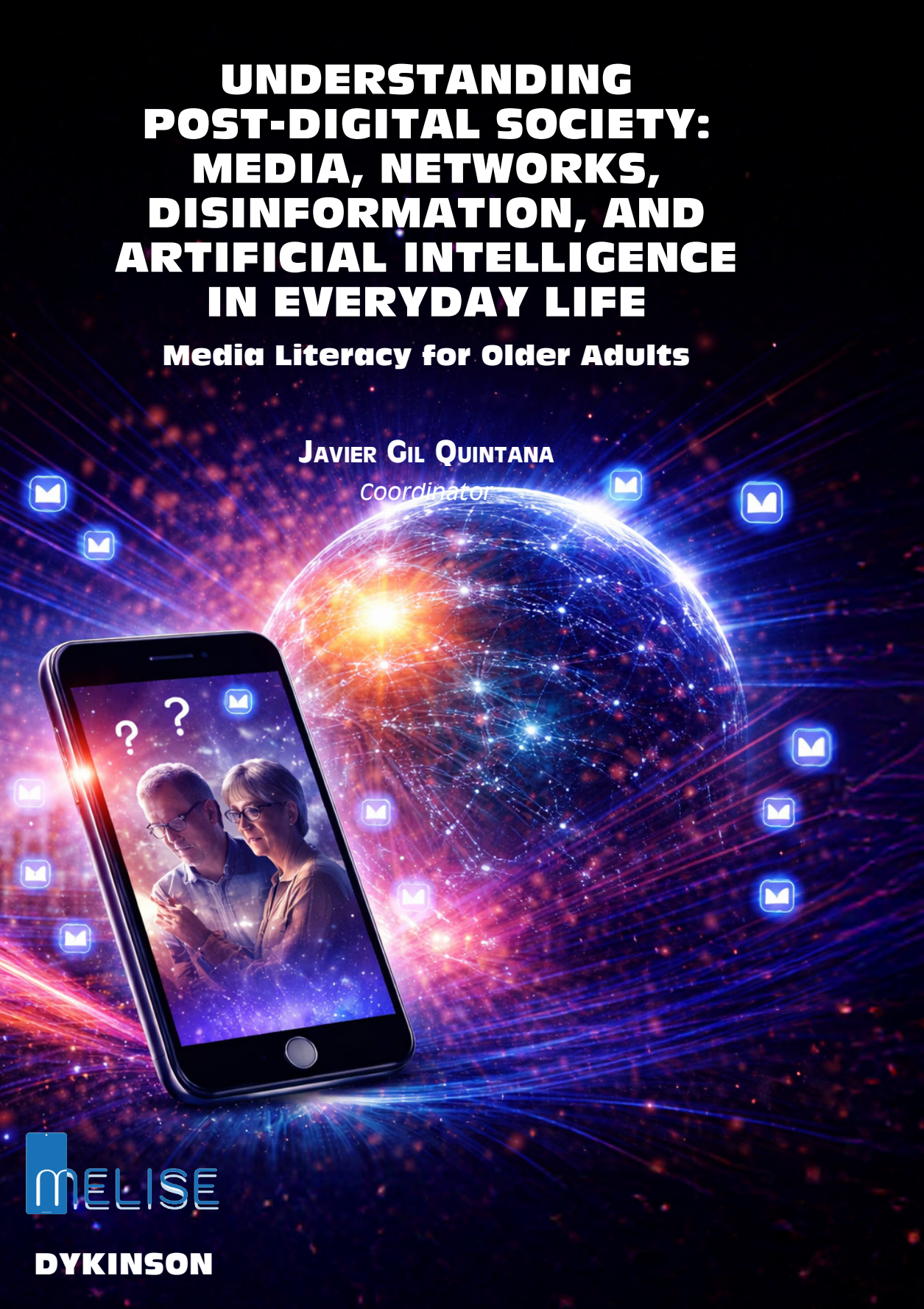
UNDERSTANDING POST-DIGITAL SOCIETY: MEDIA, NETWORKS, DISINFORMATION, AND ARTIFICIAL INTELLIGENCE IN EVERYDAY LIFE

Media Literacy for Older Adults

JAVIER GIL QUINTANA
Coordinator



MELISE
DYKINSON

UNDERSTANDING POST-DIGITAL SOCIETY: MEDIA, NETWORKS, DISINFORMATION, AND ARTIFICIAL INTELLIGENCE IN EVERYDAY LIFE

Media Literacy for Older Adults

Javier Gil Quintana

Coordinator

UNDERSTANDING POST-DIGITAL SOCIETY: MEDIA, NETWORKS, DISINFORMATION, AND ARTIFICIAL INTELLIGENCE IN EVERYDAY LIFE

Media Literacy for Older Adults

Javier Gil Quintana

Coordinator

Authors

Manuel Fernández-Galiano Amorós

Eduardo García Blázquez

Carmen Cantillo Valero

Lorena Latre Navarro

Alejandro Quintas Hijós

Isabel Iniesta Alemán

Renata Canevari Modernel

Simón Gil Tévar

Sandra Valiente Sánchez

Dykinson, S.L.

This book has been reviewed by our Editorial Board.
For more information, see *www.dykinson.com/quienes_somos*

This book is based on the work of the
MELISE Project – Media Literacy for Seniors in Europe. 2024-2026.
GA.-101136032. The training itinerary
was developed through the sMOOC
"Networks and Realities. Media Literacy for Seniors".

Editorial DYKINSON, S.L. Meléndez Valdés, 61 - 28015 Madrid
Telephone (+34) 91 544 28 46 - (+34) 91 544 28 69
e-mail: info@dykinson.com
http://www.dykinson.es
http://www.dykinson.com

ISBN: 979-13-7047-231-3
DOI: https://doi.org/10.14679/4936

Prepress by:
Besing Servicios Gráficos S.L.
e-mail: besingsg@gmail.com

Index

Chapter 1. Understanding: the first step to playing a leading role in the post-digital society 11

Javier Gil Quintana

National Distance Education University (Spain)

1. INTRODUCTION: Why is understanding necessary today? 12
2. WHAT DO WE MEAN BY "POST-DIGITAL SOCIETY?" 14
3. FROM SPECTATORS TO PROTAGONISTS: ACTIVE CITIZENSHIP 15
4. A CRITICAL PERSPECTIVE 16
5. CONCLUSION 17
REFERENCES 18

Chapter 2. Distrust of the Media 21

Manuel Fernández-Galiano Amorós

National Distance Education University (Spain)

1. THE POWER OF INNOVATION 22
2. TECHNOLOGICAL DEVELOPMENT, EVOLUTION, AND INNOVATION 23

2.1. The Digital Age: Computing and the Internet 23
2.2. The post-digital era 24
2.3. The media: social media and its risks 29
3. CONCLUSIONS 33
REFERENCES 34

Chapter 3. Uses and Misuses of Generative Artificial Intelligence in the Post-Digital Society 37

Carmen Cantillo-Valero
National Distance Education University (Spain)

Eduardo García-Blázquez
National Distance Education University (Spain)

1. INTRODUCTION 38
2. GENERATIVE ARTIFICIAL INTELLIGENCE AS A CULTURAL TECHNOLOGY 41
3. INTERACTION, LANGUAGE, AND MEANING CONSTRUCTION .. 44
4. USES OF GENERATIVE ARTIFICIAL INTELLIGENCE IN EVERYDAY LIFE 46
4.1. Support for personal autonomy and information management .. 46
4.2. Lifelong learning 47
4.3. Communication, writing, and personal expression 48
5. THE STRUCTURAL LIMITATIONS OF GENERATIVE ARTIFICIAL INTELLIGENCE 48
6. FORMS OF MISUSE OF GENERATIVE ARTIFICIAL INTELLIGENCE ... 49
6.1. Disinformation and discursive manipulation 49
6.2. Bots, fake profiles, and the distortion of the public sphere 49
7. MEDIA LITERACY AND CRITICAL THINKING IN POST-DIGITAL SOCIETY 50
8. CONCLUSION 51
REFERENCES 52

Chapter 4. Knowledge Creation and Opinion Formation in Digital Interaction Contexts 55

Alejandro Quintas Hijós

University of Zaragoza (Spain)

Lorena Latre Navarro

University of Zaragoza (Spain)

1. INTRODUCTION 56
2. WHAT DOES IT MEAN TO KNOW? 57
3. DEGREES AND INSTRUMENTS OF KNOWLEDGE 58
4. IS KNOWLEDGE REALLY POSSIBLE? 60
5. HOW DOES KNOWLEDGE ORIGINATE? 62
6. WHAT ARE THE LIMITS OF KNOWLEDGE? 64
7. IS THERE MORE THAN ONE TYPE OF TRUTH? 67
7.1. Truth as a property of things: *alētheia* 67
7.2. Truth as a Property of Understanding: Truth in Judgment 68
7.3. Truth as Self-Evidence or Certainty 68
7.4. Truth as coherence, validity, or formal truth 68
7.5. Truth as adequacy 69
7.6. Truth as rational consensus 70
8. CONCLUSION 70
REFERENCES 71

Chapter 5. Seeing, Verifying, and Communicating in a Digital Visual Environment 73

Isabel Iniesta-Alemán

International University of La Rioja (Spain)

Renata Canevari-Modernel

International University of La Rioja (Spain)

1. SEEING IS NOT ALWAYS BELIEVING 74
2. EXPANDING BROWSERS: VERIFICATION AND SKIMMING 77

3. GAMES AS TRAINING FOR CRITICAL THINKING 80
4. COMMUNICATING RESPONSIBLY 82
REFERENCES 85

Chapter 6. What is Essential Is Invisible to the Eye. Verification Pedagogy: 87

Simón Gil-Tévar
Catholic University of Ávila (Spain)

Sandra Valiente Sánchez
National University of Distance Education (UNED) (Spain)

1. FAKE NEWS AND DISINFORMATION 88
1.1. Conceptualizing: Fake news and disinformation 88
1.2. The origins of fake news and disinformation 90
1.3. The impact of fake news and disinformation 94
1.4. Fact-checking and critical thinking 96
1.5. Fact-Checking Education 98
1.6. Reflections 100
REFERENCES 101

MELISE Metaverse – Videos in All Languages 103

Chapter 1

Understanding: the first step to playing a leading role in the post-digital society

Javier Gil Quintana

National Distance Education University (Spain)

1. INTRODUCTION: WHY IS UNDERSTANDING NECESSARY TODAY?

In the post-digital world in which we live, understanding is an urgent need because technology has become an environment that we inhabit, an invisible architecture that shapes citizens' opportunities, relationships, and perceptions. Therefore, understanding becomes an act of reclaiming and turning on the light in the darkroom of digitalization, so that we can stop being an image projected by powerful groups and become the protagonists and creators of that digitalization.

As inspiration for this act of creation, we can look to Diego Velázquez's painting *Las Meninas*, which depicts what appears to be an everyday situation: the Infanta Margarita isshown surrounded by her ladies-in-waiting, dwarfs, and servants. Thanks to the painter's genius, those viewing the painting are drawn into work, as its characters gaze at us, and it is as if we were alongside the king and queen whom Velázquez is painting in the work, their reflections appearing in the mirror.

Drawing on this example from our art history, we can reflect on the presence of citizens in the new media ecosystem. On the surface, everyone appears on the canvas in one way or another, but their positions are crucial if we are to seek a post-digital meaning. Not all the people depicted occupy the same positions, as older adults are left out of the frame (Gil-Quintana and Bernal Bravo, 2025), relegated to a digital background, in contrast to young people, who are at the center of the scene.

This work, "Understanding Post-Digital Society: Media, Networks, Disinformation, and Artificial Intelligence in Everyday Life," which begins with this first chapter, brings together contributions from various authors at institutions

such as the National Distance Education University, the University of Zaragoza, and the Catholic University of Ávila, among others. Its aim is to reconstruct Velázquez's mirror in order to give vulnerable or marginalized groups, such as older adults, the active reflection they deserve in the media ecosystem, so that they are not reduced to secondary figures, but rather made active protagonists and creators of post-digital society (García Blázquez, Martínez Piedra, and Hueso-Romero, 2025). Like Velázquez, depicted in the painting with a brush in hand, this group of researchers is taking on an active responsibility, not only through the analyses in their various studies, but also through their diagnoses, and by taking action. Their work, which we present below as a summary of this book, is an invitation to understand so that we can paint ourselves into the picture, with the right and the ability to decide our places in the scene.

Chapter 1, "Understanding: The First Step to Being a Protagonist in the Post-Digital Society," by Javier Gil-Quintana, sets out the book's conceptual framework. Drawing inspiration from Velázquez's *Las Meninas*, he discusses the need to move from being spectators to becoming conscious creators within the media ecosystem. Three key concepts are defined here: the post-digital society, active citizenship, and a critical perspective.

In Chapter 2, "Distrust of the Media," Manuel Fernández-Galiano Amorós discusses the technological and media developments that have given rise to post-digital society. He examines the impact of the internet, social media, and the digital economy, highlights the risks of disinformation and the digital divide, and offers reflections on how we can adapt to these environments in a critical and healthy way.

In Chapter 3, "Uses and Abuses of Generative Artificial Intelligence in Post-Digital Society," Carmen Cantillo-Valero and Eduardo García-Blázquez explore how generative AI is reshaping communication, knowledge production, and our very perception of reality. They discuss both its practical applications in everyday life and its structural limitations, as well as the dangers associated with discursive manipulation and automated disinformation.

Next, in Chapter 4, "Knowledge Creation and Opinion Formation in Digital Interaction Contexts," Alejandro Quintas Hijós and Lorena Latre Navarro delve into the cognitive and epistemological processes that underlie opinion formation in the digital environment. They distinguish between having an opinion, believing, and knowing, and they analyze different conceptions of

truth, offering insights into how to think rigorously in a world oversaturated with information.

