otto and Andreas Köhler, reflects the new perspectives, methodological approaches, and updated results that emerge from the work of researchers in communication and various international conferences. Additionally, it addresses four factors that affect levels of public confidence: trust in the message, in the source, in the medium, and also the public's general disposition to trust.

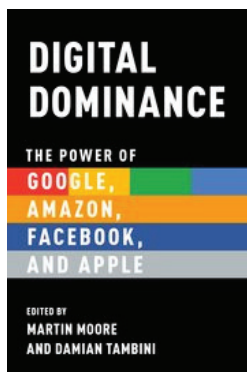
The body of the publication is made up of three parts: *Part I* deals with the problem of mistrust from an ethical and normative perspective. It asks questions such as what is meant by "confidence" in the media, which rules or standards should govern the verification of news content, and the application of journalistic norms to tweets as informative messages. *Part II* studies the impact of the European economic crisis, use of the media, and the usual dynamics of scepticism and credibility of people with general levels of distrust in the media. Finally, *Part III* addresses the issue of populism and asks journalists to respond to criticism from European right-wing populist movements or accusations of bias and lies in the news.



MOORE, M.; TAMBINI, D.

Digital Dominance. The Power of Google, Amazon, Facebook, and Apple.

New York: Oxford University Press, 2018, 423 pages.
ISBN: 9780190845124.



The book by Martin Moore and Damian Tambini contributes to the debate about the regulation of the Internet and the new big multinationals dominating the digital industry.

Digital Dominance discusses the need to develop new legal and conceptual tools to deal with the effects of power demonstrations by these technological firms, as well as

the unprecedented monopoly they exert on personal data and the configuration of flows of information and public opinion.

The work is structured into three broad sections that separately address the economic, political, and social impact of the accumulation of power by Google, Apple, Facebook, Amazon and Microsoft, also known by the acronym “GAFAM”. In addition to the introductory section written by the authors, the three sections contain a total of fifteen chapters which bring together contributions from some of the most influential researchers worldwide in the various disciplines involved in critical studies about technology and society.

Among other issues, they deal with the rise of disinformation, media manipulation, the loss of information credibility, or the new concepts of media diversity. It also addresses the problems arising from this reality, such as those related to freedom of expression or choice.

Preview available at: <<https://www.amazon.co.uk/Digital-Dominance-Google-Amazon-Facebook/dp/0190845112>>.

UMOJA NOBLE, S.

Algorithms of Oppression: How Search Engines Reinforce Racism.

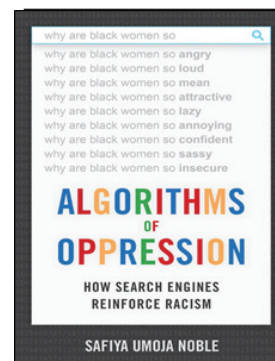
New York: New York University Press, 2018, 256 pages.
ISBN: 9781479837243.

Algorithms of Oppression presents a critical analysis of the role played by search engines (such as Google) and algorithms in the legitimisation of social domination.

Due to their unequal treatment of information about people based on their ethnicity, gender, or skin colour, and given their power to form ideas and identities in the social consciousness, the

author asserts that such algorithms reinforce oppressive social relationships and mask and/or deepen social inequalities. Safiya Umoja refers to all of these practices as “*technological discrimination*”.

The work is divided into six chapters that analyse questions related to the dynamics of information organisation on search engines or the possible mechanisms of protection against discrimination problems. It gives particular attention to cases which reinforce stereotypes about black women and minority communities and social groups. Through an analysis of web content, media dynamics, and digital payment advertising, the book investigates how racism is formed and spread on a network and presents a critique of the supposed “neutrality” of computational and algorithmic processes linked to the phenomenon of Big Data. The author stresses the need to understand the human component of the algorithms and thus *algorithmic discrimination*, since this is the result of the people who create the mathematical models in the first place. Finally, and based on a demand for the achievement of human rights in the 21st century, the author outlines a path towards an ethical algorithmic future from a gender perspective.



SAMPEDRO BLANCO, V.
Dietética Digital. Para adelgazar al Gran Hermano.
 Barcelona: Icaria Editorial, 2018, 264 pages.
 ISBN: 978-84-9888-812-6.



The new book by Víctor Sampedro has the practical objective of serving as a self-defence and self-help manual to deal with the over-abundance and saturation of information to which we are exposed in this new digital environment. It is, therefore, a book which encourages its readers to adopt critical attitudes and to put into practice personal and collective strategies to manage

digital technology with greater autonomy and to make it serve a positive purpose both for the individual and for the community as a whole.

The book is structured in seven chapters (or “menus”) that analyse the new problems resulting from the digital world and the technological and advertising industry. Additionally, and as a supplement to more theoretical reflections, other books, films, television series, and theatrical works are proposed which serve as inspirational and exemplifying elements of the concepts and ideas developed in the book. Some of these works are widely known, such as the *Super Size Me* documentary, around which Sampedro builds an analogy to help understand the toxicity of certain television programming and networks used without control, or episodes of the series *Black Mirror*, which help to highlight for readers the inconsistencies and absurdities of various aspects of current technological development and how this is used by people.

However, beyond simply being a book, *Dietética Digital* is a more complete project which seeks to contribute to giving citizens a critical voice in the face of the digital technological revolution. At the project's website one can find additional initiatives developed around the book, such as sections with resources, practice manuals, and teaching materials for other initiatives. An interdisciplinary work group is also preparing its own materials from workshops and interactions with readers of the book. A blog has also been launched as part of the *Público* newspaper to discuss content from the “free” *Dietética Digital* section of the project's website.

Project website available at: <<http://dieteticadigital.net/>>.

EUROPEAN COMMISSION

A multi-dimensional approach to disinformation. Report of the independent High level Group on fake news and online disinformation.

Luxembourg: Publications Office of the European Union, 2018, 42 pages. ISBN 978-92-79-80420-5.

