


## INVESTIGACIÓN/RESEARCH

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### THE CONSTRUCTION OF A HEMEROGRAPHIC LITERATURE REVIEW. AN EXAMPLE FROM THE CONCEPTS OF FAKE NEWS, POST-TRUTH, AND MISINFORMATION IN THE WEB OF SCIENCE (WOS) ENVIRONMENT

*La construcción de un estado de la cuestión hemerográfico. Un ejemplo a partir de los conceptos fake news, posverdad y desinformación en el entorno de web of science (WoS)*

 **Gabriela Gómez-Rodríguez.** University of Guadalajara. Mexico. <sup>1</sup>  
[gabriela.grodriguez@academicos.udg.mx](mailto:gabriela.grodriguez@academicos.udg.mx)

 **Rodrigo González Reyes.** University of Guadalajara. Mexico.  
[rodrigo@suv.udg.mx](mailto:rodrigo@suv.udg.mx)

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#### ABSTRACT

This article exemplifies a literature review of the concepts of fake news, post-truth, and disinformation, in the Web of Science database. The idea of creating a state of the art, despite being a routine activity in research processes, implies accounting for the unique differences when addressing emerging issues (such as the concepts discussed here) and, particularly, in the last 15 years, from hemerographic tools, in turn, based on hemerometric tools. Through a hemerographic tracking with the resources provided by Web of Science, a systematization is carried out to offer a sample of the possibilities of that base to elaborate a literature review. It was found that this tool, -although with restricted access- is very useful for the elaboration of the first thematic

<sup>1</sup> Gabriela Gómez-Rodríguez. University of Guadalajara. [gabriela.grodriguez@academicos.udg.mx](mailto:gabriela.grodriguez@academicos.udg.mx)  
Doctor in Communication from Concordia University. Professor-Researcher at the Department of Social Communication Studies. She collaborates in the lines of research: violence-media, journalism, television and SVoD, reception studies, scientific communication. Member of the National System of Researchers.

Gómez-Rodríguez, G. y González Reyes, R.

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maps in the search for emerging topics and the identification of research core by disciplinary areas, authors, and conceptual differences.

**KEYWORDS:** Web of Science - fake news - post-truth - misinformation - literature review.

## RESUMEN

En este artículo se ejemplifica una búsqueda de estado de la cuestión en relación a los conceptos *fake news*, posverdad y desinformación, en la base de datos Web of Science. La idea de la confección de un estado de la cuestión, a pesar de ser una actividad de rutina en los procesos de investigación, implica dar cuenta de las diferencias singulares cuando se abordan temas emergentes (tales como los conceptos aquí tratados) y, particularmente, en los últimos 15 años, a partir de herramientas hemerográficas, a su vez, basadas en herramientas hemerométricas. Mediante una rastreo hemerográfico con los recursos que provee Web of Science, se lleva a cabo una sistematización para ofrecer una muestra de las posibilidades de esa base para elaborar un estado de la cuestión. Se encontró que esta herramienta -si bien de acceso restringido- es muy útil para la elaboración de los primeros mapas temáticos en la búsqueda de tópicos emergentes y la identificación de núcleos de investigación por áreas disciplinares, autores y diferendos conceptuales.

**PALABRAS CLAVE:** Web of Science - *fake news* - posverdad - desinformación - estado de la cuestión.

## A CONSTRUÇÃO DE UM ESTADO DA QUESTÃO HEMEROGRÁFICA. UM EXEMPLO DOS CONCEITOS FALSIFICADOS, PÓS-VERDADE E DESINFORMAÇÃO NO MEIO AMBIENTE DA WEB OF SCIENCE (WOS)

## RESUMO

Este artigo exemplifica uma busca pelo estado da questão em relação aos conceitos de notícia falsa, pós-verdade e desinformação, na base de dados Web of Science. Apesar de ser uma atividade rotineira nos processos de pesquisa, a ideia de criar um estado da arte implica dar conta das diferenças singulares na abordagem de questões emergentes (como os conceitos aqui discutidos) e, principalmente, nos últimos 15 anos, a partir da hemerografia, e suas ferramentas, por sua vez, baseadas em ferramentas heterométricas. Por meio de um rastreamento hemerográfico com os recursos disponibilizados pela Web of Science, é realizada uma sistematização para oferecer uma amostra das possibilidades daquela base de elaborar um estado da questão. Verificou-se que esta ferramenta -embora com acesso restrito- é muito útil para a elaboração dos primeiros mapas temáticos na busca de temas emergentes e na identificação de núcleos de pesquisa por áreas disciplinares, autores e diferenças conceituais.