Chapter 5, "Seeing, Verifying, and Communicating in a Digital Visual Environment," addresses the specific challenge of visual credibility, as presented by Isabel Iniesta-Alemán and Renata Canevari-Modernel. In a world where images and videos can be easily manipulated, they propose fact-checking strategies, such as lateral reading and playful learning, to foster critical thinking and responsible communication.

Finally, Chapter 6, "What is essential is invisible to the eye: a pedagogy of verification to recognize fake news and disinformation," by Simón Gil-Tévar and Sandra Valiente Sánchez, concludes the volume with a historical, conceptual, and pedagogical analysis of disinformation. They trace the origins of fake news, break down its social impact, and provide concrete tools for fact-checking and critical thinking, encouraging active and resilient citizenship.

This journey, which begins with a reflection on our place on the digital canvas and ends with a call to action in education, aims to be more than a collection of analyses. Rather, it is an invitation to paint ourselves into the picture, with awareness, responsibility, and creativity.

Before we move on to all these contributions that the academic community has chosen to share with the public, let us take a look at three fundamental concepts: post-digital society, active citizenship, and a critical perspective, ideas that are presented in a concrete way that will help us understand the book's approach.

2. WHAT DO WE MEAN BY "POST-DIGITAL SOCIETY?"

When we talk about post-digital society, we are referring to a term that encompasses broad areas such as culture, education, politics, everyday life, and technology itself, following a process of digitalization. We can understand this concept as a framework that authors such as Florian Cramer (2014), Peter Jancric, and Derek Ford (2022) have sought to integrate across all these areas. When we talk about post-digital society, we are referring to its connection to certain highly digitalized environments within the "global village;" that is, to

specific geographic and socioeconomic contexts. Based on these contexts, we are faced with various interpretations of the term, which manifests as cultural criticism and even technological saturation on continents like Europe, and as a digital divide in Latin America, making it a concept that is not yet fully established. Given this situation, we cannot precisely define the post-digital society at the international level, but we can refer to it as "after the digital" or "beyond digital hype."

Thus, "postdigital" combines the Latin prefix "post" with "digital," indicating a period after or a move beyond; it is a recent neologism. This does not mean that the digital has disappeared, but rather that it has been surpassed and has become a part of our daily lives. Proof of this came with the COVID-19 pandemic, which brought the term back into play by highlighting the interconnection between the digital and the social, and gave it greater prominence in critical discourse. The term "post-digital society" engages with other terms such as posthumanism, critical theory, and cultural materialism. Furthermore, it is currently associated with publications in academic journals, conferences, university programs, and impact studies, as well as with cultural, educational, sociological, artistic, and media theory studies, particularly those that adopt critical approaches, which are undoubtedly also shaped by ideology, norms, and conditioned perspectives.

3. FROM SPECTATORS TO PROTAGONISTS: ACTIVE CITIZENSHIP

Reflecting on the post-digital society is not limited to a purely technological phase. Rather, it has brought with it a paradigm shift in which the digital has ceased to be an "ancillary entity" and has become the very foundation of social reality. There are various perspectives on the relationship between the post-digital society and the transition from spectators to active citizens.

First, we are talking about consumers, a citizenry or "social audience" (Iniesta-Alemán and Sidorenko Bautista, 2023) that acts as a spectator of the entire media ecosystem presented through platforms, where, in turn, they passively generate data on their own consumption. Therefore, interaction is reactive, following a hyperlinked path of corporations, influencer networks, and media messages that steer interfaces toward an incentive to consume, a lifestyle

(Castillo-Abdul, Romero-Rodríguez, and Fernández-Rodríguez, 2024), and even toward ideological polarization; "fast pace, constant stimulation, novelty, instant gratification, and, above all, simplicity" (Postman, 1985/2008, p. 159). Thus, citizens become a product of the system itself.

Secondly, we refer to the *prosumer*, a portmanteau of "producer" and "consumer," who is able to generate content, opinions, posts and comments about a given product, thereby becoming a point of reference for companies, which analyze their behavior based on the benefits they produce. In *The Third Wave* (1980), Toffler portrays this individual as both a producer and a consumer. Citizens do not just read, watch, or listen; they also produce and create. This understanding of the architecture of the media ecosystem entails a greater capacity to create, not just consume, to influence algorithms, to reclaim digital sovereignty, and to act based on a culture of participation (O'Reilly, 2005). Thus, we move from being a passive audience to actively participating, exercising a responsibility to co-create, through criticism, the hybrid space where democracy, the economy, and contemporary culture in general are decided.

Gil-Quintana (2023) has classified the role of the prosumer from various perspectives and using different theoretical frameworks. the EAV Prosumer (exploited, harassed, and a victim of the market), CD Prosumer (digitally constructed), VE Prosumer (emotionally linked), MM Prosumer (digitally dead and analogically dead), and I-I Prosumer (inter-acting and interacted with).1 Thus, the prosumer is "a producer of messages, a commentator, a researcher, and a disseminator of opinions that influence the decisions of the other people who are part of the community on their own social network" (Gil-Quintana, 2023, p. 91).

4. A CRITICAL PERSPECTIVE

To create within this post-digital society, it is essential to develop a critical perspective that goes beyond what is available (Han, 2013), a knowledge of knowledge (Morin, 1999), and an act of ethical self-observation that enables us to discern how the media world works and our role within it. In this realm where

1 The Spanish acronyms have been retained in the English translation. EAV: Explotado, Acosado, Víctima del mercado; CD: Construido Digitalmente; VE: Vinculado Emocionalmente; MM: Muerto digital y Muerto analógico; I-I: Interactuante e Interactuado

we design technologies that design us (Turkle, 2011), developing this critical perspective is not optional; it is the only way to break that cycle and regain our agency as conscious co-creators. As Santoveña Casal (2020, p. 128) puts it, "co-creation does not come only from the hands of experts or specialized groups; it also requires citizen groups." This critical perspective is not reserved for a segment of the population that is "potentially intelligent." Rather, it is accessible to all those who take on the challenge of shattering the illusion of technological neutrality, those who are able to see through the algorithms of the "black box" (Pasquale, 2015), which seek to manipulate us according to the specific interests of powerful groups; those who (to return to the initial example) stop passively contemplating Velázquez's work and instead understand its perspective, its composition, and its purpose.

When we talk about a critical perspective in post-digital society in the context of media, we are brought back to the concept of *media literacy* in lifelong learning. This literacy process refers to the set of critical, technical, and ethical skills that enable certain social groups to access, analyze, evaluate, and create content in a conscious, safe, and participatory manner. It is a framework organized around UNESCO's "5Cs" — comprehension, critical thinking, creativity, cross-cultural consciousness, and citizenship — and one that promotes social participation and lifelong learning while rejecting passive or deficit-based approaches, particularly with regard to specific life stages such as older adults. Only through a critical perspective can we stop being a reflected image for others (like Velázquez with his self-portrait) and instead directly engage with the canvas, repainting the margins and redefining the centers. A creative perspective inevitably arises from critical understanding.

5. CONCLUSION

In this media ecosystem, understanding as an act of autonomy involves deconstructing reassuring narratives that, through "surveillance networks" (Vaidhyanathan, 2018), manipulate our attention. Media literacy is presented as a right and a tool for empowerment, an invitation to become an informed participant in the post-digital society. This book, the first chapter of which you have just read, aims to be a call to action to keep looking, thinking, and painting new spaces of inclusion. The challenge of building a critical, just, and humane

post-digital society remains, and today, more than ever, it requires that no one be left out of the picture.

In addition to the various chapters written by the group of researchers who participated as the UNED team in the MELISE – Media Literacy for Seniors in Europe (2024–2026) project, we invite you to explore the games presented at the end of each reading and the metaverse space created with audiovisual productions, which will undoubtedly enrich your learning journey.

REFERENCES

Castillo-Abdul, B., Romero-Rodríguez, L.M., and Fernández-Rodríguez, C. (2024). Publicidade de Eco-Influenciadores de Estilos de Vida: O Envolvimento Provém do Conteúdo ou do Fascínio? *Comunicação e sociedade,* 45. http://journals.openedition.org/cs/12067

Cramer, F. (2014). What is "Post-Digital"? *APRJA*, 3(1). https://lab404.com/142/cramer.pdf

García Blazquez, E., Martinez Piedra, E., and Hueso Romero, J. J. (2025). Horizontes Educativos en la Sociedad Posdigital: entre la Libertad y la Inclusión. *Diá-Logos*, 16(30), 11–25. https://doi.org/10.61604/dl.v16i30.372

Gil-Quintana, J. (2023). *Educación y comunicación en una sociedad postdigital. Investigación documental y análisis de perspectivas*. Editorial Octaedro.

Gil Quintana, J., y Bernal Bravo, C. (2025). Behavior, verification of information and creation of content on social networks by Seniors. The case of Segovia (Spain). Doxa Comunicación. *Interdisciplinary Journal of Communication Studies and Social Sciences*, 41, 417-445. https://doi.org/10.31921/doxacom.n41a27

Han, B.-C. (2013). *La sociedad de la transparencia*. Herder Editorial.

Iniesta-Alemán, I., & Sidorenko Bautista, P. (2023). The Impact of the Digital Era on Spanish-Speaking Social Audiences: A Systematic Review of Its Academic Literature. *Studies in Media and Communication*, 11(6), 319-333. https://doi.org/10.11114/smc.v11i6.6225

Jandric, P. y Ford, D. (2022). *Postdigital Ecopedagogies: Genealogies, Contradictions and Possible Futures*. Springer.

Morin, E. (1999). *Los siete saberes necesarios para la educación del futuro*. UNESCO.

O'Reilly, T. (2005). What Is Web 2.0? Design Patterns and Business Models for the Next Generation of Software. *O'Reilly Network*. http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

Pasquale, F. (2015). *The Black Box Society: The Secret Algorithms That Control Money and Information*. Harvard University Press.

Postman, N. (2008). *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (Ed. 20th anniversary) Penguin Books (Originally published in 1985).

Santoveña-Casal, S. (2020). *Entre redes*. Editorial Tirant Lo Blanch.

Toffler, A. (1980). *La tercera ola*. Colombia: Plaza y Janes, S.A. Editores.

Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books.

Vaidhyanathan, S. (2018). *Antisocial Media: How Facebook Disconnects Us and Undermines Democracy*. Oxford University Press.

To delve deeper into the concepts covered in this chapter and hone your critical thinking skills in a fun way, in each chapter we invite you to play this game, which is available in Spanish, German, Portuguese, Italian, and English. It's an interactive experience created by the MELISE project team.

Chapter 2

Distrust of the Media

Manuel Fernández-Galiano Amorós

National Distance Education University (Spain)

1. THE POWER OF INNOVATION

The internet is not just another discovery or a new tool; it is the driving force behind a social change that, for the first time in history, is not being spearheaded by adults, but rather by young people. They are the ones who, to a large extent, are setting the standards for new ways of using the internet and who are more proficient in it than their elders, as they are able to engage in practices that simplify and automate tasks in a playful way, valuing on-demand leisure as well as they promote the professionalization of the digital world in an independent, interactive, creative, globalized, and collaborative manner (Rubio, 2009). The society we live in has been categorized as "post-digital" due to the full cultural and social acceptance of digital media, which dominate the current era, characterized by the sharing of information with others in a way that enables people to engage in exchanges of experiences, ideas, feelings and projects (Castells, 2015). Due to this full embrace of post-digital culture, a new paradigm emerges which Gil-Quintana (2023) recovers to describe this landscape as 'educommunication' — a new phenomenon in which people immersed in communication share functions such as the capacity for revolution, interaction, dialogue, participation, and empowerment, which fundamentally arise from social media, in a collective space, as *emirecs* (from the French, a portmanteau of *émetteur* and *récepteur*; Cloutier, 1973); that is, an amalgam of "sender" and "receiver" united by some kind of common ground. In this way, it is possible to move toward developing critical thinking and critical use of information, within a space that counteracts disinformation propagated by powerful groups. For these reasons, education and communication coexist in the same space and are, therefore, complementary. Based on this concept of educommunication, we can understand that there is currently a landscape of participation and learning through the creation of visual media, social media, gamification, MOOCs, and learning influencers, among other examples. There is a highly relevant concept

related to the aforementioned aspects that helps us understand the role played today in the virtual sphere, known as the "prosumer" (Toffler, 1980), a term combining the words "consumer" and "producer" to refer to an individual who has the ability to create content and express opinions, through posts or comments, about products that serve as benchmarks for the business world. Thus, the individual is seen as someone who is not a passive consumer, but rather plays an active role in the process through their communications.