In January 2018, the European Commission put together a group of experts specializing in fake news and misinformation on the Internet (the HLEG) with the aim of advising the Commission on political initiatives to counteract the spread of all forms of false, inaccurate, or deceptive information designed, presented, and promoted with the intention of provoking public damage or obtaining certain benefits. The main work of the HLEG was the report *A multi-dimensional approach to disinformation*, in which the best practices are analysed in light of fundamental principles, as well as presenting appropriate answers based these principles.

The HLEG warns the Commission against simplistic responses and recommends a multi-dimensional approach realised through a series of short-term proposals for the most urgent problems – notably in the area of self-regulation – as well as long-term solutions to increase the capacity of social resistance to misinformation and to develop a framework to ensure that the effectiveness of these responses is continuously evaluated while developing new evidence-based responses. These measures are in line with the fundamental principles of freedom of expression, freedom of the press, and pluralism, and they seek to: improve the transparency of online news in a manner compatible with data privacy; promote media education and communication to combat misinformation and help users navigate the digital environment; develop tools to train users and journalists to deal with disinformation and foster a positive commitment to rapidly evolving information technology; safeguard the diversity and sustainability of the European media ecosystem; and promote continuous research on the impact of disinformation in Europe in order to evaluate the adopted measures and to constantly adjust the necessary responses.



Available at: <<https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation>>.

MALLO MONTOTO, D.

La difusión en Internet de contenidos sujetos al derecho de autor.

Madrid: Reus Editorial, Fundación AISGE, 2018, 405 p.
ISBN: 978-84-290-2025-0.



La difusión en Internet de contenidos sujetos al derecho de autor is the result of the thesis by attorney and PhD in Law David Mallo Montoto, and is registered in the Intellectual Property Collection of the Reus Publishing House. The monograph studies the evolution of copyrights in the new socio-technological scenario marked by the changes which have arisen since

the emergence of the internet. The potential new global market and the dissemination of works subject to copyright online and in various digital formats requires a change in the classical copyright model, which is defined by the traditional reproduction of works through analogue media. The work reviews academic productions and national, EU, and international jurisprudence in this regard, with special attention to the resolutions of the European Union Court of Justice.

Apart from the prologue, written by Dr Luis Antonio Anguita, the monograph is structured into three large chapters. Starting with an analysis of the history of intellectual property rights, the first chapter offers the reader a historical analysis of copyrights and royalties, including a look at the situation of such rights in contemporary times and in the context of the current digital revolution. The second chapter examines copyrights on the internet. The chapter deals with general issues related to such rights, including their meaning and terminology, and it defines issues related to the author in the work in question. He then addresses the theory of copyrights, the respective moral rights, and the exclusive rights of such assets (reproduction, distribution, public communication, interactive placement or provision, and the right to transform or modify one's works). He also discusses other aspects of copyrights, including the limits of such rights in the digital domain or the Creative Commons, as well as exploitation rights for computer programs. The last chapter focuses on the dissemination of works online, via their physical or digital distribution. The author dedicates the third section of this chapter to discussing the various methods of digital exploitation of works, such as uploading, downloading, streaming, browsing and cloud computing. To wrap up the book, the third chapter concludes with an examination of technological protection measures and information for managing intellectual property rights.

CADENA SER

En Antena. Libro de estilo del periodismo oral.

Barcelona: Taurus, 2017, 394 pages.

ISBN: 978-84-306-1904-7.



The style book of the Cadena SER is divided into two well-differentiated parts consisting of a manual and a dictionary. The manual is structured into six points. The first describes the general principles applicable to all Spanish and American *Prisa Ràdio* broadcasters as unifying elements of the deontological and professional behaviours of its journalists. The second section deals with the general rules of recording, speaking,

and broadcasting, with guidelines for radio language, sound effects, narration, rhythm, and the attitude of the speaker. The third deals with issues related to the writing and editing of news online. The fourth focuses on linguistic aspects and addresses vocabulary, technical, scientific, and common language, and formal aspects of spelling and grammar. The fifth deals with the different types of radio and, finally, the sixth addresses the formats of broadcast programs.

In addition to the dictionary of terms in alphabetical order, the second part of the book includes a series of general criteria related to the styles used, various technicalities, place names, the use of italics, etc. It then demonstrates a few errors which occur quite frequently in the media that should be corrected.

The book also contains a presentation section by Antonio Hernández-Rodicio, a prologue by Vicente Jiménez Navas, a preamble by Augusto Delkàder, and an introduction by Álex Grijelmo. At the end of the book there are three annexed sections which present a compilation of the opinions of well-known Cadena SER communicators, a pronunciation guide for names in other languages, and a chapter dedicated to the use of corporate accounts in social networks.

Journals Review

European Journal of Communication

London: SAGE Publications.

Vol. 2, no. 2. June 2018.

ISSN: 0267-3231. ISSN digital: 1460-3705.

The *European Journal of Communication* published a new issue in June 2018 which opens with Leaks-based journalism and media scandals: *From official sources to the networked Fourth Estate?* by Víctor Sampedro, F. Javier López-Fernández and Álvaro Carretero. This paper provides comparative analysis of the media treatment by the Spanish press of two types of leaks: official ones (the Monedero and Pujol case) and those by anonymous members of the public (Falciani List case). Nora Denner, Nicola Heitzler and Thomas Koch study the media image of chief executive officers given the greater relevance of this image as the representative of the company to which they belong. Beata Ociepka's article reviews the research about the new "public diplomacy" model used by governments as part of their foreign policy strategies. The author discusses the impact of this model on our way of understanding political communication. Meanwhile Oren Golan and Nakhi Mishol-Shauli investigate the role played by the new media journalism and its practitioners online within the ultraorthodox Israeli Jewish community. Finally, Tomás Baviera examines the political conversation on the social media site Twitter during the general election campaigns in Spain in 2015 and 2016. Using social network analysis methodology, the author studies the dynamics of interaction between users in order to evaluate how voting is influenced during election campaigns and evaluate the party preferences of the users analysed.