**PALAVRAS CHAVE:** Web of Science - notícias falsas - pós-verdade - desinformação - estado da arte.

Translation by **Paula González** (Universidad Católica Andrés Bello, Venezuela)

## 1. INTRODUCTION

### 1.1. The intention of this article

Literature review, as a specialized section of the research process, is usually defined as the section of the document in which a broad panorama of the synchronic and diachronic treatment of a topic or, better yet, of an object of study is presented; this treatment is, by definition, documentary. Although the idea of the literature review is not usually subject to double meanings or ambiguities, as is the case with other sections, it does present other types of problems, more logistical than semantic, such as: what type of documents applies to the term "documentary"? What hierarchy do they keep between them? How current is a particular type of document?

Until relatively recently, some fifteen or twenty years ago, these questions were less problematic and literature review was simply built based on what was at hand, represented by the bibliographic and newspaper collections of the nearest libraries, institutional collections of different types, personal safeguards, and, to a much lesser extent, electronic catalogs of databases opened on the internet and subscription databases, still very sparsely populated, or very expensive and not very lavish. Following up on long-term international research agendas, rescuing them back in time, keeping the thread of a debate outside the closest academic circles, and keeping a certain vigilance on a certain group of authors, was, many times, a mere fantasy.

However, based on the technological advances facilitated by the arrival of the Internet to the different fields of information sciences, academic hemerography allows, nowadays, not only to achieve what was unthinkable two decades ago but also and above all, to extend and enhance informative searches and systematization based on the use of hemerographic metrics, turning academic and scientific journals into the center of contemporary literature review (Rogel-Salazar, 2017, pp. 12-13). However, this field has evolved so rapidly that much of its logic remains a new and unknown field of practice for an important part of people who regularly carry out research or documentary systematization activities.

### 1.2. Fake news, post-truth, and misinformation as a current problematic context

Countless messages with diverse contents circulate on the Internet, and many of these contents are exposed as "truth". We are exposed to thousands of informative contents that are sometimes false or that are constructed to spread information that is not truthful, the vast majority of the occasions about misrepresented public matters

that can influence the construction of our opinions on certain topics and agendas. With the arrival of the internet, fake news began to proliferate exponentially, because, through social networks such as Facebook or Twitter, thousands of contents are viralized, reaching millions of people around the world. Let's just think of some recent cases of fake news such as those that revolved around the figure of the former president of the United States, Donald Trump, where at the same time he was the protagonist by manifesting hundreds of false information that many of his followers believed. Or, in the face of the Covid-19 pandemic, dozens of fake news have appeared, particularly related to the political issue (Román-San Miguel et al., 2020, p. 359).

The false-true dichotomy goes hand in hand when we refer to terms such as fake news and post-truth, and about the latter, as stated by Waisbord (2021):

the notion of post-truth is a late fashion label that confirms two convictions: truth is socially determined and forms of knowledge are fractured. The truth demands agreements on norms to produce evidence and facts that confirm what is said. Without such agreements, neither science nor professions inspired by scientific principles, such as journalism, could exist. Without unifying norms there is no truth; there are possible versions, (un) credible and willing to impose their particular vision of the world (par. 4).

How many worldviews have been imposed? We cannot answer it, but we can know which thematic axes or disciplinary areas are discussed in these terms under the labels of misinformation, fake news, and post-truth.

### **1.3. The nature of the literature review**

The phenomenon of post-truth, misinformation, and fake news represents a major thematic problem not only in the field of communication but also in political science, education, psychology, and various other disciplines. In this sense, we know that the idea of "misinformation" has always existed, however, we believe that linked to the concepts of fake news and post-truth it acquires another dimension that can be observed from hemerographic relationships. Although it is not the objective of this work to demonstrate this hypothesis, it is to take it as a "pretext" to analyze and understand the use and development of informative content based on the literature review.

Thus, by establishing themselves as thematic centers in the construction of great current debates and as configurators of important cross-sectional controversies to the spectrum of social sciences, this work will expose, through a review of the WoS database, a snapshot about which disciplines are publishing about the concepts fake news, post-truth, and misinformation, which authors are the most cited, and which concepts are most current and circulating in the different scenarios.

To start and before moving on to technical issues, we assume that the literature review fulfills central metabolic functions in the research, particularly two of them: 1)

generate a historical vision of the treated problem or phenomenon and that we will call the diachronic cut; and 2) generate an updated vision of this problem, in the here and now, which we will call the synchronic cut (Booth et al., 2016, pp. 80-82; Thomson and Walker, 2010, p. 216). The importance of making these two cuts and with it a crossing in both axes, in the manner of a Cartesian plane built from the X and Y axes, is to enable a comprehensive vision that includes the development of problematic agendas throughout time and, at the same time, a detailed vision of the current consensus around the development of the debates that have energized their evolution.

Their function, in this case, is essential if we consider that problematizations can move between fields of knowledge or generate loans that grow, decrease, cross, or extend disciplinary limits and, therefore, the boundaries of the research objects (Flick, 2015, pp. 63-66; Trimmer, 2012, pp. 10 -22).