2. TECHNOLOGICAL DEVELOPMENT, EVOLUTION, AND INNOVATION

2.1. The Digital Age: Computing and the Internet

From the First Industrial Revolution in the 19th and 20th centuries to the present day, numerous changes have directly or indirectly affected societies and the way they are organized, shaping the society we know today. Difficulties adapting to progress have always been one of the main barriers that have concerned people, for centuries, and more recent years have been no exception. In the last decades there have been countless changes, but watersheds came in 1976, when Steve Wozniak and Steve Jobs founded the Apple company, which created the first personal computer, and later when IBM and Bill Gates developed the Windows operating system. Today, these are two of the most dominant technological products on the market (Rodil, 2015). These innovations gave rise to a phenomenon known as the digital divide, as some segments of the population today struggle to learn and proficiently use new digital tools. This technological boom, coupled with the advent of the internet, unleashed a wave of creative possibilities of unprecedented complexity, one whose potential has still not been fully realized and displayed. To understand this, it is important to know about the initial development of this technology, which was created for military use and called ARPANET: Advanced Research Projects Agency Network. It served as a communication method until 1991, when the first website was developed, and soon afterward spread to every part of the world, to varying degrees and at different speeds (Rodil, 2015). Later, apps, online advertising, and e-commerce companies emerged, leading to the development of a knowledge- and information-based economy managed by digital tools and new technologies. Today, although there is a tendency to believe that most people are well adapted to using new technologies and to the widespread

and varied use of digital resources, some research shows that the reality is far from ideal. In 2007, in order to establish possible behavioral patterns for designing strategic plans, the British Library in London and the UK's Joint Information Systems Committee (JISC) commissioned a study on people of that era—known as the Google Generation (EDUTEKA, 2008), those born after 1993—and their access to information. This cohort, and previous ones, share the following characteristics when it comes to searching for and managing information from the web: they perform internet searches with low accuracy or reliability; they have a superficial understanding of the information and use ineffective strategies; they find it difficult to assess the relevance of the content they find; and they only use well-known search engines like Google, which provides biased information.

2.2. The post-digital era

— *E-commerce, health, and distance education*

The capacity to shop remotely first emerged in the United States through catalog sales and was so revolutionary at the time that it is still used today (Peña Jiménez, 2019). However, it was not until 1970 that shopping via a very rudimentary computer first appeared, but this did not take off, as instead sales via television and telephone calls were promoted in the 1980s (Peña Jiménez, 2019). In the 1990s, with the internet revolution, websites began to be created that were entirely dedicated to selling products online. Many of them are still in operation today, and their popularity has grown to such an extent that online stores are now a mainstream reality, with most people making purchases through these platforms (Peña Jiménez, 2019). According to Peña Jiménez (2019), some of the advantages of online retail include:

- Globalization: it enables businesses to overcome physical and geographical barriers.
- Potential: it enables businesses to reach larger numbers of potential customers.
- Cost savings: compared to a traditional business, this allows for lower operating expenses.
- Convenience: it maximizes product exposure and speeds up the purchasing process.
- Time: less time can be spent on completing the process.

- Customer service: customers can easily access information and contact details.
- Advertising: the advertising process is easy and inexpensive.

Despite the many advantages that can be identified, it is important to point out some aspects that may represent disadvantages one should be aware of (Peña Jiménez, 2019):

- Competition: the number of businesses is unusually high, which makes it difficult to compete with other businesses.
- Consumers: some people may feel insecure when shopping online.
- Shipping: a major drawback is that shipping costs are added to the total cost of the product, and can be high.
- Customer loyalty: getting consumers to come back is a complex and challenging goal.
- Insecurity: payment methods and websites can sometimes be unreliable or insecure.
- Management: the advertising or purchase process can require time and management efforts that are not needed in a traditional business.
- Demanding nature: people who buy these types of products are often demanding in terms of product types, conditions, and prices.

In summary, it is clear that e-commerce is here to stay. However, the benefits for both customers and sellers are varied, as are the obstacles that arise along the way, which can lead people to find online selling unappealing or discouraging. In this regard, security is essential in e-commerce, but most people who shop online feel safe, and a large number of e-commerce websites are also trustworthy (Jiménez *et al.*, 2021).

Healthcare has also undergone a revolution since the advent of the internet, one of the most obvious benefits being e-health, which uses technologies and apps to improve the quality of patient care, especially in rural and isolated areas (Stusser Beltranera *et al.,* 2006). Mobile health management apps make it possible to manage healthcare and improve convenience for patients and healthcare professionals. They also help prevent unnecessary visits to healthcare facilities and enable people to become more independent in taking care of their own well-being and engaging in preventive care (Alonso-Arévalo and Mirón-Canelo, 2017). Mobile health apps also offer benefits such as easy access to and monitoring of our

health data. However, there are some security risks related to the data we provide that we should be aware of. For example, we should know what permissions we accept when using an app, why the app collects these data, and even whether the app was developed by a public or private entity, as these types of digital tools must comply with strict regulations (Alonso-Arévalo and Mirón-Canelo, 2017).

Distance education and learning began to develop in the 1990s and 2000s, driven by the rapid development of the internet and the technology that made it possible to use it, primarily through computers. This led to a veritable revolution in education, as it reached students who, due to their circumstances, could not access traditional programs, and it also brought about a change in the role of educators (Cardona-Román and Sánchez-Torres, 2011). In recent years, and primarily as a result of the revolution precipitated by the COVID-19 pandemic in the field of education (Ortega, 2023), distance education has been on the rise (Martínez, 2017) in a society where virtual reality has been fully embraced, including in this area. Thus, there are certain advantages that make distance education attractive to people seeking training, the main one being the flexibility it offers, as it is asynchronous (Martínez, 2017). Furthermore, distance education also offers students the opportunity to acquire deeper knowledge of certain topics, or enhance skills, while allowing for optimal time management (Ortega, 2023). However, it is worth noting some drawbacks, such as the high dropout rate due to the difficulty of engaging with the course, despite the availability of tutoring and ongoing assessments (Martínez, 2017). In addition, material conditions may prevent the pursuit of distance education, such as a lack of resources, or of time (Ortega, 2023). According to Cardona-Román and Sánchez-Torres (2011), the main characteristics that distance learning should feature are as follows:

- Asynchronous: there is a spatial and temporal distance between students and faculty, who do not have to be in the same place at the same time.
- Formal: it must be provided by an institution that organizes the studies and programs in a planned manner.
- Autonomy: distance learners feel they play a more central role in their own learning, which is essential for educational success.
- Flexibility: the pace of learning can be adapted to each individual.
- Digital media: the materials used are virtual and rely on technology that supports these types of educational platforms.
- Organization: distance education aims to structure and present the learning content in a way that provides strong guidance for students.

- Communication: the process is two-way, as both students and faculty can contact each other.
- Ease: distance education maximizes a person's ability to learn a wide range of content.
- Access: people without resources, or those facing difficulties or complex situations due to social, cultural, or economic factors, find it easier to access distance education.
- Individual: people who learn online are not subject to the group influence of the student body, as the individualistic nature of education is emphasized.

In conclusion, distance education requires that those who take advantage of it have adequate digital skills and that digital interaction, communication, and motivation be encouraged in the virtual environment. In addition, it offers the possibility of self-regulation of the learning process and independence, although it does require a stable, high-quality internet connection (Cardona-Román and Sánchez-Torres, 2011).

— *Disinformation on the internet*

Today, there is still an elitist, minority view that sees reading as an activity limited to the realm of literary works. However, with the advent of digital technologies, it is now possible to recognize that digital publications, websites, online newspapers, social media, and so on (Ministry of Culture and Sport, 2021) are also spaces in which to cultivate the habit of reading, primarily by exercising critical thinking. This is due to the development of a post-digital society that is embracing the emergence of new formats and digital reading media, in which visual content predominates, such as in graphic novels, newspapers, and magazines (Ministry of Culture and Sport, 2021). Another major change brought about by the emergence of digital technologies is the ability to search for information; in this context, there is an excess of it, so it is important to learn to how to conduct searches, use keywords, autocomplete functions, the parameters used to find different results, and the tactics to follow when researching certain information (Cassany, 2019). In turn, this means there is a need to develop skills that enable people to evaluate the information they find, as much of it is false, manipulated, misleading, or fraudulent (Cassany, 2019). Therefore, it is important to understand how domains work, i.e., and resources such as web addresses (URL). When evaluating a domain, it is worth considering whether it belongs to a well-known institution or company, whether it presents real and

verifiable data, what language it uses, whether it is up to date, whether it includes references to information sources and data policies, whether it is linked to other well-known websites, and whether it features a professional appearance or not (Cassany, 2019). In this regard, the challenges posed by media literacy become clear with the emergence of fake news and disinformation, which calls for critical reading skills and analytical approaches that allow us to assess the authorship of content, its purposes, its potential audience, and the references it makes (Cassany, 2019). Similarly, it is necessary to address the concept of post-truth, which encompasses approaches that encourage distrust of facts proven to be true by sufficient objective data, such as the denial of climate change, evolution, the Holocaust, etc. These approaches contribute to the emergence of confirmation bias, where alternative theories explaining a given fact are dismissed and the one that best fits our position is chosen; the overconfidence effect, caused by the belief that we have sufficient knowledge; conformity, which develops with others to avoid disagreement; repetition effects, also known as echo chambers, which lead to the uncritical acceptance of ideas without assessing their reliability or veracity; and the bubble effect created by algorithms (Cassany, 2019), which isolate individuals from other social groups that could challenge the information they are receiving. Despite the challenges involved in developing proficient digital skills through media literacy, there are some tools that can be put into practice today to help foster the skills needed to create digital citizens and critical readers. Thus, we can mention machine translation tools, online dictionaries, images and photographs, spelling and style checkers, and digital encyclopedias, such as Wikipedia (Cassany, 2019). At the same time, it is important to explore digital literature, or cyberliterature, which combines writing with images, voice, music, video, etc.; this form of literature is highly experimental (Cassany, 2019) and is particularly active on social media. As noted above, the advent of the internet has meant that we now need to understand digital reading as a broad spectrum that includes news, websites, blogs, digitized texts, communications, and more (Cruz Ripoll Salceda, 2023). Thus, digital readers deal with both dynamic and static texts, which require strong information-processing skills, although analog reading (reading on paper) is better for comprehension (Cruz Ripoll Salceda, 2023). Therefore, there are a number of skills that need to be practiced in order to improve digital reading skills (Cruz Ripoll Salceda, 2023):

- Search and navigation skills, which involve finding important information and navigating effectively.
- Integration skills, which involve identifying the main information, comparing it with information in a different format or medium, and combining these pieces of information.

- Critical evaluation skills, which involve assessing information in relation to the reader's prior knowledge and the source from which it is taken.

Therefore, incorporating a digital component into the process of understanding and acquiring critical reading skills represents another step in the development of the skills that every competent reader should acquire throughout their lifetime. This is because it involves going beyond textual comprehension itself and progressing toward the mastery of skills related to media literacy, which are essential for the personal, academic, and professional development of any citizen today who lives in an information or post-digital society and wants to protect themselves from disinformation.

2.3. The media: social media and its risks

— *The evolution of media to the present day*

Traditionally, mass media have been responsible for conveying a message through a channel via a transmitter in order to reach a very large number of recipients, according to the possibilities of technology at each given time, with these including print, audiovisual, and digital media (Pérez García *et al.*, 2023). However, the advent of the internet has spawned numerous changes in the way this type of mass communication is carried out. Traditionally, the mass media have been tasked with informing, educating, and entertaining, and this remains true today. Therefore, it is possible to categorize the media into three groups (Pérez García *et al.*, 2023): print media (newspapers and magazines), audiovisual media (radio, television, and film), and digital media (online newspapers).

In post-digital society, however, the media are more present in our daily lives, and we are more dependent on them than we were years ago. This is because we are increasingly connected to one another and, in turn, to the media themselves, which allows media consumption to creep into the gaps of our free time through platforms such as TV series, video games, movies, and the use of our cell phones, as well as through politics, public opinion, etc. (Pérez García et al., 2023). This differs significantly from conventional media, which were located on specific, defined platforms. Following the emergence of the internet and its impact on the media, there was a phase known as Web 1.0, characterized by complexity for users, as well as by its static and expository nature. In this initial phase the capacity for interaction between media and the public was minimal, as the user experience was limited to forums, chat channels, or email (Pérez García

et al., 2023). The Web 2.0, on the other hand, achieved greater development, as it made it easier for users to create content; by this point they could easily publish and edit websites, and more content was consumed, leading to the emergence of the first *weblogs* or *wikis* (Pérez García et al., 2023); that is, spaces featuring collaborative and editable content. Therefore, we have a wide variety of digital media at our disposal, which can be broadly categorized into five groups:

- Online news: the digital successors to traditional newspapers.
- Blogs and websites: platforms where individuals and specialized groups share their experiences and knowledge, as well as offer products or services.
- Social media: platforms like Facebook, Instagram, X, and TikTok allow people to share information, news, photos, and videos. These media outlets are highly influential, and the information they provide is difficult to verify.
- Instant messaging: services like WhatsApp and Telegram allow anyone to create groups where they can share information, photos, videos, and news.
- Podcasts and videos: audiovisual content one can enjoy at any time. For example, YouTube and Spotify are the main platforms for online content, which can be informative, educational, or entertaining.

With so many media outlets available, it is crucial to learn how to analyze news, as it can be presented in any of these formats, and we need to apply certain skills to combat disinformation. Here are some key steps:

- Verify the source: make sure the information comes from a reliable source meeting high journalistic standards.
- Check the date: old news stories, videos, and photos are shared as if they were current to create sensationalism. Make sure the information is recent and relevant.
- Find the author: research who wrote the information or took the photo or video; experts are more reliable.
- Confirm with multiple sources: just like with the press, don't rely on a single version of the story; instead, look it up in several media outlets, and, even if they all report exactly the same thing, continue to be wary.
- Analyze the content: seek to distinguish between facts and opinions. News stories should be based on verifiable facts, not on speculation or rumors. Be wary of information that seems biased or has an overly emotional tone.

- Investigate the context: getting the full picture is essential to avoid misunderstandings.