Available at: <<http://journals.sagepub.com/toc/ejc/current>>.



International Journal of Communication

Los Angeles, California: International Journal on Media Management

Vol. 12, 2018. ISSN: 1932-8036.

These are some of the highlights of this edition of *IJoC*. Michael A. Xenos *et al.*



analyse the relationships between the media outlet, the source of the public's news consumption, and their level of political knowledge. Meanwhile Nan Zhang and Marko M. Skoric investigate how the use of new media affects public engagement with environmental activism and consumerism. Elmie Nekmat and Kellyn Lee conduct a comparative study between the behaviours of the prosocial and trolling communities on Facebook based on types of information exchange behaviours, message contingent interactivity and the proportion of agreement and disagreement in statements. Katherine A. Elder presents a study that analyses the similarities between the propaganda made by the self-styled Islamic State on social media and the propaganda in *The Hunger Games* and *Harry Potter*. Víctor Sampedro and Mayra Martínez Avidad explore the emergence of an alternative digital public sphere in Spain which has demonstrated its influence and has led to the emergence of major social movements such as the Indignados mobilisations in 2011 (15-M). The paper by Jae-Seong Jeong and Seungyoon Lee examines the impact of teenagers' communication behaviours on their acceptance of rumours as well as their perceptions and support for participation regarding a socio-political issue. Carme Ferré-Pavia *et al* investigate the current situation and the evolution of ten media outlets in minority languages, including Catalan, Basque and Galician. Mark Cullinane studies how mediated constructions of the Eurozone crisis in the context of public service broadcasting contributed to recovering the political and economic social imagery. María Luisa Humanes and Sergio Roses study the different journalistic roles in news content in the Spanish press as well as the factors that predict the presence of such roles. The paper by Marc Esteve del Valle and Rosa Borge Bravo investigates the existence of echo chambers in the Twitter accounts of members of the Parliament of Catalonia.

The *IJoC* also presents in this volume five thematic special sections about news media and the public emotional sphere, (un)civil society in digital China, the French social movement known as "Nuit debout", the value of privacy among social groups and the digital traces of information derived from the use of new social media.

Available at: <<http://ijoc.org/index.php/ijoc/issue/view/14>>.

Telos

Madrid: Fundación Telefónica.

No. 108. January-june 2018.

ISSN: 0213-084X. ISSN online: 2340-342X.



Number 108 of *Telos*, the Fundación Telefónica's journal of thought, society and technology, marks the beginning of a new stage for the publication which opens up new topics for a broader spectrum of readers. Both the hardcopy version of the journal and its website have been redesigned to take on a more graphic and visual format.

The new website is updated weekly and geared towards the participation of Internet users.

This issue dedicates its *Central Dossier* to "the digital human", and addresses issues such as the relationship between humans with machines, transhumanism, robotics and artificial intelligence. This section contains articles in Spanish by Iván Mejía "'¿Quién teme a los humanos digitales? [Who's afraid of digital humans?]", Susana Finkelievich and "La tecnificación de los humanos [The technological development of humans]", Antonio Diéguez on "Transhumanismo. Propuestas y límites [Transhumanism. Proposals and limits]", Felipe García exploring "Hacia un nuevo modelo económico viable basado en el conocimiento [Towards a new viable knowledge-based economic model]" and Antonio Rodríguez de las Heras on "El don de lenguas [The Gift of Languages]". Guest author Naief also writes about the potential of artificial intelligence in "Máquinas pensantes, humanos domesticables [Thinking machines, domesticable humans]". This new number further includes an interview with cyborg anthropologist Amber Case who features on its front cover.

In addition, the thematic "Medios de comunicación" section on the new website includes articles about fake news and misinformation. José Manuel Burgueño addresses this issue from the point of view of journalism and the power interests underlying the increase in misinformation. Meanwhile Raul Magallón Rosa talks about the need to regulate content and also the limits and implications of this type of regulation for rights such as freedom of speech. Úrsula O'Kuinghtons addresses the opportunities provided by new blockchain technology to support written, audio or visual content creators. Finally, Rafa Rubio provides a view about the threats posed by fake news for modern politics and the development of the democratic system.

Available at: <https://www.fundaciontelefonica.com/arte_cultura/revista-telos/>.

Ámbitos. Revista Internacional de Comunicación

Sevilla: Grupo de Investigación: Estructura, Historia y Contenidos de la Comunicación. Universidad de Sevilla. No. 40. 2018 (spring).

ISSN: 1139-1979. ISSN online: 1988-5733.

The journal *Ámbitos*, published by the University of Seville, has celebrated its 20th anniversary with the publication of its issue 40 for spring 2018. Two articles, "20 años de Ámbitos [20 years of Ámbitos]" and "20 años fenomenales [20 fabulous years]", written respectively by the journal's editor Ramón Reig and José Manuel de Pablos, look back over the publication's history.



The issue features five articles about a range of topics including sports journalism, accessibility factors and cybermedia quality and how immigration is portrayed in television fiction. It also has a section about the intersections between communication, politics, the media and new technologies that includes a paper by Carlos Elías which deals with fake news and the media's power to influence political events as important as the United Kingdom's Brexit referendum and the election of Donald Trump as President of the United States. Antonio Laguna talks about the effects of the media, political communication and advertising on the development of society and the current political system. From a similar standpoint the paper by Xosé Soengas Pérez reflects on the role of the media as observers of institutions and denouncers of abuses of power in the development of democracy and the operation of the state. In addition, the article also looks at the need for an independent press which helps to meet the public's basic right to information. The paper in Portuguese by Mirian Nogueira Tavares explores the power of journalism in the digital era to contribute to the reconstruction of a credible public discourse based on verified facts. Meanwhile Xosé López addresses the threats and opportunities that come with new technologies such as "smart" automation and also the potential to develop a liberating or controlling role for the public.