This is translated by the fact that narrowing the search for a topic to a discipline or disciplinary field, considering that they are native and immovable objects, is like thinking that Spanish is only spoken in the Iberian Peninsula or English in the British islands. Debates grow, diversify, and transform by taking native problematizations and exporting them to other horizons of discussion or, rather, by being imported from external and previously unrelated controversies to their first stage of appearance. As will be explained later and taking it in an exemplary way, it could be thought that topics (or objects) such as post-truth, which originates as a media problem, typical of an ecosystem related to digital communication, will find its maximum field of development in communication studies, when, in reality, it is much more widespread and finds greater treatment in the disciplinary areas of political science.

With this condition and given that literature reviews must be maps on this problematic mobility based on documentary recovery and systematization, the conceptual tracking is a central operation in them since the debates are semantized and objectified in conceptual positions, the debates become series of conceptual positions. Otherwise, ignoring the semantic evolution of a concept or the appearance of more recent and updated conceptualizations is equivalent to ignoring the evolution of the problematization itself and the configuration of the debates from which the objects of inquiry arise, are attenuated, or disappear. Consequently, when a literature review is designed and carried out, in practice a documentary tracking is being done, work with documents, but in essence, a conceptual recognition is being executed from recording its trajectories from its different states and historical phases. Thus, from these trajectories the following problematic states of a debate can be obtained, which are:

- 1) The delimitation of historical debates
- 2) The identification of current debates
- 3) The identification of the state of development of these debates
- 4) The identification of the main authors in the development of these debates

5) The identification of the argumentative positions of these authors

Since the extension of this work does not allow a specific review in the elaboration of each point, we will present in a general way the structure of this route from the review to the data collection process.

#### **1.4. What is a literature review as a documentary entity?**

Although and fundamentally a literature review can (it has always been done), based on documents with physical support (books, journals, documents) and from only pencil and paper, it is undeniable that data science and the transversality of the internet, in academic and research work, allows reaching unprecedented levels of depth and specialization besides drastically shortening document tracking and systematization times (Merriam and Tisdell, 2015, p. 57).

Said differently, although the essence of a literature review will always be methodological (the meaning given to the processes and procedures of information production that becomes given bodies of knowledge) and will not change despite the transformations that operate in technological systems (in this case, information management), emerging techniques in these systems are presented, first of all, as tools for economizing and optimizing data production and its transformation into information (and, therefore, in later bodies of knowledge).

For its part, it is also important to mention that, given that the techniques and their tools change more and more with unusual speed (which implies the inevitable obsolescence of the work skills accumulated by the researcher, and the need for an incessant and regular updating in the technological order), what is truly fundamental in the approach to these techniques, tools, and strategies lies in the competence that through repeated contact with them (and constant experimentation) the researcher generates around the transit of different and emerging technological scenarios. Thus, and with this desire, in the following lines, we present a basic working scheme of the literature review that takes into account the main newspaper tools available to a university researcher, today, who is in a position to access the WoS database.

#### **1.5. Data technologies in the treatment of literature reviews**

As we have commented previously, the growth and transversality of the technologies made possible by the internet allow, in our days, to carry out a multitude of empirical tasks (not only of research but particularly empirical) that were impossible to undertake a decade or a decade and a half ago (Rogers, 2019, p. 7); We know that what we say may sound like a commonplace or our own introductory recipe and nothing new in these issues, but in reality, we affirm that they were impossible to break into, and this in instrumental terms, because among the characteristics of the new web 2.0, there is transversality of indexing processes (particularly indexability) and technical interoperability between indexing tools,

nonexistent just a few decades ago. To better understand the explanation, below we define what we mean by these terms.

Let's start with indexability: this is the ability of certain types of software to track, record, and systematize the "traces" left by the activity and interactions generated by WEB interfaces and their users. When we speak of "traces" we are essentially talking about data. Of data traces. Of course, the internet, as computer technology, has always produced such data, but it was not until relatively recently that such data was confronted with a context with three conditions:

- 1) These data - traces are no longer seen as liminal elements (raw data), that is, as mere consequences of the operation of systems that are on the edge of uselessness (liminality), without any recognized relevant function, for now, become the center of attention and profitability of the operation of the internet (data extractivism).
- 2) The storage capacity and systematization of huge amounts of data was radically cheaper and facilitated, and;
- 3) multiple data management systems (indexes) specialized in particular types and collections of data appeared (Srnicsek, 2019, pp. 39-43).

Thus, indexability, in short, is the parallel provision that the current internet has to produce, on the one hand, data that has a practical orientation and, on the other, to allow, from various applications, its systematization, and use.

For its part, and concerning interoperability, we can say that it is the power that specialized data management systems have to maintain common protocols for data exchange, formatting, and processing. Seen differently, interoperability is the ability of data management systems to allow data produced in one context to be exported and used to fulfill different and diverse functions in other contexts.