— *The emergence of social media*

Social media platforms emerged shortly after Web 2.0, and, as we have shown, they offer a wide range of functions, including the creation and sharing of audiovisual content (YouTube, 2005); short-form messaging (Twitter, 2006; X, 2023); the sharing of images (Instagram, 2010); the creation of virtual communities (Facebook, 2004); and instant messaging applications, such as WhatsApp (2009), Telegram (2013), and Snapchat (2011) (Pérez García *et al.*, 2023). Recently, a new platform has emerged that has influenced some of the earlier ones: TikTok, which was launched in 2016 for sharing short videos. These platforms represent a communications revolution on the internet, as they boast a massive capacity for content creation and user interaction, thereby promoting greater diversity in terms of access to information and its characteristics (Pérez García *et al.*, 2023). The audience of mass media has been democratized and rendered horizontal, as anyone can disseminate information, and it is now possible to reach individuals, companies, institutions, etc., to exchange messages (Pérez García *et al.*, 2023). However, this phenomenon of dispersion and levelling stands in contrast to the sway exerted by a relatively small number of powerful media outlets or individuals who measure their impact based on the high numbers of followers they have amassed and the great influence they generate (Pérez García *et al.*, 2023). In short, the emergence of the Web 2.0 was the prelude to the rise of social media; in other words, it was the breeding ground that later led internet users to seek to create content in a free and creative way. The types of content that can be found on digital platforms are highly diverse, depending on the one in question. Below, we present the wide range of content that can be accessed:

- YouTube: audiovisual content on all kinds of topics, offering a wide variety of resources for entertainment and learning.
- Instagram: allows users to share information, access it, or connect with well-known individuals, companies, or institutions who communicate through images or videos.
- X: this platform allows users to share short messages on all kinds of topics, which is why it is so well known.
- TikTok: the creation of short, creative videos and images has made this social network extremely popular.

- Facebook: while it allows users to share all kinds of content, it is known for the importance of its highly diverse communities, which bring together very different groups of people.

In short, content creation on social media is a creative act of communication that can be produced in large quantities. It creates a spectator effect among users, primarily because they play an active, central role through a complex network of participation that reflects interests such as humor, moods, opinions, popular culture, causes, politics, ideologies, art, and sports, among others (Gil-Quintana and Amorós, 2020). All of this takes place within an interconnected, globalized space that encourages collaboration and motivates users to both create one's own content and to consume content created by other followers (Gil-Quintana and Amorós, 2020). As mentioned earlier, the central role that social media plays in allowing users to create their own content from a personal and private perspective has led to the emergence of what is known as "storytelling," a way of sharing persona accounts through audiovisual content, characterized by its brevity and by the fact that it is created specifically for a group of people, or for society as a whole. It is dynamic and aims to generate interactions, experiences, and a strong connection between users through the emotions it evokes. In other words, it is what is known as a transmedia narrative, and it is disseminated through digital communication platforms (Rodrigo-Martín, Rodrigo-Martín, and Muñoz-Sastre, 2020). "Selfies," meanwhile, are acts expressing one's identity, and their creative affirmation has become a milestone in digital storytelling; that is, they serve to showcase oneself, and the creativity behind them knows no bounds. Selfies are renowned for their simple, easy, and interactive nature, as well as for the role of creator they assign to the person featured. They represent a way of making everyday life visible, which is why they are so successful.

— *The risks of social media*

People who use social media fall into two extremes: those who champion their benefits and those who deny them. Of course, both positions are counterproductive, but with moderation and a critical mindset, greater benefits can be derived from the former. The second position is characterized by fear and a lack of enthusiasm. Therefore, as mentioned, it is essential to develop critical thinking skills when using digital tools in order to render their use more efficient, mindful, and secure. This means being aware of some of the risks that can arise when using social media, such as (Limas Suárez and Vargas Soracá, 2020):

- Dependence: using social media can lead to dependence, which can result in an inability to set specific limits and timeframes.

- Distraction: social media captures our attention in a highly targeted way and can become our worst enemy.
- Information overload: often, much more information is presented than we are able to process, which leads to superficial understanding and uncertain reliability.
- Veracity: it is very difficult to determine whether information found on social media is trustworthy.
- The digital divide: difficulty in accessing the internet can be an insurmountable barrier.

When it comes to the interactions that arise from using social media, it is important to be aware of the risks that can result from their inappropriate use (Cornejo and Tapia, 2011):

- Intimacy: it is crucial to understand that our intimacy can be exposed, so we need to correctly identify the people who can access the information we share.
- Identity: there are issues related to identity theft that make it impossible to truly know who is behind certain profiles; therefore, to use social media safely, we must exercise caution and critical thinking.
- Privacy: we need to be aware that anyone can see the information we share, so it is essential to have strong privacy settings on our profiles to avoid the risk of exposure, and to be careful about the content we share.

3. CONCLUSIONS

Throughout this journey, we have observed very striking changes in the way we adapt to new technologies, which are evident in our social relationships, the media, and new ways of accessing information. We have also seen risks that are as yet unknown, but which we must address in order to make critical, responsible, and healthy use of today's digital media. Our ability to be citizens with media and information literacy skills commensurate with these rapidly changing times will depend on this. The effort this entails in our daily lives will be the guiding light that steers us through the fast-paced future of innovation and technological change that defines society today.

REFERENCES

Alonso-Arévalo, J., and Mirón-Canelo, J. A. (2017). Mobile health applications: potential, safety standards, and regulation. *Cuban Journal of Health Sciences Information*, 28(3), 0–0. x://ref.scielo.org/r8d789

Cardona-Román, D. M., and Sánchez-Torres, J. M. (2011). Distance education and e-learning in the information society: a conceptual review. *UIS Ingenierías Journal*, 10(1), 29–52. https://revistas.uis.edu.co/index.php/revistauisingenierias/article/view/39-52

Cassany, D. (2019). *Reading Lab: Understanding Reading*. Anagrama.

Cloutier, J. (1973). *Audio, Written, and Visual Communication in the Age of Self-Media*. Canada: Les Presses de l'Université de Montréal.

Cornejo, M., and Tapia, M. L. (2011). Social Media and Interpersonal Relationships on the Internet. *Fundamentos en humanidades*, 12(24), 219–229. https://l1nq.com/aC2ar

Cruz Ripoll Salceda, J. (2023). *A Framework for the Development of Reading Proficiency*. Sub-Directorate General for Territorial Cooperation and Educational Innovation.

EDUTEKA (2008). *The Google Generation*. Link.

Gil-Quintana, J. (2023). *Education and Communication in a Post-Digital Society: Documentary Research and Analysis of Perspectives*. Ediciones Octaedro.

Gil-Quintana, J., and Fernández Galiano-Amorós, M. (2020). Posts, interactions, truths, and lies of Spanish adolescents on Instagram. *Texto Livre*, 13(1), 20–44. https://doi.org/10.17851/1983-3652.13.1.20-44

Jiménez, K. A., Ponce, V. C., Merino, S. R. P., and Poveda, M. L. P. (2021). E-commerce: User Experiences with Online Shopping. *Revista Publicando*, 8(31), 225–239. https://doi.org/10.51528/rp.vol8.id2246

Limas Suárez, S. J., and Vargas Soracá, G. (2020). Social Media as an Academic Strategy in Higher Education: Advantages and Disadvantages. *Educación y educadores*, 23(4), 559–574. https://doi.org/10.5294/edu.2020.23.4.1

Martínez, V. (2017). In-person education versus distance education. *La cuestión universitaria*, (9), 108–116. https://polired.upm.es/index.php/lacuestionuniversitaria/article/view/3582

Ministry of Culture and Sport. (2021). *2021–2024 Plan to Promote Reading*. https://www.cultura.gob.es/pfl-2021-2024/presentacion/que-es-el-plan.html

Ortega, A. M. (2023). Distance education, virtuality, advantages, and disadvantages: teaching in the time of the COVID-19 pandemic. *Revista Guatemalteca De Cultura*, 3(1), 1–9. https://doi.org/10.46954/revistaguatecultura.v3i1.26

Peña Jiménez, Y. J. (2019). *Advantages and Disadvantages of E-Commerce*. https://hdl.handle.net/20.500.12494/16999

Pérez García, F., et al. (2023). *Media in the Digital Age*. Ed. BBVA Foundation.

Rodil, L. L. (2015). *Working in the Digital Age: Technology and Skills for Digital Transformation*. Editorial Almuzara.

Rodrigo-Martín, I., Rodrigo-Martín, L., and Muñoz-Sastre, D. (2020). Storytelling as a promotional tool on social media, in S. Liberal Ormaechea and L. Mañas Viniegra, *Las redes sociales como herramienta de comunicación persuasiva*, 533–548. Ed. McGraw-Hill. https://l1nq.com/lPZMv

Rubio Gil, Á. (2009). The Digital Generation: Internet Usage Patterns, Youth Culture, and Social Change. *Journal of Youth Studies*, 88, 201–221. https://hdl.handle.net/10115/75839

Stusser Beltranena, R. J., Albert Cabrera, M. J., Rodríguez Díaz, A., Echevarría Toledo, S., González Fernández, R. I., and Cuadot Álvarez, A. (2006). Vedado Project: eHealth in Primary Health Care. Design and initial results. *Cuban Journal of Comprehensive General Medicine*, 22(4), 0–0. http://ref.scielo.org/btvhfb

Toffler, A. (1980). *The Third Wave*. Colombia: Plaza y Janes, S.A. Editores.

To learn more about the concepts covered in this chapter and to hone your critical thinking skills in a fun way, we invite you to play "Distrust of the Media," an interactive experience designed by the MELISE project team.

Chapter 3

Uses and Misuses of Generative Artificial Intelligence in the Post-Digital Society

Carmen Cantillo-Valero

National Distance Education University (Spain)

Eduardo García-Blázquez

National Distance Education University (Spain)

1. INTRODUCTION

In his speech at the World Economic Forum in Davos, Mark Carney 1 warned that "the world is in the midst of a rupture, not a transition" (Carney, 2026), highlighting how traditional categories are no longer sufficient to understand contemporary change. In this context, we encounter generative artificial intelligence (GenAI), which does not emerge as just another innovation, but rather as an unmistakable sign of a rupture in post-digital society. Its rapid spread makes it clear that we are facing a structural change, one that far transcends the way digital technologies were previously integrated into our lives. These are no longer external tools that we can identify; rather, they are becoming invisible mediators that shape our communicative, social, and cultural practices. Orozco-Gómez (1997) foresaw the need to adopt "a perspective that moves away from Manichean positions … and that facilitates a comprehensive understanding of the various mediations that occur in communicative processes" (p. 25), in order to recognize that mediations shape social experience, anticipating that certain phenomena, such as GenAI, would reveal the structural effect they have on contemporary life.

In this overall context, GenAI does not emerge as a mere technological advancement, but rather, as a visible symptom of the transformations that contemporary society is undergoing. We have become so accustomed to continuous technological advances that we are no longer amazed by innovation, which is already part of our lives, ones in which the Enlightenment ideal of infinite progress is being radicalized. We are facing a relentless, naturalized process with no end in sight, because each advance signals that we are

1 Prime Minister of Canada since March 14, 2025, and leader of the center-left Liberal Party since 2025. https://es.wikipedia.org/wiki/Mark_Carney

approaching yet another frontier. Thus, the ways we relate to one another, and practices of symbolic production and knowledge construction, are being reshaped. The latter have always been a concern for humanity; as early as classical epistemology, Aristotle warned about the distinction between appearance and true knowledge, stating that to understand a phenomenon, it was necessary to investigate its causes and principles in order to avoid staying on the surface, at its most visible manifestations… (Aristotle, 1981). This disruption is not evenly distributed, however, as certain groups, such as older adults, are more affected by invisible mediations and algorithmic opacity, which are reshaping their habits, conditioning their access to information, and reducing their ability to participate critically in the public sphere.

Until recently, technological innovations were visible, and digital devices clearly demarcated the boundary between users and the content they mediated. Today, however GenAI is embedded in hybrid environments where algorithms and human beings intermingle, their boundaries blurred. Apps are emerging that can generate written text, original images, audio with human voices, and videos with movements so natural that they seamlessly integrate into everyday use, entering the human realm in a way that goes unnoticed and gradually shapes us. When we encounter these creations, we wonder whether they were produced by a human or an algorithm, who their creator is, whether the process is automatic, or whether some kind of statistical calculation is behind these interactions.

We need to consider that this process of incorporation should be analyzed from a more in-depth perspective, as we cannot focus solely on its technical and functional aspects. AI for Cultural Purposes (AICP) is a cultural technology that plays a role in the production of discourse, the organization of knowledge, and the social architecture of meanings. Therefore, we cannot measure its impact solely by the automation of mechanical processes or the performance of tasks, but rather by the extent to which it affects the symbols and dynamics that will shape the contemporary public sphere. Therefore, GenAI should be understood as a radically new form of mediation, one that has an unprecedented ability to influence what is said, how it is said, and from what position of power different lines of discourse are legitimized. This logic is directly related to Harold Lasswell's functionalist approach to communication, according to which every communicative process is structured around the question, "Who says what, through what channel, to whom, and with what effect?" (Lasswell, 1948), which highlights the structuring role of the media in the production of meanings and social effects.

We live in a post-digital society characterized by an intensification of a technological mediation that has led to the naturalization of the presence of digital artifacts. Certain dynamics have become increasingly significant in our society, but their impact is not uniform; for example, for older adults, the challenge is twofold. On the one hand, because the GenAI interface is integrated into everyday products and services, the opportunity to interact with a mediating system has been reduced, making it more difficult to identify what lies behind these lines of discourse and the power relations that run through them.

There is, moreover, a lack of transparency regarding algorithms, which, combined with people's different life experiences and levels of media literacy, accentuates the (well-known and, until now, easily identifiable) boundaries between sender, message, and channel. As a result, the digital divide, in terms of being able to access information from a critical perspective, is widening.