Available at: <<http://institucional.us.es/ambitos/>>.

Comunicar. Revista Científica de Comunicación y Educación

Huelva: Grupo Comunicar Ediciones.

Vol. XXVI, no. 55. 2018 (2nd quarter 2018).

ISSN: 1134-3478. ISSN online: 1988-3293.



Comunicar's issue 26 is all about media sphere controversies in public life.

The paper by Roger Cassany, Sergi Cortiñas and Albert Elduque analyses the profile and training of Spanish scientific journalists through interviews, questionnaires and discussion groups with journalists from the main media

outlets in Spain. The authors believe that these people are mainly responsible for conveying rigorous, understandable and quality scientific information to society. Maria-Elena Meneses, Alejandro Martín-del-Campo and Héctor Rueda-Zárate seek to identify how digital public opinion was articulated on Twitter during Donald Trump's visit to Mexico in 2016 which was preceded by his threat to construct a border wall between Mexico and the US. Meanwhile Vanesa Pérez-Torres, Yolanda Pastor-Ruiz and Sara Abarrou-Ben-Boubaker discuss the influence of the contents with the greatest impact on YouTube on the construction of identity of young people in Spain through qualitative analysis of the content of 22 videos. Their purpose is to relate it with the factors affecting the construction of gender identity and sexual orientation, vocational identity and social relationships. Roberto Aparici and David García-Marín set out the differences between two theories which define the role of consumers and have usually been equated: prosumers and emirecs. Anna Clua, Núria Ferran-Ferrer and Ludovic Terren address the difficulties that young people face when it comes to accessing the public sphere as political actors. The authors analyse the press coverage and the impact on Twitter of the information about the dissolution of the Spanish Youth Council. In their paper Antonio Pérez-Manzano and Javier Almela-Baeza report on the potential of transmedia gamification for promoting scientific dissemination and scientific and technological careers among adolescents. The study includes a survey which shows the results achieved by a digital game-based learning project.

Available at: <<https://www.revistacomunicar.com/index.php?contenido=revista&numero=actual>>.

Pixel bit. Revista de Medios y Educación

Sevilla: Secretariado de Recursos Audiovisuales y Nuevas Tecnologías, Universidad de Sevilla.

No. 52. 2018.

ISSN: 1133-8482. ISSN online: 2171-7966.



Issue 52 of *Pixel Bit* is about the inclusion and use of new Information and Communication Technology (ICT) teaching techniques and models at various educational levels ranging from early childhood to postgraduate university studies.

The papers in this issue include one in which María del Carmen Ruiz and Víctor M. Hernández present a study on the inclusion of ICT in early childhood education and focus on technological equipment in the classroom, the teaching use of technological resources by teachers together with their training and attitudes towards the implementation of new techniques and models. Pilar Aristizabal and Esther Cruz show how digital skills are developed in initial teacher training on Early Childhood Education degree courses. Likewise María José Sosa and Ramón Felix Palau examine the potential of the new flipped classroom teaching model for providing teachers with digital and media competencies. The authors conduct a study about the perception and evaluation of students doing a subject in the Early Childhood and Primary Education double degree who have worked with this model. Isabel María Gómez and Mónica Ruiz look at the results of the REDES teaching innovation project which also focuses on the implementation of new ICT-based teaching methodologies in Primary Education degree courses. Meanwhile the papers by Rosa María González and Gladys Del Carmen Medina and by Miriam del Carmen Mireles, José Antonio Ortega and Juan Antonio Fuentes analyse the use of mobile devices as learning tools on postgraduate and doctoral programmes. Likewise the study by Javier Fombona and Francisco Javier Rodil measures the actual use and acceptance of mobile devices in lower secondary education, upper secondary education and vocational training. Another paper in the issue by Miquel Àngel Prats, Alexandra Torres-Rodríguez, Ursula Oberst and Xavier Carbonell shows the benefits of the performance of a pilot study conducted with teenagers focused on promoting healthy internet and social media use.

Available at: <<https://recyt.fecyt.es/index.php/pixel/issue/view/3242/showToc>>.

Websites Review

International initiatives

International Fact Checking Network

<<https://www.poynter.org/channels/fact-checking/>>

The International Fact Checking Network (IFCN) was launched in 2015 and is based at [The Poynter Institute](#). The network has grown over the past few years in terms of the number of fact-checkers worldwide. Some of the IFCN's most notable achievements have been to establish a [Code of Principles](#) that promotes basic standards for fact-checkers, the creation of a [Research Database](#) on fact-checking, fake news and disinformation, as well as the development of tools for independent evaluators that wish to verify sources, such as the online "[Hands-on Fact-Checking](#)" course.

Facebook and national fact-checkers: USA, France, Germany, Italy and the Netherlands

<<https://www.facebook.com/help/1952307158131536>>

Facebook is being helped by fact-checkers certified by the International Fact Checking Network in order to control the accuracy of certain links shared by its users. The multinational has [fact-checking partners](#) in various countries:

- North America: Associated Press, Factcheck.org, PolitiFact, Snopes, and the Weekly Standard.
- France: Agence France Presse (AFP), Desintox from *Libération*, Fake Off from *20 Minutes*, Les Decodeurs from *Le Monde*, Les Observateurs from *France 24*.
- Netherlands: NUcheck from *NU.nl*.
- Germany: Correctiv.
- Italy: Pagella Politica.

The company has reported that it will soon start to collaborate with partners in Asia and Latin America.

Tech & Check News Cooperative

<<https://reporterslab.org/tech-and-check/>>

The Duke University Reporters' Lab has the Tech & Check News Cooperative, a project launched in 2017 and dedicated to automating fact-checking. This cooperative brings together journalists, developers and academics to create new tools that help fact-checkers do their work.