Thought from a meta-informatics position, on the other hand, it can be affirmed, following Srnicsek (2019), that data is information about something that happened; while knowledge is information about why that happened (p. 39). From there, the systems that we will deal with, which are hemerographic data management systems (basically made up of large collections of magazines and journals), allow us, rescuing what we stated above, to undertake tasks that were arduous just a few decades ago: have the double opportunity to obtain *data* (how an article, an author, a collection, or a given concept has behaved) and *knowledge* about those behaviors (how it has been integrated into the current bodies of knowledge; how it has been diluted, or how it has been declining or growing throughout a debate). It is precisely in this double opportunity that we will focus our examples on the following lines.

## **1.6. The hemerographic treatment of data in a literature review**

From different angles of information science and data computing, important scientific and hemerometric data management tools based on both liminality and the

production of motivated data have been developed over the last two decades and a little longer. Applications such as Sitkis, Bibexcel, HistCit, BibTechMon, CiteSpace, and VosViewer are some of the best-known and most widely used contributions throughout these twenty-something years, some of which are newer than others. Some have been openly replaced by more versatile and friendly programs and others have been renewed or have just emerged and remained at the center of the spotlight, generating a wide, miscellaneous, and diverse offer but difficult to cover by the neophyte and the non-specialized person.

All of them, apart from the suffered vicissitudes and the undeniable utility that they have represented in different technical aspects, have been thought of as hemerographic management tools (rather than bibliographic) that facilitate running co-occurrence analysis, generate graph-matrices, produce a visualization of data structures, all operations that, undeniably, are considered of great heuristic value in the preparation of a literature review, although, in practice, they end up constituting a very closed and specialized, basically niche, tool block.

For its part, the learning curve is not fast, technical training takes time and referencing with library and derivative terminology requires its own documentation. However, within the technical evolution of the hemerographic ecosystem, the main collections of periodical publications have also adapted and optimized their document tracking and systematization functions, giving rise to highly friendly, simplified, adaptive, and responsive interfaces, capable of combining complex systems of crossing variables in synthetic predetermined applications that execute in a few steps what previously required the operation of more than one function and the participation of more than one program.

Based on this, the common average of users (students and academic researchers who bring together their own collections of documents) is capable of carrying out broad and well-structured searches, with a very acceptable degree of depth in the achievement of the most representative documentary corpus of a debate and of generating an updated map of the main works and authors on a topic.

As we see and returning to the beginning of what was argued in this document, although the important thing will always be to understand the importance of the literature review for a given research and that this could well be carried out with nothing more ostentatious than pencil and paper, an optimization strategy of the times and the quality of this literature review lies in the knowledge of the routes of use of the most recent hemerographic and hemerometric tools, in particular, and what is involved here, those offered by the indexing databases.

### **1.7. Indexing databases and their basic tracking toolkit**

Although there are databases and hemerographic collections of all kinds, and all of them are useful at some level, in this work we will base ourselves on the most important ones for data processing and the construction of the type of document



obtaining routes that we have talked about. These bases are known as indexing bases. This means that they are repositories that not only offer more or less congruent collections of various magazines and periodicals but, above all, that they are capable of offering systematized data on the behavior of both documents and collections or the authors themselves. Information such as the number of times an article has been cited in articles or journals with a certain status, the type of articles that are thematically associated with other articles, and the weight of the authors in a given debate period, are some of the functions of these bases. Recovering what has been said above, they are indexers because they index, generate indexes or data traces about the hemerographic entities they contain.

## 2. OBJECTIVES

This article has been designed as an introductory exposition to the preparation of thematic and emerging literature reviews and for this purpose, it has been proposed to take the problem of fake news, post-truth, and misinformation as an example of a recently developed issue, to be able to illustrate how their thematic presence is built in the Web of Science (WoS) hemerographic environment, the most important newspaper collection today (Repiso et al., 2020, p. 1) and how some of its most useful tracking and organization tools operate.

## 3. METHODOLOGY

We decided to carry out this methodological exercise to search for publications that have addressed the topics of fake news, post-truth, and misinformation, in the Web of Science<sup>2</sup> database, provided by Clarivate Analytics, which is the most recognized database worldwide (there is also Scopus but it does not contain the same search tools or to "analyze results" that WoS offers). WoS allows searches by descriptors according to the following: "highly cited in the field", "popular articles in the field", "open access", "years of publication", "by Web of Science categories" (disciplines), "document types", "consolidated-organization", "funding entities", "authors", "source titles", "open access", "collection titles", "countries-regions", "publishers", "joint authorship", "languages", "research areas", "Web of Science index". This database also contains tools that allow you to analyze the results and create citations reports.

It should be noted that the results of the searches, in the case of articles, refer to journals that are indexed in that database, either in one of its indexes (such as Emerging Sources Citation Index, where the journals that are indexed in them do not have an impact factor, however, they do affect the impact of other journals and are included in the authors' h-index) or they are journals that already occupy a position in one of the four quartiles of Web of Science. For this work, we chose to search by descriptors starting with the keywords "fake news", "post-truth", and "misinformation", by subject or by title. The searches cover articles published from

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<sup>2</sup> To be able to access this database, it is necessary to have a subscription.