Emerging technologies come with both an emancipatory promise and a body of dystopian imagery, which is why GenAI has emerged as a decidedly ambivalent phenomenon. It is worth noting that digital technologies offer a range of opportunities to reduce barriers to accessing information, facilitate lifelong learning, assist with everyday tasks, and create new forms of social participation, Furthermore, aspects such as interaction and communication through systems that use natural language could be helping to close the digital divide, fostering a "more human" relationship with digital environments. However, certain risks have also arisen, ones particularly affecting the older population. The human-like language used by machines can make it difficult to determine the veracity of the services they provide, and the opacity of algorithmic processes, the manipulation of discourse, and uncritical delegation due to the inability to make judgments lead users of these technologies to perceive themselves as incapable, believing this to be an individual shortcoming when, in reality, it is the result of the multiple structural transformations that are shaping the contemporary media ecosystem.

Given these circumstances, we cannot approach media literacy for older adults from a purely instrumental perspective. Instead, we need to approach it in a way that is thorough enough to help identify the invisible mediations that currently hinder a critical understanding of information systems and that directly affect the legitimacy of discourse, with the aim of enabling citizens to act as fully active participants in digital environments. Indeed, within the field of media literacy, we must approach GenAI from a critical, contextualized perspective that is situated within the cultural milieu of each given moment. Perhaps the

key lies in approaching it as a cultural technology shaped by legal frameworks and regulatory policies, as well as by the critical skills and uses of those who use it. In this regard, it is necessary to focus this teaching methodology on developing critical thinking and acquiring information in order to participate in the public sphere; therefore, it must be structured as a fundamental cornerstone for reflexively appropriating GenAI. It is not just a matter of acquiring the practical skills to use the tools that are appearing online, but also of developing the analytical skills needed to understand their internal operating logic and to question the authority of their discourse; as Lasswell (1948) put it: "Who says what in which channel to whom with what effect?" More broadly, there is a need to contextualize the technology in relation to the values that define us as a society, with autonomy, responsibility, and social justice. However, to do this, it is necessary to "clear the dense forest of information, in which we run the risk of getting lost" (Han, 2023, p. 9).

With this in mind, we present this chapter, which aims to systematically analyze the uses and abuses of GenAI in post-digital society, paying particular attention to the impact it has on older adults and the urgent need to promote educational initiatives focused on media literacy. Throughout the text, we will conceptualize the fundamentals and principles of its application to everyday life, as well as its structural limits and the dangers that can result from its inappropriate use. In this way we aim to develop a theoretical framework to lay the groundwork for the ethical and responsible integration of these technologies into our lives.

2. GENERATIVE ARTIFICIAL INTELLIGENCE AS A CULTURAL TECHNOLOGY

Generative Artificial Intelligence (GenAI) cannot be understood as a new stage in digital evolution without also taking a critical view of it as a structural cultural mediator that directly affects and reshapes all aspects of life in post-digital society. Its capacity to generate texts, images, audio, and video—that is, documents in all formats—using computational logic based on large data repositories does not end with the mechanical performance of practical tasks; rather, it plays a role in the production of discourse, the organization of meanings, and the construction of knowledge. It is important to note that GenAI is already becoming a new mediating agent that plays a role in cultural

and communicative processes, as Manuel Castells (2009) analyzed, highlighting the relationship between communication and power in contemporary societies.

For this reason, we proceed based on the need to understand that GenAI is a cultural technology, as it mediates between people and the world and reshapes information dynamics and social structures. As early as 1997, Guillermo Orozco-Gómez recognized the need to move away from simplistic approaches to communication processes and instead focus on the mediations that run through them and give them meaning. Today, GenAI amplifies these phenomena, as it acts as an algorithmic mediator that goes beyond simply transmitting information; rather, it reshapes it, and gives it new meanings and legitimacy, thereby determining the visibility of different lines of discourse, making some go viral and relegating others to digital ostracism.

The main characteristic of these mediations is that they are becoming increasingly invisible. The widespread integration of algorithmic technologies into platforms, applications, and public services has led to the naturalization of a form of mediation that was previously easily recognizable, to the point where it has become imperceptible. This process blurs the boundaries between the human and the technological, making it difficult to identify algorithmic intervention in everyday communication processes. This integration leads to the perception that the content is neutral and objective, even though it is generated by probabilistic calculations and carries the bias of decisions embedded in the data itself and in the models that have already been trained by the algorithms. This is because we live in an "infosphere" (Floridi, 2014), where the distinction between the technological and the social is becoming increasingly blurred, leading to a lack of understanding of the reality that shapes how knowledge is produced.

These information systems are known as "black boxes" 2 (European Data Protection Supervisor, 2023), characterized by a lack of transparency that further exacerbates the problem for users, as their internal logic is incomprehensible and they limit users' ability to critically evaluate the information they are consuming. As a result, users delegate their judgment about the veracity of content to the

2 These types of systems operate in a way that is opaque to those who provide them ("providers"), those who implement them ("implementers"), and those who are affected by their use. In the complex field of AI systems, even the providers of these systems are often unable to explain the decisions and outputs of the systems they have developed. https://www.edps.europa.eu/data-protection/our-work/publications/techdispatch/2023-11-16-techdispatch-22023-explainable-artificial-intelligence_en

systems themselves, a phenomenon more commonly known as "automation bias," which is the tendency to place uncritical trust in the decisions of automated systems (Parasuraman & Riley, 1997). For his part, Pariser (2011) describes this phenomenon as "filter bubbles," where algorithms are responsible for filtering information, thereby preventing a plurality of perspectives. However, if we apply Lasswell's classic formula (1948) — through what channel, to whom, and with what effects — to this context, it takes on renewed relevance. Now, the algorithm acts as an agent within the structure of the communication process, which, of course, will need to be monitored.

These communication dynamics influence the way citizenship is shaped, and they have a particularly strong impact on the older adult population. Algorithmic mediation has become invisible, and there are unequal levels of media literacy among the population, which all make digital discourse increasingly difficult to understand. The days of technical training are over; now, new forms of discourse require the ability to analyze, evaluate, and produce messages in highly complex media contexts. To this end, we must view AI as having an ambivalent nature: on the one hand, it offers a world of possibilities for social participation that were previously unimaginable, and, on the other, it reinforces relationships of power, exacerbates inequalities, and weakens citizens' critical thinking.

All these transformations reflect a fragmentation and opacity in digital discourse that make it impossible to build shared frameworks of meaning. As Han (2023) points out, the contemporary crisis of narrative cannot be explained solely by the overabundance of information, but also by this difficulty in generating shared meanings. This situation is aggravated by the overabundance of information, which, far from promoting knowledge, can lead to confusion and disinformation due to information overload. Mario Kaplún already warned that "when we reach the ultimate point of information, we will have reached the ultimate point of disinformation too" (Kaplún, 2006), highlighting the paradox of a communicative environment in which an excess of information would make it difficult to achieve critical understanding and construct meaning. However, the issue has gone a step further, because it is now impossible to articulate shared frameworks, and there is an urgent need to focus on media literacy—promoted by organizations such as UNESCO (2021)—in order to critically engage with AI and situate technology in relation to social, cultural, and democratic values that will build the post-digital society in an ethical and responsible way.

In short, understanding what is happening with AI as a cultural technology requires us to analyze its impact beyond the automation of processes and to

include in our analyses the symbolic mediation structures that shape post-digital society. We have discussed the reconfiguration of discourse and the emerging power hierarchies that determine how meanings are constructed and that are affecting citizens' perceptions of how their "critical" participation in the public sphere is approached. According to Manuel Castells (2009), unequal participation implies power: "Power is exercised… through the construction of meaning based on the discourse through which social actors guide their action" (p. 10). Thus, digital communication is facing a narrative crisis (Han, 2023) stemming from the role of technology in the communication processes that shape our understanding of society. As citizens, we are unable to perceive these mediations; we thought we had a certain privilege when interacting with digital artifacts, but as the algorithm devoured information, the value of "natural language" has shifted from being a mere channel to becoming the very architect that constructs that meaning.

At its core, communicative rationality involves the ability to critically evaluate statements and assess the plausibility of their claims (Habermas, 1997). However, this argument loses its relevance when narratives are produced by opaque systems through invisible and naturalized mediations. This is why an analytical approach based on the interactions, languages, and meaning-making of the products generated by GenAI is warranted. Only in this way will we be able to understand the cultural impact of this tool on the development of a critical citizenry, paying particular attention to older adults, who, when interacting with technical systems designed to mask the limits of the algorithm, attribute human capabilities to these technologies. More importantly, however, this cultural mediation not only operates at the level of content circulation, but also extends to a more subtle and dangerous level: the way people interact with these systems and make sense of their responses. This is why we consider it necessary to explore this topic in greater depth in the next section, which is dedicated to interaction, language, and the processes of meaning construction in GenAI.

3. INTERACTION, LANGUAGE, AND MEANING CONSTRUCTION

As mentioned earlier, one of the main features of generative artificial intelligence is the ability to interact with it using "natural language," which humanizes it and blurs the line between person and machine. The use of

everyday language reduces technical barriers to access (we no longer need to type on a small phone screen; we can communicate using our voice or dictate instructions), and this creates a sense of rapport that makes it easier to participate, especially for groups with fewer digital skills, such as older adults. However, this apparent ease of participation does not mean that the system is understanding the content it shares, as illustrated by John Searle's (1980) thought experiment, "The Chinese Room," in which a person who does not know the Chinese language follows instructions to manipulate symbols and is able to provide correct answers to questions posed to them in that language. The person outside the room interprets this as the person inside understanding Chinese, but in reality, the person inside has no knowledge of what the symbols mean; they are merely following instructions. The same thing happens when people interact with GenAI. By simulating a meaningful dialogue, it reinforces those invisible mediations we discussed and leads the people who interact with it to place blind trust in the output it produces. In other words, it speaks the same language, places few barriers to interaction, and provides an answer that "makes sense," thereby guaranteeing uncritical trust.

In this "Chinese Room," however, GenAI does not generate neutral language; rather, it will be interpreted, conditioned, and focused based on certain interests. Here the channel is not simply a means of facilitating communication. Instead, the channel itself has become a space for the construction of meaning. Therefore, the questions entered by the user (the prompts) will determine the interpretative framework for the responses. What does this mean? This means that the quality of the output, the reliability of the content generated, and, ultimately, the relevance of GenAI's products will depend on the user's ability to contextualize the information, as well as their skills in critically evaluating those products. This is why we emphasize the incorporation of critical thinking skills to interpret and question the information we receive, rather than limiting ourselves to a simple tutorial on how to use the tool.

In practical terms, this means providing the right resources and strategies so that people can interact critically with AI and with which they can:

- Identify biased responses: by examining the source of the data, detecting subjective language, verifying diverse perspectives, and using fact-checking platforms such as Maldita.es, Snopes.com, and FactCheck.org.
- Compare different sources: by conducting cross-searches, assessing the authority of the sources, and using trusted databases and/or aggregators, such as Google Scholar, Dialnet, and PubMed.

- Recognize statistical patterns: AI operates based on patterns; by simulating ambiguous questions and noting inconsistencies, we can better understand it. Tools such as Explainable AI (IBM, n.d.) are available.
- Interact using critical analysis: prompts should encourage users to justify their answers; to this end, it is advisable to prepare a discussion guide in advance to guide interpretation based on a main idea.

These guidelines mark the beginning of a journey toward media literacy that goes beyond the technical aspects of GenAI and becomes a process of conscious empowerment, one that strengthens the autonomy and critical thinking skills of users in the post-digital society. Thus, through this gradual appropriation, digital technologies will transition from being mere, opaque transmitters of information to becoming digital allies in our daily lives, whose symbolic mediation enables understanding and evaluation. Even in digital environments, citizens will be able to engage consciously with discourses that they will interpret and to which they will contribute their own experiences, thanks to their ability to construct meaning even in environments as complex as those mediated by GenAI and algorithms. For older adults, in particular, this approach represents an opportunity to boost their confidence in using technology, while also strengthening their trust and decision-making power, as they feel protected against uncritical delegation and the dissemination of information.

In short, understanding GenAI as a cultural technology means consciously integrating its impact on post-digital society, its reshaping of discourse, and its redistribution of communicative power. Critical media literacy strategies must go hand in hand with the integration of GenAI into society, as these are permanent tools that enable citizens to evaluate information and participate in an informed manner.

4. USES OF GENERATIVE ARTIFICIAL INTELLIGENCE IN EVERYDAY LIFE

4.1. Support for personal autonomy and information management

Generative AI can become a resource employed in everyday life, making it easier to manage information and develop personal autonomy. This is

particularly true for tedious tasks such as interpreting communications from public authorities, filling out online forms, or extracting key information from official regulations and documents. There are digital systems that can generate summaries, translate complex technical instructions, and draft responses to official communications, thereby reducing dependence on external support and services, along with the associated financial and emotional costs they entail.

GenAI can also help organize personal information through apps that act as virtual assistants, to schedule medical appointments, create shopping lists, and plan trips using different modes of transportation, all without the need for technical expertise in complex tools. For example, tools like Google Calendar and Microsoft Copilot allow these tasks to be performed using voice commands, eliminating the need for tedious typing on small phone screens. This closes the usage gap while boosting accessibility, autonomy, and a sense of control.

We continue to emphasize, however, that GenAI does not replace personal judgment. Rather, it should be seen as a tool that supports decision-making, critical analysis, and personal autonomy. Therefore, these technological aids must be combined with responsible usage strategies. This involves verifying content, comparing different sources, and consciously using the aforementioned support tools and prompts to focus the generation of responses and avoid errors. For older adults, an ability to use these tools helps reduce the digital divide, both in terms of access and use, and enables them to participate actively in their daily social and administrative lives. At the heart of this integration is teaching people how to use GenAI resources as practical aids, so that the technical assistance they provide can be combined with personal habits of verifying, organizing, and prioritizing information, making digital mediation a truly empowering tool.