The project focuses on two areas: helping fact-checkers to identify claims to check, one of the most time-consuming tasks for journalists; and also disseminating fact-checking to the public at large. Regarding identification, Tech & Check News is working with scientists at the University of Texas who've developed [Claim Buster](#), a tool that uses an algorithm

to automatically identify factual claims. The Tech & Check [team](#) is also creating trackers that analyse news transcripts and send the most important claims to journalists via email. They're also developing similar tools at the state government level in the US, in collaboration with [Digital Democracy](#). Regarding the dissemination of fact-checking, they're developing apps for mobiles and TV platforms such as Chromecast and Apple TV that will provide instant fact-checking during live events. They've also developed fact-checking apps for digital voice-activated assistants, such as Google Home and Amazon Echo.

Share the Facts project

<<http://www.sharethefacts.org/>>

The Share the Facts project, developed by the [Duke Reporters' Lab](#) and [Google Jigsaw](#), has created a widget to share and spread facts checked by international organisations including PolitiFact, the *Washington Post* Fact Checker and FactCheck.org. Once information has been verified as accurate, Share the Facts provides access to more information related to the content.

Journalism Trust Initiative

<<https://rsf.org/en/news/rsf-and-its-partners-unveil-journalism-trust-initiative-combat-disinformation>>

At the beginning of 2018, Reporters Without Borders (RSF), together with its partners Agence France Presse (AFP), the European Broadcasting Union (EBU) and Global Editors Network (GEN), launched a media self-regulatory initiative designed to combat disinformation online. This is the Journalism Trust Initiative, designed in order to promote the development and implementation of accuracy and transparency standards in journalism by means of the [Workshop Agreement of the European Centre of Standardization \(CEN\)](#).

Credibility Coalition

<<https://credibilitycoalition.org/>>

The Credibility Coalition is an initiative co-founded by [Meedan](#) and [Hack/Hackers](#), forming part of the global MisinfoCon movement launched in February 2017 at the Massachusetts Institute of Technology (MIT). The Credibility Coalition is made up of specialists from different organisations and institutions with the aim of improving information ecosystems and media literacy through transparent and collaborative exploration by the coalition. The project has been funded by the Knight Foundation. Since March 2018 it has been supported by Google News Lab, Facebook Journalism Project, Craig Newmark Philantropies and other private firms.

InVID platform

<<http://www.invid-project.eu/description/>>

InVID is an initiative created by the consortium made up of the Information Technologies Institute from CERTH, Module Technology from MODUL University Vienna, the Universitat de Lleida, the company Exo Makina, the start-up WebLizard Technology, the company Condat AG, APA-IT Informations Technologie from the Austria Press Agency (APA), Agence France-Presse and Deutsche Welle. InVID is a platform that provides services to detect, authenticate and check the reliability and accuracy of newsworthy video files and audiovisual content of public interest that are disseminated via social media. InVID is aimed at news agencies, newspapers and publishers, among others, to enable them to integrate checked social media content into their news output.

Report: Fact-checking triples over four years

<<https://reporterslab.org/tag/fact-checking-census/>>

According to the annual census carried out by the research institute Duke Reporters' Lab of Duke University (North Carolina), since 2014 number of fact-checkers around the world has grown from 44 to 149. Of these, 41 have been in business for more than five years and a group of 6 have now enjoyed 10 years of nearly continuous operation. The Duke Reporters' Lab also provides a [world map](#) of fact-checkers.

Regarding their affiliation, 87% of fact-checkers in the US are directly linked with the media, a situation which only occurs with 53% of the fact-checkers in the rest of the world. The non-media fact-checkers include projects affiliated with universities, think tanks and non-partisan watchdogs focused on government accountability, and well as other independent fact-checkers, including nonprofit organisations and those run by volunteers.

Report: The Rise of Fact-Checking Sites in Europe

<<https://reutersinstitute.politics.ox.ac.uk/our-research/rise-fact-checking-sites-europe>>

In November 2016, Lucas Graves and Federica Cherubini, from the Reuters Institute for the Study of Journalism (University of Oxford) published the study entitled *The Rise of Fact-Checking Sites in Europe. Digital News Project 2016*, which analyses the increase in websites devoted to fact-checking in Europe. The study believes that independent political fact-checkers can be seen as "a new democratic institution" insofar as they promote truth in public discourse.

United States

AP Fact Check

<<https://www.apnews.com/tag/APFactCheck>>

The fact-checker of the independent news agency Associated Press is dedicated to checking media and political discourse in the United States and the rest of the world. As part of its *Science Says* section, it also offers verified information on health, medicine, biology, space, climate and the environment.

Checking Language: English.

Coverage: United States and international.

This fact-checker is a Facebook partner.

Factcheck.org

<<https://www.factcheck.org/about/our-mission/>>

Factcheck.org is a nonpartisan, nonprofit organisation. This fact-checker monitors the factual accuracy of what is said by US political players in the form of TV ads, electoral debates and speeches, interviews and press releases. Factcheck.org belongs to the Annenberg Public Policy Center of the University of Pennsylvania.

Checking Language: English.

Coverage: United States and international.

This fact-checker is a Facebook partner.

PolitiFact

<<http://www.politifact.com/>>

PolitiFact was launched in 2007 as part of the *Tampa Bay Times* (afterwards *St. Petersburg Times*), Florida's leading newspaper. Recently this fact-checker has been taken over by The Poynter Institute and consequently, today it is an independent, nonpartisan and nonprofit organisation. Since it was launched, PolitiFact has focused on verifying the degree of accuracy of political statements.

Checking Language: English.

Coverage: United States and international.

This fact-checker is a Facebook partner.

Snopes.com

<<https://www.snopes.com/>>

Snopes.com, founded 23 years ago, is the oldest registered fact-checker and was launched due to its founder, David Mikkelsen, wanting to disprove urban legends and hoaxes (hoax-busting). Snopes now fundamentally verifies political statements but also other content of social interest. It's financed solely via team contributions and does not receive any external funding.