1980 to the beginning of March 2021. Furthermore, the explorations of these terms were carried out in the English language, as this is the language in which the journals indexed in that database are published. The WoS database allows the consultation of the metadata of the articles and in some cases the reading of the full text.

## 4. RESULTS

### 4.1. Descriptor: fake news

In the search by topic, we found<sup>3</sup> 1935 publications<sup>4</sup>: 1549 articles, 218 editorial materials, 62 reviews, 108 early access documents, 46 book reviews, 34 book chapters, 20 newsletters, 19 news pieces, 20 proceeding papers, 13 meeting abstracts 5 preprints, 2 books. As we can see, the vast majority of documents are articles. Of the total of publications mentioned, 505 are published in the area of communication, that is, 26% of the total, which, for exemplary purposes, means that, despite what common sense would dictate, it is not the discipline or disciplinary area that monopolizes the use of these concepts, or what is the same, other disciplinary areas develop a broader and more diverse problematic agenda on the subject, which significantly modifies the direction of the literature review regarding the conceptual support disciplines.

On the other hand, of the 1935 total publications, 864 are Open Access; that is to say, the vast majority are for restricted consultation and whoever wants to access the content will have to pay a fee. This also implies that the concepts appear and are used mostly in closed settings and that the subject does not yet have a very popular empirical extension in the social sciences. Regarding the areas, the *Information Science Library* disciplinary area ranks second in terms of the number of documents published on the subject: 181. In third place is the *Computer Science information Systems* area, with 128, and fourth place, *Political Science*, with 93 (See Image 1). This already makes it possible to identify the areas in which its use is distributed, in an unequal manner:

**Image 1.** *Number of publications about Fake news by category*

Web of Science Categories*	Records	% of 1935 publications
Communication	505	26.098
Information Science Library Science	181	9.354
Computer Science Information Systems	128	6.615
Political Science	93	4.806
Education Educational Research	81	4.186
Multidisciplinary Sciences	66	3.411
Social Sciences Interdisciplinary	66	3.411
Law	60	3.101
Sociology	57	2.946
Engineering Electrical Electronic	56	2.894

<sup>3</sup> As of March 2021.

<sup>4</sup> Found in their Core Collection.

Computer Science Artificial Intelligence	55	2.842
Business	47	2.429
Humanities Multidisciplinary	47	2.429
Public Environmental Occupational Health	46	2.377
Management	44	2.274
Philosophy	43	2.222
Computer Science Theory Methods	40	2.067
Psychology Experimental	37	1.912
Language Linguistics	34	1.757
Telecommunications	33	1.705
Computer Science Software Engineering	32	1.654
Psychology Multidisciplinary	32	1.654
Computer Science Interdisciplinary	28	1.447
Applications		
Ethics	28	1.447
History	28	1.447
International Relations	27	1.395
Environmental Sciences	26	1.344
Medicine General Internal	26	1.344
Economics	22	1.137
Operations Research Management Science	22	1.137
Folklore	20	1.034
Religion	18	0.930
Area Studies	17	0.879
Cardiac Cardiovascular Systems	17	0.879
Environmental Studies	17	0.879
Film Radio Television	17	0.879
Health Care Sciences Services	16	0.827
Literature	15	0.775
Computer Science Hardware Architecture	14	0.724
Linguistics	14	0.724
Physics Multidisciplinary	14	0.724
Psychology Social	14	0.724
Social Issues	14	0.724
Psychology Clinical	13	0.672
Geography	12	0.620
Mathematics Interdisciplinary Applications	12	0.620
Pediatrics	12	0.620
Surgery	11	0.568
Green Sustainable Science Technology	10	0.517
Public Administration	10	0.517
Urology Nephrology	10	0.517

\* Only the areas that got from ten references up are included. Information extracted from WoS.

Now, in the field of communication, of the 505 articles in the area, the WoS database reports 14 that are highly cited in that area. The most referred to within these is by the authors Tandoc et al., (2018): Defining “Fake news” A typology of scholarly definitions, published in the Digital Journalism journal, edited by Routledge, which is based in Great Britain. This article has 309 citations. Tandoc, who collaborates at [Nanyang Technological University](#), has an h-index of 28 and has 4690 citations in Google Scholar. Undoubtedly, publishing in a high-impact journal plus the relevance of their article due to the topic it addresses, has resulted in the high rate

of citations and this leads, in turn, to identify, in what we call "drag citation", the most in force authorial nucleus at the time of executing the search.

On the other hand, the most cited article by a Latino researcher - which would allow us to see the relative impact of the authors' nationality in shaping the debate - is by an Argentine author: "Truth is what happens to news: on journalism, fake news, and post-truth", published in *Journalism Studies*, in 2018 by Silvio Waisbord, with 68 citations.