4.2. Lifelong learning

Lifelong learning stands as a guiding principle for active aging. GenAI amplifies this guiding light by offering each person the opportunity to access, transform, and appropriate knowledge throughout their lives. This idea aligns with the proposal put forward by Jacques Delors (1996), who emphasized that lifelong learning is based on integrating the ability to know, to do, to live together, and to be, understanding learning as a continuous process linked to experience and personal development. For older adults, adopting GenAI as another tool in their lives helps them to learn more independently, without the constraints of formal education. However, there are still some limitations due to

the internal structures of the systems and the opacity of the algorithms we have already discussed. This means that we need to continue developing a critical and conscious mindset when it comes to the information generated by these systems, so that we can consume high-quality, useful data.

4.3. Communication, writing, and personal expression

We have found that GenAI is a valuable tool for everyday communication: it suggests alternative wordings, corrects spelling and typographical errors, recommends synonyms, organizes the structure of texts, and generates drafts based on the ideas provided. Thus, tools like Grammarly, Microsoft Copilot, and ChatGPT help users produce clearer and more coherent writing, without sacrificing a personal touch. We emphasize that the effectiveness of these products will always depend on our input, as GenAI does not replace human reflection or guidance, and we underscore the importance of the structural limits that determine its use and scope.

5. THE STRUCTURAL LIMITATIONS OF GENERATIVE ARTIFICIAL INTELLIGENCE

GenAI has many uses, but it also has structural limitations that affect its use and effectiveness. Here are some of the most important aspects that users need to critically analyze:

- Hallucinations: Generative AI is unable to distinguish true information from false, and it can even make up some answers with a message that is linguistically and phonetically coherent.
- Dependence on prompts: its results will depend on the accuracy of the instructions entered by the user. Poorly formulated, incomplete, or ambiguous prompts can lead to inaccurate or incomplete answers.
- Need for supervision: GenAI requires human input to assess the reliability and relevance of the information it generates, as this tool lacks critical judgment and awareness.
- Verification and literacy: to ensure responsible and informed use, it is essential to implement tools for verifying, analyzing, and cross-checking

the output generated. To achieve this, it is necessary to combine these tools with media literacy methodologies to guide their use.

These limitations are not merely technical; rather, they open the door to new strategic uses of GenAI in social and political contexts, which, in turn, facilitate specific forms of misuse that we will discuss below.

6. FORMS OF MISUSE OF GENERATIVE ARTIFICIAL INTELLIGENCE

In a society of platforms governed by algorithmic modulation mechanisms, the manipulation of information provides fertile ground for the proliferation of artificial profiles and automated strategies that disrupt the dynamics of visibility and circulation in the digital environment (Van Dijck et al., 2018). This helps us understand how GenAI facilitates the production of content aimed at spreading disinformation and enables bots and artificial profiles to simulate a social presence that amplifies certain narratives, thereby distorting perceptions of truth.

6.1. Disinformation and discursive manipulation

It is so easy to produce compelling content using GenAI that not only does the speed at which information is produced multiply, but the risk of that information being manipulated and shared also increases. With just a click, harmful messages can be generated with the intent to deceive, manipulate, or distort public opinion, and these messages can easily go viral and distort the truth. Identifying hidden agendas, verifying sources, and cross-checking information—rather than simply believing a sensational headline—are key preventive measures to consider in any form of media literacy, especially when targeting more vulnerable groups with less digital experience.

6.2. Bots, fake profiles, and the distortion of the public sphere

The proliferation of fake artificial profiles and bots generated by AI is transforming the digital public sphere, creating the illusion of a crowded stage.

It's as if we were in a vast virtual theater, where these invisible actors perform scenes in which unimaginable consensus is reached, some voices are amplified, and others are silenced, until—without us realizing it—a collective voice has been constructed, the product of a deliberate algorithm, of a manipulated echo. Every "like," every automated message, every calculated interaction distorts the social reality we know, eroding our trust in information and creating chaos where the line between what is authentic and what is digitally fabricated becomes blurred. We are facing invisible enemies who act in silence and multiply, non-stop, through the power of the algorithm, shaping narratives without leaving any trace of their authorship. This brings to mind the surveillance and control of "Big Brother," described by Orwell (1949) in *1984*, in which truth itself became a malleable construct, leaving reality in the hands of those who manipulated information. In the face of this catastrophic world, critical media literacy emerges as the only solution, allowing us to distinguish truth from illusion, to uncover constructed identities, to question apparent consensus, and to verify every piece of information in the public sphere, with the goal of reclaiming a pluralistic, participatory space that is resistant to algorithmic manipulation.

7. MEDIA LITERACY AND CRITICAL THINKING IN POST-DIGITAL SOCIETY

In post-digital society, critical thinking is emerging with a power greater than cognitive ability, standing as an expression of ethical resistance to combat the sea of automated digital information. This type of thinking involves a profound questioning of the veracity of content, but it also entails a force that exposes the processes that generate it and the interests and power structures behind its dissemination. UNESCO (2024) defines media literacy as the skills needed to access, analyze, evaluate, interpret, use, and create content in a critical and responsible manner, thereby providing citizens with a shield against algorithmic manipulation. Similarly, Livingstone (2004) defines media literacy as "the ability to access, analyze, evaluate, and create messages across a variety of contexts" (p. 3), emphasizing that it involves not only acquiring technical skills, but also developing a critical understanding of media messages, the organizations that produce them, and the social contexts in which they circulate. From this perspective, transmedia literacy underscores the need to develop

critical skills for interpreting and participating in environments where content is collectively expanded, remixed, and reconstructed across multiple formats and channels (Scolari, 2018).

We are growing up in a world of "infoversion" (Han, 2023), in which an overabundance of information confuses and paralyzes our ability to discern, causing citizens to get lost in a sea of data that appears neutral but is extremely powerful. In this context, every interaction is a conscious choice, so we must see them as opportunities to stop being spectators in this overloaded public space and once again become active, meaningful participants who defend the truth without distortion. Once we have identified these invisible mediations, we must continue to contribute to the collective conversation so that critical thinking becomes an act of citizen empowerment in the face of invisible technologies.

8. CONCLUSION

In today's post-digital society, we find generative artificial intelligence to be a cultural technology with a twofold impact: on the one hand, it multiplies the possibilities for producing, accessing, and circulating information in an unprecedented way; on the other hand, it intensifies the risks of disinformation, manipulation, and the concentration of power. It becomes part of everyday life as an invisible mediation facilitated by opaque algorithms, blurs the boundaries between technology and human beings, and requires citizens to take active roles, exerting personal autonomy and engaging in critical thinking, a challenge that particularly affects older adults. To address this situation, the only and most powerful resources we have are media literacy and critical thinking, as these are the essential tools for integrating the different stages of ethical and responsible participation into the digital public sphere, namely: identifying and verifying information; understanding the processes by which it is generated; questioning intentions; and identifying the companies, institutions and power structures behind discourse. To become conscious actors in our time, we must reflectively embrace these technologies, as only through this introspection and critical approach can we transform generative AI into an aid for citizens, enabling us to strengthen plurality, democracy, and justice in post-digital society.

REFERENCES

Aristóteles. (1981). *Metafísica.* Espasa-Calpe.

Carney, M. (2026, January 20). *The world is in the midst of a rupture, not a transition* [Video]. YouTube. https://www.youtube.com/watch?v=A4qT8SSPDuM

Castells, M. (2009). *Comunicación y poder*. Alianza.

Delors, J. (1996). *Learning: The Treasure Within. Report to UNESCO of the International Commission on Education for the Twenty-first Century*. UNESCO.

European Data Protection Supervisor. (2023, 16 November). *TechDispatch #2/2023 – Explainable Artificial Intelligence*. European Data Protection Supervisor. https://www.edps.europa.eu/data-protection/our-work/publications/techdispatch/2023-11-16-techdispatch-22023-explainable-artificial-intelligence_en

Floridi, L. (2014). *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford University Press.

Habermas, J. (1997). Teorías de la verdad. *En Teorías de la verdad en el siglo XX* (pp. 555–556). Tecnos.

Han, B.-C. (2023). *La crisis de la narración* (A. Ciria, Trad.). Herder Editorial.

IBM. (s. f.). *¿Qué es la IA explicable (XAI)?* IBM Think. https://www.ibm.com/es-es/think/topics/explainable-ai

Kaplún, M. (2006). *Kaplún habla sobre nuevas tecnologías* [Vídeo]. Programa modular *Nuevas tecnologías y educación*, UNED. https://youtu.be/zucrwIkexsM

Lasswell, H. D. (1948). *The Structure and Function of Communication in Society*. In L. Bryson (Ed.), *The Communication of Ideas* (pp. 37–51). New York, NY: Institute for Religious and Social Studies.

Livingstone, S. (2004). Media literacy and the challenge of new information and communication technologies. *The Communication Review*, 7(1), 3–14.

Orozco-Gómez, G. (1997). *El reto de conocer para transformar: Medios, audiencias y mediaciones*. Comunicar, *5*(8), 25–32. https://doi.org/10.3916/C08-1997-06

Orwell, G. (1949). *1984*. Secker & Warburg.

Parasuraman, R., & Riley, V. (1997). *Humans and Automation: Use, Misuse, Disuse, Abuse*. Human Factors, 39(2), 230–253. https://doi.org/10.1518/001872097778543886

Pariser, E. (2011). *The Filter Bubble*. Penguin.

Scolari, C. A. (2018). *Alfabetismo transmedia.* Gedisa.

Searle, J. R. (1980). *Minds, Brains, and Programs*. Behavioral and Brain Sciences, 3(3), 417–457.

UNESCO. (2021). *Media and Information Literacy Curriculum for Educators and Learners.* UNESCO Publishing.

UNESCO. (2024). *Alfabetización mediática e informacional: competencias para acceder, evaluar, interpretar, utilizar y crear contenidos críticos y responsables*. UNESCO. https://www.unesco.org/es/media-information-literacy

Van Dijck, J., Poell, T., & de Waal, M. (2018). *The Platform Society. Oxford University Press.*

To delve deeper into the concepts covered in this chapter and hone your critical thinking skills in a fun way, we encourage you to play "Generative Artificial Intelligence," an interactive experience designed by the MELISE project team.

Chapter 4

Knowledge Creation and Opinion Formation in Digital Interaction Contexts

Alejandro Quintas Hijós

University of Zaragoza (Spain)

Lorena Latre Navarro

University of Zaragoza (Spain)

1. INTRODUCTION

In contemporary culture, the word "opinion" no longer refers solely to a provisional stance on an issue; instead, all too often, it has become a form of instant currency, being expressed, shared, and reinforced within a system of public recognition that rewards speed and decisiveness. This change is not only technological, but also epistemic: it affects the way judgments are formed, the criteria used to decide what deserves assent, and the relationship between what is experienced, what is said, and what is true. Therefore, a chapter on knowledge and truth cannot be approached as a mere list of theories; rather, it should be presented as an exploration of the underlying problem: what it means to know, what conditions make it possible to speak of truth, and what intellectual processes enable us to distinguish, within the fabric of social life, between opinion, belief, and knowledge.

From very early on, philosophical research offered ways to address this problem. Distinctions between the degrees and instruments of knowledge —sensibility, understanding, and reason—help us understand why an intense perception does not equate to evidence, why a generalization does not equate to proof, and why a well-constructed argument can be coherent without being true. In turn, the discussion of the possibility of knowledge and its limits—both internal and external—introduces a pedagogy of finitude: human knowledge depends on mediations (experience, language, categories) and is subject to interference (prejudice, authority, dogma). Against this backdrop, the theory of truth takes on its full meaning: it is about identifying the criteria by which a judgment can be presented as valid and explaining why truth is not a single entity, but rather a set of regimes—disclosure, evidence, coherence, adequacy, and rational consensus—that, each in its own way, structure the task of thinking responsibly in a world saturated with messages.

2. WHAT DOES IT MEAN TO KNOW?

In philosophy, "knowing" is not an innocent act. It can be analyzed—and made intelligible—by contrast: opinion, belief, knowledge. In everyday speech these words brush up against one another, are used interchangeably, and end up erasing distinctions that, when examined rigorously, turn out to be decisive. Opinion names a point of view: something held from a situated perspective, with a variable degree of commitment, and with a constitutive fragility in the face of correction. The problem is not that opinion is useless; it is that its demand for justification tends to be low — and that "low demand" defines its status. Knowledge, by contrast, is formulated as a claim to truth: it is not enough for something to "sound right" or "fit," because it is expected to be grounded in experience and reason, and to be defensible before others without depending on the psychological intimacy of the person who states it.

Belief operates within the same realm. To believe is to hold onto a subjective certainty—sometimes a very firm one—even in the absence of sufficient objective information. Belief is a way of representing reality: it can be right, or it can be wrong. Thus, the key distinction is this: when a belief is true, it ceases to be a mere belief and can be considered knowledge. Here, the focus shifts: the issue is not how strongly one "feels" certainty, but rather the truthfulness of what is claimed and the ability to ground that truthfulness in reason and experience. Put simply: conviction alone does not prove anything.

What matters is the difference between what *seems* to be true and what *is known to be* true, a distinction that was already recognized in the classical tradition and was, in fact, was one of the main issues that gave rise to Western philosophy. In his *Metaphysics*, Aristotle makes it clear that what "seems"—what is plausible, what is repeated, what is accepted—cannot simply take the place of what is true: it is precisely here that the need for criteria arises.