Checking Language: English.

Coverage: United States and international.

This fact-checker is a Facebook partner.

TWS Fact Check

<<https://www.weeklystandard.com/tag/tws-fact-check>>

The Weekly Standard and Facebook started up Fact Check, designed to monitor political statements, news agency reporting and statements made on the internet.

Checking Language: English.
Coverage: United States and international.

Climate Feedback

<<https://climatefeedback.org/>>

Climate Feedback is a worldwide network of scientists that collectively assess the accuracy of the most influential media coverage on climate change. They define their mission as pedagogical and nonpartisan and their main aim is to help readers, both the general public and key decision-makers, to differentiate inaccurate discourse on climate change from reliable, scientific information. The project is hosted and mainly funded by the Center for Climate Communication, of the University of California Merced, and many of its members are doctors with experience in influential scientific publications.

Checking Language: English.
Coverage: international.

Fact Checker (*The Washington Post*)

<https://www.washingtonpost.com/news/fact-checker/?utm_term=.8c40fba1b7b5>

The fact-checker of *The Washington Post* was launched in 2007 with the aim of being used as a tool during the 2008 US presidential elections. This fact-checker focuses on monitoring the statements made by key political figures regarding important facts, be they local, national or international. It also works to explain the context of other complex information.

Checking Language: English.
Coverage: United States and international.

Gossip Cop

<<https://www.gossipcop.com/>>

This fact-checker verifies the accuracy of entertainment news, mainly related to Hollywood and celebrities. Gossip Cop monitors websites, TV programmes, newspapers and magazines in order to spot false rumours and debunk them. The company has no affiliation with any political parties, advocacy groups, media organisations, TV or movie studios, or celebrity management, public relations or talent agencies.

Checking Language: English.
Coverage: United States.

News 3 Reality Check

<<https://www.channel3000.com/news/politics/reality-check>>

One example of a local fact-checker is the one set up by the US TV channel *WISC-TV (News 3)*, another of the oldest fact-checkers which, for the past 14 years, has verified political statements and TV ads locally in Wisconsin, especially at election time.

Checking Language: English.
Coverage: local, Wisconsin (USA).

United Kingdom

BBC Reality Check

<<http://www.bbc.com/news/topics/cp7r8vgl2rgt/reality-check>>

The aim of the BBC News Reality Check is to assess and explain the degree of accuracy of different types of news content and statements relevant for the United Kingdom. The project was launched during the 2015 election and was revived for the Brexit referendum.

Checking Language: English.
Coverage: United Kingdom and international.

Fact Check UK

<<https://theconversation.com/uk/topics/fact-check-uk-15076>>

The UK newspaper, *The Conversation*, has a Fact Check UK section dedicated to verifying a range of news stories. Articles are written by academics and specialists and edited by professional journalists. It belongs to The Conversation Trust UK Limited, the British equivalent of *The Conversation Australia*, which also has its own [fact-checker](#).

Checking Language: English.
Coverage: United Kingdom /Australia.

France

Les Décodeurs

<<http://www.lemonde.fr/les-decodeurs/>>

Les Décodeurs is the fact-checker for the French newspaper *Le Monde*. It focuses on identifying and debunking declarations, statements and rumours of all kinds, placing them in context and within today's news, as well as providing explanations for the newspaper's readers.

Checking Language: French.
Coverage: France and international.
This fact-checker is a Facebook partner.

Désintox and Checknews

<<http://www.liberation.fr/desintox,99721>>

The French newspaper *Libération* has Désintox, a section created in 2008 devoted to detecting and correcting lies and errors of all kinds in the discourse of politicians and public officials. This fact-checker is a Facebook partner.

Since the French presidential elections in 2017, *Libération* also has “[CheckNews. The human search engine](#)”. Given the millions of results provided for each question by the customary search engines (such as Google and Bing), CheckNews is a new search engine that replaces algorithms with journalists who verify the information and provide, in response, a number of results checked and ordered using the criteria of accuracy and information quality.

Checking Language: French.
Coverage: France and international.

Factuel

<<https://factuel.afp.com/>>

Factuel, the fact-checker of Agence France Presse (AFP), was launched in response to the increase in fake news across the media. On this website, AFP journalists debunk inaccuracies and provide the necessary context to understand the information.

Checking Language: French.
Coverage: France and international.
This fact-checker is a Facebook partner.

Fake Off

<<https://www.20minutes.fr/societe/desintox/>>

After the latest US presidential elections, the French newspaper *20 Minutes* launched Fake Off, a section devoted to verifying the most viral and latest content and also content that is repeatedly passed on.

Checking Language: French.
Coverage: France and international.
This fact-checker is a Facebook partner.

Les Observateurs

<<http://observers.france24.com/fr/>>

Les Observateurs is a website in four languages (French, English, Arab and Persian) from the French TV channel *France 24*, a consortium between the state holding France Télévisions and the private broadcaster TF1. Les Observateurs selects, verifies, translates and explains texts, videos and photographs generated by a network of amateur collaborators who produce content and send it to the media.

Checking Language: French, English, Arab and Persian.
Coverage: France and international.
This fact-checker is a Facebook partner.

CrossCheck

<<https://firstdraftnews.org/project/crosscheck/>>

CrossCheck is an online project set up to provide verified information. During its first phase, the 2017 presidential elections, the project's collaborators totalled 37 different French and English media, including the Agence France Presse. The project is related to the Harvard Kennedy School.

Checking Language: English and French.
Coverage: international.

Canada

Détecteur de rumeurs

<<http://www.sciencepresse.qc.ca/detecteur-rumeurs>>

Set up in 2017, this fact-checker aims to verify scientific information in French. It belongs to the [Agence Science Presse](#), a nonprofit, independent media organisation founded in Montreal in 1978, whose mission is to feed the media with scientific news.

Checking Language: French.
Coverage: Francophone.