**Table 2. 14** most cited articles in WoS about the topic of Fake News

Article title	Author	Journal	Year	Number of citations
Defining Fake News. A typology of scholarly definitions	Tandoc, Edson C., Jr.; Lim, Zheng Wei; Ling, Richard	<i>Digital Journalism</i>	2018	309
Fake news and the economy of emotions. Problems, causes, solutions	Bakir, Vian; McStay, Andrew	<i>Digital Journalism</i>	2018	120
The disinformation order: Disruptive communication and the decline of democratic institutions	Bennett, W. Lance; Livingston, Steven	<i>European Journal of Communication</i>	2018	118
The agenda-setting power of fake news: A big data analysis of the online media landscape from 2014 to 2016	Vargo, Chris J.; Guo, Lei; Amazeen, Michelle A.	<i>New Media &amp; Society</i>	2018	110
Truth is What Happens to News: On journalism, fake news, and post-truth	Waisbord, Silvio	<i>Journalism Studies</i>	2018	69
Dark	Quandt,	<i>Media and</i>	2018	57

Participation	Thorsten	<i>Communication</i>		
Impact of Covid-19 on the media system. Communicative and democratic consequences of news consumption during the outbreak	Casero-Ripolles, Andreu	<i>Profesional de la Informacion</i>	2020	52
Priming and Fake News: The Effects of Elite Discourse on Evaluations of News Media	Van Duyn, Emily; Collier, Jessica	<i>Mass Communication and Society</i>	2019	37
After the APICALYPSE: social media platforms and their fight against critical scholarly research	Bruns, Axel	<i>Information Communication &amp; Society</i>	2019	30
We Are the People and You Are Fake News: A Social Identity Approach to Populist Citizens' False Consensus and Hostile Media Perceptions	Schulz, Anne; Wirth, Werner; Mueller, Philipp	<i>Communication Research</i>	2010	29
Misinformation and Polarization in a High-Choice Media Environment: How Effective Are Political Fact-Checkers?	Hameleers, Michael; van der Meer, Toni G. L. A.	<i>Communication Research</i>	2020	26
Fake news as an informational moral panic: the symbolic deviancy of social media during the 2016 US presidential	Carlson, Matt	<i>Information Communication &amp; Society</i>	2020	19

election				
Fake News and Emerging Online Media Ecosystem: An Integrated Intermedia Agenda-Setting Analysis of the 2016 US Presidential Election	Guo, Lei; Vargo, Chris	<i>Communication Research</i>	2020	15
Fake news from Africa: Panics, politics and paradigms	Wasserman, Herman	<i>Journalism</i>	2020	9

**Source:** Web of Science

It should be noted that the *Digital Journalism* journal of the leading publisher Routledge is the publication that has received the highest number of citations since it has the two most highly cited publications. Within these 14 articles, as can be seen, there is also a work published by the Spanish journal *Profesional de la Información*: “Impact of Covid-19 on the media system. Communicative and democratic consequences of news consumption during the outbreak”, by Casero-Ripollés (2020), with 52 citations. In these highly cited articles (14), we can see that there is a Spanish journal and an Argentinean author. However, there is an evident majority of highly cited articles published in the United States and United Kingdom journals, which leads us, as a conclusion, to the fact that the empirical-thematic production and treatment is concentrated in the Anglophone academy and a handful of universities.

Regarding some of the topics in which there have been publications about fake news in the communication area, we wanted to present as an example a refined search with the descriptors fake news and Covid. To do this, we inquire into the main WoS descriptor, noting the word fake news and a search by topic. Once the results were displayed, we refined the search by selecting the articles in the Communication area, and in the “Refine results” section we wrote down the word “Covid”. The data showed that Communication works are linked to SARS-CoV-2 (Covid) in 36 articles; As has been observed, many false news stories and information related to Covid have appeared during the global pandemic. Of these 36 articles, 22 have been published in Spanish journals that, in the face of the emergency, promoted timely publication on the subject: *Revista Chasqui* (4); *Comunicar* (1); *Profesional de la Comunicación* (8); *Doxa Comunicación* (1); *Revista Latina de Comunicación Social* (5); *Revista Española de Comunicación en Salud* (3). This data shows that Spanish journals promoted the publication of articles about fake news related to Covid, which, as we have mentioned, one of the situations that have arisen with the pandemic is the

proliferation of fake news. Of the mentioned journals, the Spanish journal *Profesional de la Comunicación* stands out.

#### 4.2. Descriptor: fake news, by title

We also conducted a search focusing on the fake news descriptor appearing in the title of the posts. The results yielded 1938 works; Of these, 868 are Open Access and 41 works are highly cited.

In the field of communication, 513 papers have been published on the subject with the word fake news in the title, which would be broken down as follows: 452 articles, 42 early access documents, 33 editorial materials, 17 book reviews, 12 chapters of books, 10 reviews, 4 extensive memoirs, 1 book. Of these, 274 are open access and 9 are highly cited.