In addition to this triad, there is a linguistic precision that, when examined closely, constitutes a mini-theory of knowledge. We gain knowledge in two ways: through acquaintance with objects (broadly speaking, places, people, and works) and through knowledge of facts (that is, propositions). In English, these two types of awareness are usually distinguished by language that is not interchangeable without loss: "to be familiar with" and "to know." We say "I am familiar with Seville," "I know Mateo's parents," and "I am familiar with Beethoven's Ninth Symphony." In contrast, we say "I know that the cell is the

functional unit of living beings," "I know that radon is a noble gas," and "I know that Julio and Ana are Cristina's parents." In the first set of examples, there is familiarity and direct experience with something; in the second, there is adherence to a statement that declares a fact.

When one enters the world of social media, these distinctions become almost palpable. Opinions circulate easily because they are tied to identities: "This is how it is" is stated with a certainty that is primarily supported by a tone and a sense of belonging (indignation, irony, complicity) as if passion could replace argumentation. Belief is reinforced through fit: people believe a story because it fits with an existing framework, and they mistake that fit for truth; sometimes, all it takes is an image, an isolated testimony, or repetition to create certainty. Knowledge, on the other hand, requires something different: an explicit source, a distinction between data and inference, an acknowledgment of uncertainty where it exists, and the ability to compare and correct. But, what happens when the platform rewards speed and vehemence, and penalizes circumspection? What happens is that the *endoxon*—what is plausible because many people repeat it—gains a structural advantage, while the processes of justification are often marginalized.

3. DEGREES AND INSTRUMENTS OF KNOWLEDGE

To speak of "degrees" of knowing is to assume that human knowledge is not presented as a homogeneous block; rather, it is a stratified process: from what is immediately sensed, to what is conceptually elaborated, and, finally, to what is systematically integrated. In this hierarchy, the "instruments" of knowledge do not refer to external artifacts, but rather to internal faculties and operations that, once distinguished through analysis, act in concert within experience. The tripartite division of sensibility, understanding, and reason is particularly relevant here, as it enables us to accurately describe the transitions: from the reception of stimuli to the perception of objects; from perception to the formation of concepts; and from concepts to the construction of explanatory systems. Moreover, this architecture is in dialogue with a broader tradition: Kant presents it in a canonical manner in his *Critique of Pure Reason*, where he distinguishes between the conditions of sensible intuition, the operations of understanding, and the dynamism of reason, without turning this distinction into rigidly compartmentalized categories.

The first stratum is sensibility. Sensation constitutes a basic form of knowledge: the reception and interpretation of stimuli through the senses, which enter as sensory qualities—colors, shapes, flavors, textures, temperatures. However, we do not experience the world as a scattered collection of data: ordinary experience takes the form of the perception of objects. Therefore, perception requires an organizational process: grouping and interpreting sensations to produce a meaningful unit. At this point, the reference to "internal senses" becomes understandable: the external senses, which register qualities, are not sufficient; rather, functions that unify and stabilize what is perceived are required. In the Aristotelian tradition, this mediation is understood through concepts such as "common sense" (as an integrating faculty), imagination, and memory, which retain images of the particular once it has been apprehended. Fundamentally, what is being defined here is the scope of sensory knowledge: it captures the particular and the immediate, and it can retain this information, but it does not yet operate with universals.

The second stratum corresponds to understanding. Its task is to elevate what has been perceived to a conceptual level: to operate with universal ideas, concepts, that make it possible to classify, compare, and understand the manifold. In this process, two core operations can be identified. Intuition is defined as direct perception: it is empirical when it occurs through the senses and enables the apprehension of the particular, and it is intellectual when the understanding perceives content without being reduced to mere sensory stimulation. Abstraction, in turn, refers to the process by which the understanding separates the qualities of an object in order to consider them in isolation and to identify what is common across different experiences. This makes it possible to form general notions. Thus, a clear boundary is drawn: sensation provides the material, and understanding shapes and universalizes it, making it possible to speak of classes, species, regularities, and definitions.

The third stratum belongs to reason, understood both as the faculty of organizing knowledge and as a discursive mode. At this level, knowledge is defined by its aspiration to be systematic (organization of the whole), coherent (the exclusion of contradictions that would undermine its structure), and argumentative (justifying links between propositions). While understanding operates with concepts and judgments, reason seeks foundations, integrates content into broader frameworks, and provides the whole with a justifying structure. This yields a complete hierarchy: sensory knowledge (unique, immediate), intellectual knowledge (universal, conceptual), and rational knowledge (systematic, reasoned). When we describe these tools, we also

describe their risks: absolutizing sensory appearance, turning concepts into rigid labels, or confusing the coherence of a given lines of discourse with its veracity.

In the world of social media, this hierarchy becomes almost pedagogically visible. Sensory knowledge is captured by high-density streams of stimuli —images, short videos, notifications—where perception is organized quickly and with a strong emotional charge: an informational object is "seen" and accepted as evidence. Through repetition, the imagination and memory consolidate a repertoire of scenes and phrases that become familiar, and, without warning, the familiar takes on the status of the plausible. When comprehension is at work, it tends to abbreviate through abstraction: it transforms individual episodes into categories ("all," "always," "never") or into labels that simplify complexity. Finally, reason requires a pace that the platform penalizes: justifying, distinguishing between data and inference, maintaining coherence, and subjecting one's own judgment to scrutiny. This is why, in this environment, opinions circulate with ease (all it takes is a frame) and beliefs are reinforced through subjective congruence; knowledge, in the strict sense, emerges when the entire path from what is perceived to what is justified is reconstructed, without getting stuck in the immediacy of what is seen or the comfort of what is already thought.

4. IS KNOWLEDGE REALLY POSSIBLE?

The question of whether knowledge is possible is not a rhetorical flourish, but a strictly epistemological question: if we accept that knowing implies truth—and not mere psychological adherence—then we need to decide whether human understanding grasps reality as it is, whether it grasps only appearances, or whether, quite simply, it does not grasp anything that merits the label "true." Thus, the problem is structured around several well-defined theoretical stances: epistemological realism (and its critical variant), epistemological relativism, and skepticism. In the modern context, moreover, criticism emerges as an attempt at grounding knowledge in the face of skeptical erosion.

In its most direct form, epistemological realism posits two theses: there is a reality that is independent of the knowing subject, and it is possible to know this reality "as it is." Over a broad span of history, this ontological and epistemological confidence has been attributed to a significant portion of the philosophical tradition. However, it is precisely in the modern era that a modulation emerged

seeking to preserve the ontological thesis (reality exists) without conceding epistemological naivety (there is no immediate access): critical realism. According to this variant, reality is not at the mercy of the subject, but access to it is neither transparent nor direct; knowledge is mediated by the conditions of knowing itself, so that what is known is given as a world of experience rather than as a thing "in itself." Along these lines, we can understand the shift from Descartes' demand to test what is taken for granted to Kant's assertion that what is known belongs, in part, to the order of what appears (phenomena) rather than to the order of a reality apprehended without mediation.

Set against this confidence — even when it is 'critical' — is gnoseological or epistemological relativism, which dissolves the claim to objective truth, which is said to depend on the context in which it is expressed, on interests, on the individual, on culture, or even on the "scientific paradigm." Its roots can be traced back to the Sophists; in contemporary debate, Kuhn's interpretation of paradigms is prominently mentioned, as it emphasizes that different scientific communities operate using different explanatory methods and categories, and that there is not always an external, neutral criterion located "outside" these communities that would allow for a definitive comparison. However, considerations are put forward against relativism that serve as limiting criteria: there are fields, such as mathematics, in which the objectivity of truths does not seem to be affected by interests; and, in the ordinary workings of science, even when biases or errors emerge, conclusions are subject to criticism, and incorrect ones tend to be corrected. In addition, there is a comparative criterion of explanatory power: if one paradigm explains phenomena that another cannot, then we already have a basis for preferring it.

Finally, skepticism takes a more radical stance, contending that it is not possible to establish a foundation for knowledge. Historically, skepticism has been associated with certain positions already held by the Sophists. In the modern era, the case of Hume stands out, as he radicalized a fundamental difficulty: if all knowledge derives from impressions, and impressions are particular, what legitimate principle allows us to move from the particular to the universal? At the heart of the problem lies this divide: generalizations (and, with them, much of what is called "knowledge") appear to transcend what individual experience allows. However, skepticism is not merely a barren negation: it has a "hygienic" effect on the theory of knowledge by forcing us to reveal the weak points of any system of justification. Therefore, in response to skeptical positions, constructive responses have been proposed: Cartesian rationalism, which turns doubt into method, and Kantian criticism, which responds to Humean skepticism by seeking to define the conditions and limits of knowledge.

On social media, these attitudes are not presented as explicit doctrines, but rather as spontaneous ways of engaging with what is said and shared. Realism readily takes on an immediate form: what is seen and repeated acquires the status of "reality" by the mere force of its visibility, as if appearance were already the thing itself. Relativism manifests itself in phrases like "my truth" or "your truth," which replace a discussion of criteria with the coexistence of incomparable perspectives. Furthermore, the echo chamber provides social confirmation that mimics objectivity. Skepticism manifests as epistemic cynicism: nothing can be known, everything is manipulated, and all evidence is suspect, which makes people immune to correction. And yet, a critical practice can also emerge, one that is much less common, but conceptually clear: distinguishing between data and inference, demanding justification, acknowledging limits, cross-checking sources, and accepting that one's own judgment can be subject to review. The question "Is it possible to know?" then becomes a practical one: what cognitive habits are fostered when an environment rewards speed, vehemence, and belonging, and penalizes circumspect reasoning?

5. HOW DOES KNOWLEDGE ORIGINATE?

To question the origin of knowledge means identifying, with a certain degree of precision, the source of what we call "knowing." Does it come primarily from reason or from experience? Is it formed through deduction based on principles, or through generalization based on individual impressions? Should it be understood as a synthesis in which disparate elements come together? The modern tradition addresses this problem through four major positions —rationalism, empiricism, criticism, and perspectivism—which function not only as historical "schools" but also as explanatory frameworks, with each defining what counts as a foundation and, consequently, what is excluded or subordinated.

According to rationalism, the origin of knowledge can be explained by assigning primacy to reason over experience. The key mechanism is intellectual intuition: the mind grasps universals—concepts, ideas, or principles—and, based on these, rational discourse is constructed. In its modern radicalization, this thesis is taken to the extreme, to the point of asserting that reason is the only valid source of knowledge. In this context, we can understand Descartes' appeal to innate ideas, contents not derived from experience, that appear as

concepts, and that, because they lack any sensory basis, are expressed in the form of quantities—mathematical concepts—from which reason systematically deduces what can be known independently of experience. The epistemological consequence of this approach is clear: the origin of knowledge is located in an intellectual realm upheld as something self-sustaining, and which, precisely for this reason, is exposed to the risk of absolutizing its own constructs.

Empiricism, on the other hand, shifts the focus to experience. Those who assign a greater role to experience than to reason in explaining the origin of knowledge are considered empiricists. In its most extreme form, this thesis becomes exclusive: experience is cited as the only valid source of knowledge. This yields an "ascending" explanation: starting from contact with the particular (what appears) one attempts to construct the edifice of knowledge. However, within this same approach, a structural tension arises: impressions are always concrete and particular, whereas scientific knowledge claims universality and necessity. How can the leap from the singular to the universal occur without leaving any trace? When no legitimate means for this transition can be found, extreme empiricism tends to adopt a skeptical stance—not out of whim, but out of internal consistency with its starting point.

Kantian criticism emerges as an effort to overcome the problematic consequences of modern extremes. On the one hand, rationalism leads to dogmatism: by placing blind trust in reason, rational constructs that may contradict one another are accepted as truths, almost as dogmas. On the other hand, empiricism leads to skepticism: if one relies solely on experience, one cannot attain universal and necessary knowledge, since experience is always singular and concrete, as there is no experience of universal concepts or rules. In response to both of these positions, Kantian criticism argues that, before attempting to 'ground' anything, it is necessary to conduct a critique of reason; that is, an analysis of its possibilities and limits. At its core, the solution is formulated as a synthesis of sources: in all knowledge, there are elements that come from reason (space, time, and the categories of the understanding) and elements that come from experience (impressions) and it is the ordering of these impressions according to a spatial, temporal, and categorical order that gives rise to objects of knowledge. Hence the conclusion: reason contributes something essential, but it does so within the context of experience; without experience, reason operates "in a vacuum" and may reach contradictory conclusions. In other words—and this nuance is essential—the origin of knowledge is not attributed to a single source, but to a structural cooperation in which reason provides order and experience provides material.

Perspectivism, advocated by Ortega y Gasset and with antecedents identified in Leibniz and Nietzsche, introduces a shift that moves the problem into the human, historical, and cultural realm, where mathematical rationality is not sufficient to explain knowledge. All knowledge concerning the human realm is provided from a particular point of view. The example of the landscape is telling: when viewed from a different position, the "same" landscape no longer looks the same; the point of view has changed. This point of view can be spatial, but it can also be historical or personal, relating to a specific era or individual, which means that knowledge always involves a situated perspective. This thesis, however, does not necessarily lead to skepticism or relativism. Rather, it maintains that knowledge exists and that each point of view constitutes a piece of truth, such that the various perspectives are not exclusive, but rather complement each other. Taken together, all perspectives would yield absolute knowledge, but this "totality" exceeds the human capacity for knowledge and is attributed, as a theoretical limit, to a subject capable of being "everywhere." The question that remains, one that is dictated by epistemological prudence, is almost inevitable: what kind of certainty can someone who speaks from a particular perspective claim without also acknowledging the inherent partiality of their way of seeing?

6. WHAT ARE THE LIMITS OF KNOWLEDGE?

Defining the boundaries of knowledge requires a preliminary step: acknowledging that human knowledge is not absolutely transparent, but rather a situated and mediated activity shaped by the internal structures of knowledge itself and by external historical and social conditions. Based on this premise, we can distinguish two types of limits: on the one hand, there are internal limits, which arise from the very nature of knowledge; on the other, there are external limits, which stem from the historical, social, or personal circumstances that affect those who investigate, interpret, or judge. In epistemological terms, these are not two separate lists, but rather two levels of analysis. One concerns what the mind can and cannot do, while the other examines what forces (often obscure) divert, hinder, or distort what the mind could potentially do.