Germany

Correctiv

<<https://correctiv.org/en/>>

Correctiv is the first nonprofit investigative newsroom in the German-speaking world. It aims to help investigative journalism to be accessible for all German media organisations. Correctiv has also initiated an education programme to pass on the methods of investigative journalism. The aim is to help empower citizens to gain access to information and promote transparency.

Checking Language: German.
Coverage: Germany.
This fact-checker is a Facebook partner.

Fakt oder Fake

<<https://www.zeit.de/serie/fakt-oder-fake>>

The fact-checker Fakt oder Fake is linked to the weekly newspaper *Zeit Online* (the online version of *Die Zeit*). The newspaper's finance reporters and editors check the accuracy of news related to German tax, employment and companies.

Checking Language: German.
Coverage: Germany.

StimmtDas

<<https://www.stimmtdas.org/>>

StimmtDas is an independent, nonprofit platform dedicated to verifying important German political statements published in newspapers, in TV debates and on social media. This fact-checker does not include evaluations or opinions. Its team, based in Berlin, works voluntarily and it is currently unfunded.

Checking Language: German.

Coverage: Germany.

Italy

Pagella Politica

<<https://pagellapolitica.it/progetto/index>>

Pagella Politica is an initiative dedicated to checking and assessing the accuracy and objectivity of the political statements made the main Italian political representatives. As noted by the website, team members cannot belong to any political party, movement or pressure group. Pagella Politica was set up as a voluntary project funded by the founding members themselves. Today it's financed by its clients. In this respect, Radiotelevisione Italiana (RAI), the Agenzia Giornalistica Italia (AGI) and EastWest contributed almost 90% of Pagella Politica's income in 2016 and 2017.

Checking Language: Italy.

Coverage: Italian.

This fact-checker is a Facebook partner.

Netherlands

NUcheck

<<https://www.nu.nl/nucheck>>

In the Netherlands, the online newspaper *NU.nl* and the Universiteit Leiden have collaborated since 2017 with Facebook to combat the rise in misinformation on this social media site. Part of the work carried out by the fact-checkers is to verify the content which users complain about and pass this on to Facebook. NUcheck underlines that neither the newspaper nor the university receives funding from the social media site and that it works independently from the multinational.

Checking Language: Dutch.

Coverage: international.

This fact-checker is a Facebook partner.

Norway

Faktisk

<<https://www.faktisk.no/>>

Faktisk is a fact-checker launched by a group of Norwegian journalists, editors and designers. It's an independent, nonprofit organisation dedicated to verifying information in circulation related to Norwegian public debate and discourse. It is funded by subsidies from nonprofit organisations, foundations and other sponsors/shareholders that identify with the company's aims. The company's statutes require that Faktisk work according to the self-imposed ethical guidelines of the Norwegian media. The company is a member of the Mediebedriftenes Landsforening (MBL) (Norwegian media association) and Norsk Presseforbund (Norwegian press association).

Checking Language: Norwegian.

Coverage: Norway.

Portugal

Fact Checks do Observador

<<https://observador.pt/seccao/observador/fact-check/>>

The Portuguese newspaper *Observador* has its own fact-checker devoted to measuring and explaining, in context, the accuracy of statements made by representatives of the government and the rest of the country's political parties.

Checking Language: Portuguese.

Coverage: Portugal.

Spain

Maldita.es

<<https://maldita.es/>>

Maldita.es is an independent Spanish media initiative. Its aim is to fact-check the content of Spanish political discourse and information circulating the social media. It's divided into two parts: Maldita Hemeroteca and Maldito Buló. Maldita.es has a weekly section entitled "[Pruebas de verificación](#)" (verification proof) from the TV programme *El Objetivo*, on *La Sexta*. It also collaborates on a daily basis with the radio programme *Julia en la Onda*, on *Onda Cero Radio* and sometimes with the online newspaper *elDiario.es*. It also took part in the electoral interviews on the Catalan radio station *RAC1* during the Catalan elections in 2017.

Checking Language: Spanish and Catalan.

Coverage: Spain.

La Chistera

<<https://blogs.elconfidencial.com/espana/la-chistera/>>

The Spanish newspaper *El Confidencial*, co-founded in 2001 by Jesús Cacho, has La Chistera, a blog dedicated to fact-checking. Through this blog, every week the newspaper monitors the accuracy of statements made by key figures in the political and social news. The project was set up at the end of 2015 during the country's general elections.

Checking Language: Spanish.
Coverage: Spain.

Polétika

<<http://poletika.org/>>

Polétika is an independent Spanish organisation, made up of organisations, platforms and movements from civil society and financed exclusively through their contributions. These movements work in different areas (development, foreign affairs, tax, education, health, wages, social protection, participation, children, climate change and gender). Polétika monitors what the Spanish government and the rest of the main political parties do and say in relation to these areas and policies that may help to reduce inequality.

Checking Language: Spanish.
Coverage: Spain.

Rest of the world

Agência Lupa

<<http://piaui.folha.uol.com.br/lupa/>>

Agência Lupa is the first fact-checker in Brazil, created in 2015. Lupa monitors daily news items on politics, the economy, cities, culture, education, health and international relations, prioritising statements made by renowned figures and issues of particular interest to Brazil. Once identified, the misinformation is corrected and the correct details provided. The agency sells the results of its work to other media companies and also publishes them online. Its financing comes from such sales and it's also supported by Editorial Alvinegra and sometimes by other companies, such as Google.

Checking Language: Portuguese.
Coverage: Brazil and international.

Chequeado

<<http://chequeado.com/>>

Chequeado is the main project by the Argentinian foundation La Voz Pública. It's a nonpartisan, nonprofit online media organisation that fact-checks the country's public discourse and promotes access to information and data. In 2017, Chequeado launched [Chequeabot](#), a project that works on automating fact-checking, using empirical methods in natural language processing. This bot tracks political statements based on data in online media.