Regarding the disciplines that have been published about the subject, in the search by titles, the results show that the field of communication again has the advantage, with 513; it is followed by *Information Science Library Science* with 41, in third place *Political Science* with 23, *Sociology* (22); *Education educational research* (7); *Business* (6); *Film Radio Television* (5); *Ethics* (4); *Law* (2); *Social Issues* (2); *History philosophy of Science* (1); *Hospitality Leisure Sport Tourism* (1); *Language Linguistics* (1); *Linguistics* (1); *Literature* (1); *Philosophy* (1); *Social Sciences Interdisciplinary* (1).

Making a breakdown of the 452 articles in the Communication area with the word fake news in the title, published per year, we find the following order of appearance:

2005-1	2016-2
2008-1	2017-11
2009-2	2018-61
2010-1	2019-157
2012-1	2020-197
2013-3	2021-15

As can be seen, the issue has been more addressed from 2017 to date, mainly in 2020 and its origin is barely 15 years old.

In the entire Wos database, in the search that the system returns, it appears as the first article published with the topic related to fake news: How Journalists visualize fact. Published by Ericson in the *Annals of the American Academy of Political and Social Science* in 1998 and has only 40 citations. With this, it is now possible to find what we call "foundational publications": texts that originate the debate and that guide the use or appropriation of the terms in a context.

### 4.3. Descriptor: Post-truth

With the words post-truth as the title, we found 770 documents in the global results for all areas, but only since 2016, it appears in the search as a compound word. From 2015 backward, searches returned by the Wos database publish post or truth as terms in some of the works, and not necessarily as post-truth.

If we only add the articles published with the word post-truth since 2016, 663 works appear. These are divided by type of publication into: 450 articles, 162 editorial materials, 121 book reviews, 55 book chapters, 55 early access documents, 12 reviews, 7 books, 7 newsletters, 5 preprints, 5 meeting abstracts, 4 proceeding papers, 1 correction edition.

Regarding the post-truth descriptor and refining the search by topic, the data that WoS showed are: 1,107 documents, and of these, in Open Access, there are 436 (of all publications). As we can see, the majority of articles are still restricted for consultation. There are 7 highly cited articles (these 1,107 are from all the areas in which the subject has been published).

By searching for articles that had the word post-truth in the title, in the area of communication we found 55 articles. Of these, 9 were published in Spanish-speaking journals. The journal *Profesional de la comunicación* also appears here, which has been the Ibero-American journal that has published the most about these issues. The countries that have also published articles on post-truth in the title in Latin America are Brazil, Argentina, Chile, Colombia.

Of the 1107 publications with the word post-truth (in all categories-areas) we found that it was in 2006 when the first article was published, and the years in which it was published the most were in 2017 (155 articles), 2018 (255), 2019 (300), 2021 (7). As was shown in the case of the searches carried out on fake news, the first published article dates from 2005, so it would be an interesting fact to mention that these topics began to be published in 2005-2006, so it is a recent area of study. At least based on the articles published in journals indexed in WoS, which have the greatest impact on the scientific community. The only most highly cited article that appears referenced in the database is Silvio Waisword's, "Truth is What Happens to News: On Journalism, fake news, and post-truth." As can be seen, this article is crossed for both the topic of fake news and post-truth. In fact, we could say that they are concepts that are often worked on in a complementary manner in articles and research projects.

On the other hand, the author who has published the most on this subject in the field of communication journals is Sebestyen Victor (3 products), who is a Hungarian historian and journalist; however, in the WoS Core Collection, he has not obtained any citation.



#### 4.4. Descriptor: Misinformation

We also decided to search for the concept of misinformation, since it is common to use it similar to that of fake news. The database showed that there are 4,701 documents (global) that address the issue of misinformation, of which 3,793 are articles.

In the area of Communication, there are 319 works to date. But Communication is not the main area where misinformation works are published (as happened with fake news and post-truth). Here the field of *Experimental Psychology* has the largest number of texts with this descriptor (483), followed by *Public Environmental Occupational Health* (372), and in third place is the field of *Communication* (319). It is followed by *Multidisciplinary Psychology* (223); *Information Science* (138), *Political Science* (131), *Law* (128), *Multidisciplinary Sciences* (124); *Health Care Sciences Services* (119); and *Computer Science Information Systems*, 115.<sup>5</sup>

As we can see, the disciplinary fields or areas where it is published mainly about misinformation are more focused in the first place to the field of psychology, and the field of communication is not the central one. Obviously, it would be necessary to make more details to distinguish the limits and issues with which the concept is related in each disciplinary field, an object that we will not do in this work but remains a pending task. Of the 319 articles in Communication, 136 are Open Access. The years in which it has been published the most are in 2019, 67 articles, and in 2020, 143.

The exploration by "Highly cited articles" in the field of communication shows that there are 13. Here the data provided by WoS coincides with one of the articles also highly cited for the fake news descriptor: the article "Defining Fake news. A typology of Scholarly definitions", by Tandoc et al., published in 2018. This work has 309 citations. It should be noted that these citations are in the main WoS collection.