Checking Language: Spanish.
Coverage: Argentina and international.

Africa Check

<<https://africacheck.org/>>

Africa Check is the first independent organisation devoted to fact-checking on the African continent. It was set up in 2012 in order to encourage rigorous public and media discussion and to ensure African society had access to good quality information. This independent organisation was created by the nonprofit division of the international news agency Agence France Press. Africa Check verifies information from areas related to issues such as crime, racism and health. The [Senegal division](#) of Africa Check works in the French-speaking part of the continent.

Checking Language: English and French.
Coverage: South Africa and francophone Africa.

GoHoo

<<http://gohoo.org/>>

In Japan, GoHoo, from the Watchdog for Accuracy in News Reporting of Japan, fact-checks the accuracy of information disseminated by the national media on a wide range of issues of political importance for the country. It's nonprofit and financed via donations and crowdfunding.

Checking Language: Japanese.
Coverage: Japan.

Manuscript submissions guidelines

Presentation of the articles

The article must be presented in electronic support (PC and Word format preferred). Every page must be 30 lines approx. and **body size 12**. The maximum length is about **6.000 words**.

The cover sheet has to be provided only giving the title, the name of the author(s) and position, postal and e-mail addresses. The article has to include an **abstract of 90-100 words and five keywords**.

Articles will be accepted in **Catalan, Spanish and English**.

Submission

Articles should be addressed at: quadernsdelcac@gencat.cat

Copyright clearance

Every author whose article has passed the blind review and has been accepted for publication must send to CAC a signed letter accepting the text publication by CAC in its journals and website (<<http://www.cac.cat>>) and confirming that the article is original, unpublished and is not assessed in other publications, being the author responsible of any reclaim due to the non-fulfilment of this warranty. .

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08017 Barcelona

References and notes

The list of references and end notes has to be placed at the end of every article. References in the text must appear into brackets with the name of the author, the year of edition and the pages. (Name year, pages).

The model used for citing the bibliography must follow the criteria given by TERM CAT, which may be consulted at:

<<http://www.termcat.cat/docs/docs/Bibliografia.pdf>>

[in Catalan]

• Books

LAST NAME; INITIAL/INSTITUTION. TITLE. EDITION. PLACE OF EDITION: PUBLISHER, YEAR. VOLUME. (COLLECTION, NUMBER). ISBN NUMBER

• Articles in journals

LAST NAME; INITIAL. "TITLE OF THE ARTICLE". JOURNAL. VOLUME. (YEAR), ISSUE NUMBER, PAGES. ISSN (OPTIONAL)

• Contributions to books

LAST NAME; INITIAL/INSTITUTION. "TITLE OF THE CHAPTER". IN: LAST NAME; INITIAL/INSTITUTION. TITLE. EDITION. PLACE OF EDITION: PUBLISHER, YEAR. VOLUME. (COLLECTION, NUMBER). ISBN NUMBER

• Online documents

LAST NAME; INITIAL/INSTITUTION. TITLE [ONLINE]. EDITION/VERSION. PLACE OF EDITION: PUBLISHER, YEAR.

<URL ADDRESS>[CONSULTED: DATE]

Tables and figures

Tables and figures have to be provided with **short, descriptive titles** and also be numbered in Arabic numbers. All footnotes to tables and their source(s) should be placed under the tables. They must be inserted not as an image but in an **editable format** (e.g. in Excel).

Colour figures, tables and graphs are admitted and they all should have the **source well identified**.

Book reviews guidelines

1. The aim of the section 'Critical books review' is to review the most important new publications in the world of communication and particularly in the field of broadcasting.
2. Reviews must be original and previously unpublished.
3. Reviews must be adequate for readers to get a general idea of the content of the book under review, as well as providing a personal assessment of its interest. The review must therefore contain a description and analysis of the book, as well as some conclusions indicating its value and importance to readers.
4. The recommended length for reviews is around 1,000 words, not exceeding 1,300 words in any case.
5. Reviewed books must be contemporary, i.e. they must have been published during the last two full calendar years, although an earlier book may be included if duly justified.
6. The review must be given a title that summarises its content, with the bibliographical details and the author of the review below, including his or her position and the institution to which he or she belongs.
7. The model used for citing the bibliography must follow the criteria given by TERMCAT, which may be consulted at: <http://www.termcat.cat/docs/docs/Bibliografia.pdf>
[in Catalan]
LAST NAME; INITIAL/INSTITUTION. *Title*. Edition. Place of edition: Publisher, year. Volume. (Collection, number). ISBN number
8. The author should be introduced briefly by commenting on his or her background or most recent work.
9. The most important part of the review is the summary and analysis of the content. Here it is necessary to explain the field in which the book is placed, the perspective adopted by the author, the goals the author sets him or herself and the fundamental thesis of the book and how it is developed.
10. The critical evaluation should be generally positive but negative comments can also be included, in both cases suitable arguments being required. Readers must be informed regarding the value, interest and usefulness of the book under review. If relevant, other details can also be included, such as the use of sources, documentation, the bibliography used by the author, the book's formal presentation, etc.
11. Any possible references to text from the book under review must be written in inverted commas, with the page number afterwards, in brackets. "Quote" (p.XX)
12. Bibliographical references to third parties cited in the text of the book under review must use the following model: (Last name year, page number)
13. Bibliographical references from other works quoted in the review must be contained in full at the end, using the same format as the initial bibliographical reference but excluding the ISBN.
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15. The book review editor will evaluate every submitted review, in order to approve its publication or ask for some modification for its definitive publication
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17. After a review has been accepted, the author must authorise the CAC to publish his/her review in any of its written publications and on its website (<<http://www.cac.cat>>), by means of a signed letter. In the letter the author must confirm that the article is original, unpublished and is not assessed in other publications, being the author responsible of any claim due to the non-fulfilment of this warranty. Letters should be addressed by e-mail to quadernsdelcac@gencat.cat or by post mail to:
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