The most cited authors that WoS collected in its database are: Bode (4) from Georgetown University, and Vraga, from George Mason University. Both have been published together and separately.

In the search by title, 1,200 documents were found, and of these 400 are Open Access; 697 of which are articles (of these 252 are Open Access). Of the 697 articles, 86 are in the area of Communication. The first place in terms of published articles (search by title) is occupied by the area of *Experimental Psychology*. Of the 86 in the *Communication* area, 9 are highly cited. And the most highly cited authors are Bode and Vraga, as also mentioned in the search by topic.

## 5. CONCLUSIONS

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<sup>5</sup> We do not mention all the categories, which add up to 100.

As has already been systematically referred to throughout the work, literature review represents a tracking and a broad and cross-sectional systematization of the state of presence and transit of a topic or its treatment. Included in this is the conformation of thematic and problematic agendas (what is considered a problem at a certain time and how it is collected on a label) and the monitoring of debates and controversies that dynamize the configuration of those agendas.

In this sense, a literature review cannot be less than a broad search for documentary entities within which journals, or, if you prefer, periodical publications, represent the axis and the origin of all exploration.

It is said that it is the origin, in part, since journals, due to their character of vehicles of novelty and cutting-edge debate, systematize and mark the synchronic cuts of these debates throughout the diachronic development of agendas (this axis corresponds to books and synthesis documents) and from these cuts in the here and now, the status quo and the who's and how's that define and concentrate the positions in the debates are derived, which can be extended, from that cut to the different phases of evolution in the different forms of the past.

In the case of this work, as has been seen, the WoS database was chosen because it is the most important documentary platform in the current hemerographic world and, therefore, the one that allows the generation of a first global map of the addressed topic, object, or problem. Of course, a review in Wos, however systematic it may be, does not replace or compensate for the subsequent search in the other documentary settings (including the other indexed universe and the open publication horizon, but also the regional and geodetermined collections), although, and this is its value, it is presented as the outline of a map of a territory in which routes and tracking coordinates can already be proposed.

As it was seen, when the titles appear in front of a subject, the first glimpses appear about the conformation of the most accredited groups of voices, the most authoritative pens, and the semantic preferences of some concepts over others but, also, the type of presence that latitudes and disciplines have in the topography of controversies. Taking these indications as tips of the iceberg, the researcher can restart the search in other scenarios with specific orientations and a set of delimitations that, by restricting and focusing the search, valuably optimize the search time, and, in a broad sense, they economize the research plan.

On the other hand, and returning to the argument, the search in a database like this one, demands that the researcher be aware that every collection, regardless of how recognized it may be, also and always responds to subjective selection criteria, that is, that epistemological, political, and even ideological biases shape the criteria for the collection and visibility of certain types of documents. In this sense, the presence of the global north, the most normative science, and preferential appreciations of disciplinary traditions guide this and other world databases. Starting from this point, that is why extending and taking the search to the other

hemerographic panoramas becomes, more than methodological advice, an epistemological ideal.

Once that danger has been circumvented, it is also worth saying that a work to be carried out for those interested in the covered topics (fake news, post-truth, and misinformation) would be to thoroughly review the traditions of use and conventions of semantic uses in the miscellaneous hemerographic geographies to be able to contemplate in a zenith and organic way the thematic planisphere in each one of its own and situated dimensions, although the exploration begun in a strategic, located, and very specific place.

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## AUTHORS

### **Gabriela Gómez Rodríguez**

Research Professor attached to the Department of Social Communication Studies (University of Guadalajara). Doctor in Communication from Concordia University (Canada); Master in Social Sciences (U. of Guadalajara) and Bachelor of Communication Sciences (ITESO). Since 2009, she is the Editor-in-Chief of the *Comunicación y Sociedad* Journal. She has published articles and book chapters, and coordinated publications in the lines of media-violence, journalism, science communication, television fiction, reality shows, among others. She is a member of the National System of Researchers (SNI) level 1. She is the Co-coordinator of the Ibero-American Observatory of Television Fiction (Obitel), Mexico. She is a member of various scientific editorial committees and national and international research networks.

**ORCID:** <http://orcid.org/0000-0002-2078-1671>

**Reserchgate:** <https://www.researchgate.net/profile/Gabriela-Gomez-Rodriguez>

### **Dr. Rodrigo González Reyes**

Doctor in Communication from the National University of La Plata, Argentina, Master in Communication (University of Guadalajara), and Bachelor of Communication Sciences (ITESO). He is a full-time researcher in the Department of Social Communication Studies, (University of Guadalajara), researcher of the UNESCO Chair in media literacy (UNESCO - AMIDI), deputy editor of the *Comunicación y Sociedad* Journal, and curricular coordinator of the Master in Edition and Communication (U of G). He is the author of more than 50 specialized academic publications, including books, chapters, articles, and translations.

**ORCID:** <https://orcid.org/0000-0003-0142-9522>