On the internal plane, the first thing that appears is the impossibility of reaching a "first principle" through reason alone, in the sense of an ultimate foundation that would settle the problem of "why" once and for all. In certain religious traditions, particularly those of Christian or Islamic origin, reason

cannot grasp the nature of God, who is conceived as the principle or foundation of all reality and, by extension, of all knowledge. Rather, reason must give way to faith as the path to the first truth. The epistemological consequence is severe: if this first truth is not known, knowledge remains "up in the air," lacking an absolute foundation; at best, what is obtained are hypotheses or conjectures on the basis of which our understanding of reality is organized, but they remain hypotheses. This diagnosis has a classic name: *docta ignorantia*, or learned ignorance, a concept formulated by Nicholas of Cusa, which transforms the impossibility of closure into a form of intellectual lucidity: the lucidity of knowing that the ultimate foundation is not within one's grasp.

A second internal limit is expressed as the difficulty, or impossibility, of rationalizing certain vital phenomena. If modernity enshrines a logical-mathematical conception of reason, a corresponding objection arises: there are dimensions of human life—history, art, passions, values, life itself—that cannot be translated into mathematical terms. If reasoning is equated without exception with mathematizing, then those dimensions lie outside the scope of rationality and, therefore, outside the reach of rational knowledge. Along these lines, irrationalism is defined as the acceptance of non-rational elements to explain reality, this being present in mythological worldviews (gods, destiny, magic) and reappearing, in more sophisticated forms, in contemporary philosophy when the claim of formal reason to be all-encompassing is challenged. This argument does not call for a denial of reason, but rather for a clarification of its boundaries: What is left out when intelligibility is reduced to the quantifiable?

A third internal limit lies in language. In the 20th century, a school of thought emerged, logical atomism, that shifted the focus from the question of knowledge to the analysis of language: we use language to think; language is understood as the set of meaningful propositions; and a meaningful proposition requires a logical structure. At the same time, the world is conceived as the sum of facts—or states of affairs—which also exhibit a logical structure. Hence, the key conclusion: the common link between language and the world is logical structure, through which language can "represent" the world. However, precisely for this reason, the limits of language constitute the limits of thought and of the world: we cannot think beyond what can be meaningfully said, nor can we know a reality that cannot be described linguistically. Therefore, this limit is not an external constraint, but rather an internal boundary: where language loses meaning, knowledge dissolves.

A fourth internal limit relates to experience. After analyzing the capacities of reason, a distinction is made between a theoretical use, oriented toward

knowledge; and a practical use, oriented toward action. The theoretical use, aimed at knowledge, organizes reality by introducing into it space, time, and categories of understanding. These elements do not arise from experience; they are *a priori*. However—and this is where the key limitation comes in—they can only function if they are applied to experience in order to organize it. In its theoretical use, reason is limited by experience; that is, it only operates where there is experience. This thesis does not deny rationality. Rather, it situates it, and sets a boundary; when we try to know without experience, reason runs out of material and risks producing contradictory or empty constructs.

At the external level, these limits become less "structural" and more historical: they are obstacles that do not stem from the architecture of knowledge, but rather from social habits, institutions, and dispositions. Prejudice is a prime example: a preconceived judgment formed before having accurate knowledge. This applies especially to unsubstantiated opinions about groups or individuals, although it also operates in science and philosophy, shaping how we view reality. A clear example illustrates this point: for millennia, the assumption that human beings were created with a special destiny in the cosmos helped sustain the geocentric view, showing the extent to which an anthropocentric premise can shape, and misshape, a cosmology.

In addition to this, there is the principle of authority: accepting a scientific or philosophical thesis because it is held by someone prestigious or because it appears in a reputable text. This principle makes sense as a precautionary measure. When we do not know much about a subject, it is reasonable to listen to experts, but it becomes a limit to knowledge when authority is held to be unquestionable, thereby stifling research. Intellectual history reveals a recurring pattern: in the Middle Ages, people frequently turned to sacred texts or renowned authors to settle disputes, as if prestige could replace verification.

Finally, dogmatism emerges. A dogma is a truth accepted on principle, without proof and without allowing it to be questioned. Traditionally, theological religions, while acknowledging a rational order in the world, have maintained that ultimate principles or foundations are not accessible to reason. Rather, they must be accepted on faith. This acceptance imposed an explicit limit: rational knowledge was denied the capacity to attain a correct and complete view of reality, which was reserved for faith. The epistemological problem is, thus, clearly formulated: what happens to inquiry when the foundation is declared beyond the reach of rational examination, yet is held up as the ultimate basis of all that is real?

7. IS THERE MORE THAN ONE TYPE OF TRUTH?

Truth is defined as that which knowledge expresses. However, the concept of truth has not remained unambiguous throughout tradition, having been understood in various ways that, for the purposes of organizing the field, can be reduced to two fundamental categories: the first approach views truth as a property of things, while the second views it as a property of the mind; in the latter case, truth is predicated of judgments or propositions, not of raw reality.

7.1. Truth as a property of things: *alētheia*

In the pre-Socratic period, thought was focused on the totality of reality, nature, understood as a multifaceted and changing whole that is born, transforms, generates, and decays. In this framework, to know is to seek the principle or origin from which multiplicity arises and to which it returns. The process by which this hidden principle "comes to light" is called *alētheia*, a term commonly translated as "truth" but which is more accurately understood as non-concealment, uncovering, or making manifest. Thus, truth consists of the being of things revealing itself, making itself manifest. This mode of truth, abandoned since the Sophists and Socrates, as stated in the presentation, reappeared in the 20th century, championed by phenomenology and by authors such as Heidegger and Ortega y Gasset, according to whom, before something can be declared true or false, it must first appear, it must present itself to experience as a phenomenon. Therefore, truth understood as unconcealment serves as a precondition for speaking of truth in other senses. Similarly, art and poetry were presented as practices that aim to bring to light dimensions of reality that remain ignored, forgotten, or hidden—and, to that extent, they also participate in this regime of truth. For example, a short video is circulated in which a politician "appears" to ignore a question, and this edited clip draws ridicule and condemnation. A few days later, the full recording is released showing the context before and after the clip, and it becomes clear that the scene was manipulated through editing. In this case, truth does not consist primarily of a proposition ("he lied" / "he did not lie"), but rather in the manifestation of what was concealed: access to the entire event, which had been veiled. Here, what is true means that the fact is made manifest and is no longer concealed by the editing.

7.2. Truth as a Property of Understanding: Truth in Judgment

After the abandonment of pre-Socratic truth, truth is situated in judgment: a judgment is an act of understanding by which something is said about something, and it is expressed through propositions. The fact that truth "occurs" in judgment does not mean that every judgment is true: at least four conditions are established under which a judgment can be considered true. A judgment can be true when it is evident (or certain), when it is coherent, when it accords with the facts (adequacy), and when it is justified by a rational consensus. This plurality is not an accidental eclecticism. Rather, it shows that the word "truth" refers to different criteria, each with its own scope of relevance and its own requirements.

7.3. Truth as Self-Evidence or Certainty

Self-evidence is defined as that which cannot be doubted. It is generally associated with propositions that express the workings of the understanding itself: principles such as identity, non-contradiction, and the excluded middle. To these are added statements that follow from the very meaning of their terms—analytic judgments, in Kantian terminology—regarding which doubt seems unwarranted: "the whole is greater than each of its parts," "space is extended." Here truth takes on the nature of certainty: the true is identified with the indubitable or with what imposes itself by conceptual necessity. For example, faced with a viral thread making grandiose claims, one introduces a proposition whose negation leads to logical contradiction within the discourse itself: "If one asserts that no source is reliable, that assertion cannot be reliable either." This is not "empirical proof" but formal self-evidence: the statement undermines itself if it claims to hold as true. Truth operates here as logical-semantic indubitability, tied to the principles of thought — not to external data.

7.4. Truth as coherence, validity, or formal truth

According to this view, a statement is true when it is correctly deduced from other statements that have already been given. The decisive criterion for deductive correctness is coherence, which is a basic rule of understanding and, ultimately, amounts to a formulation of the law of non-contradiction. One example is enough to illustrate the point: If we accept the statements "all

metals expand when heated" and "mercury is a metal," then we can deduce that "mercury expands when heated." The result will be logically true as long as the deduction is correct—although, if the initial statements were empirically false, the conclusion could also be empirically false, without thereby losing its formal validity. This sense of truth is characteristic of the formal sciences, such as logic and mathematics, and is referred to by equivalent terms: formal truth, logical truth, syntactic truth, or validity. Even when applied to empirical, philosophical, or theological knowledge, its minimum requirement remains the same: without coherence, there is no rational discourse. For example, someone posts: "All X supplements are harmful to the liver. Creatine is an X supplement. Therefore, creatine damages the liver." The conclusion is valid if the premises and the form of the reasoning are accepted. What this illustrates is that a chain of reasoning can be logically correct even if its content is questionable: if the general premise is false or imprecise, the conclusion may be empirically false, but the reasoning remains formally coherent. On social media, this type of "truth" surfaces when an argument "seems flawless" in terms of its form, even if it is based on weak generalizations.

7.5. Truth as adequacy

Here, truth is defined as the agreement between what is thought or said and the facts of reality: a statement is true if it agrees with the reality to which it refers. However, the presentation introduces a difficulty that undermines the apparent simplicity of this criterion: how can we ensure that thought and reality correspond? A commonplace example helps us identify this tension—saying that "the teacher's desk is red" when it is clearly green—but this immediately opens up the possibility of rethinking the problem: perhaps the issue is not just about "seeing" the color, but about understanding how the senses interpret information such as "green." Thus, the connection between thought and reality is presented through three philosophical positions: Realism, which posits a reality independent of the subject and views the mind as a reflection or copy of it; Idealism, which maintains that concordance is possible because reality is, to some extent, a construction of the subject; and Pragmatism, which holds that judgments, statements, or theories are true if they work in practice and produce the expected results. Thus, adequacy is not a trivial formula, but rather a problem, as it requires a theory of the link between the world and thought. For example, an image of an "ongoing fire" in a city goes viral. A user cross-checks and confirms that the photo is from a fire that occurred on a different date and in a different location (reverse image search, original publication date,

news sources). The statement "There is a fire in this city today" is false because it does not agree with the facts. Here, truth is determined by correspondence: a statement is true if it matches verifiable reality.

7.6. Truth as rational consensus

This view rejects the idea that truth is equivalent to conformity with an external reality. It is argued that the problem of the truth of a statement properly arises when someone challenges it; that is, when the claim that what has been said is valid is denied. In this scenario, defending the validity of a statement requires argumentation, and whether it is true or false is established discursively, through reasons. How can we restore understanding when the validity of a statement is challenged? Through dialogue, until consensus is reached. However, not just any consensus will do; what is required is a rational consensus, not one based on tradition or authority. To this end, certain conditions are set out: participants must speak without the intention of deceiving and without contradicting themselves; all participants must be able to express themselves freely; and all participants must have equal power, so that no one is subordinated to another. Under these conditions, dialogue is referred to as the ideal speech situation, which is considered inherent to the use of language, since language was created to enable understanding. For example, in a public forum, there is a discussion about whether an image was generated by AI. Explicit criteria are agreed upon: reviewing metadata where available, analyzing visual artifacts, comparing the image with original sources, engaging in cross-checking among participants with different areas of expertise, and making public corrections when new information comes to light. The conclusion is provisionally accepted because it has withstood objections in a relatively symmetrical exchange, without any appeal to authority ("I say so"), and with a willingness to be corrected. On social media, this type of truth is rare, but it can be approximated when there is reasoned deliberation based on rules of discussion, rather than a mere accumulation of endorsements.

8. CONCLUSION

A fairly simple idea has been put forward: on the internet, it has been easy to confuse having an opinion, believing, and knowing (*doxa, pistis,* and *episteme*) and this confusion has had consequences. An opinion may be valuable, but it is

often based on quick impressions and on belonging ("my people think that way"); a belief feels very certain, yet it can still be false; and knowledge, when taken seriously, requires something less comfortable: reasons, comparison, and the ability to correct oneself. Furthermore, the "degrees" of knowledge have helped us understand why everything has become so chaotic on social media: first, the visual and the emotional (sensibility, here in the looser sense of emotional-sensory response) post-truth, took over; then things were reduced to labels and categories ("this is of that type," "this always happens"); and only when the effort has been made has a more demanding level been reached, where ideas are connected, evidence is reviewed, and arguments are made coherently (reason). This is why information that is plausible and repeated has spread so quickly: because it fits with how the platform works and with how the mind works when it's in a hurry.

Truth can be understood in various ways, and for orientation it is helpful to know what kind of truth is being talked about. Sometimes, the truth involves bringing to light what has been kept hidden; for example, watching the full video instead of just a clip; other times, it involves identifying a self-contradictory statement; at other times, it involves checking that a line of reasoning is sound at its core; at other times, it involves verifying whether what has been said matches the facts; and, in some cases, it involves engaging in a discussion with basic rules until a reasoned agreement is reached. This leads to a practical conclusion: the limits of knowledge have not served as an excuse for "anything goes," but rather as a warning about where judgment has gone astray. When prejudice, authority, or dogma have prevailed, people have stopped checking; when the pace of social media has prevailed, people have shared information before understanding it. Without a doubt, the greatest enemy of truth today is speed, and digital interaction is a uniformly accelerated freefall. If we want to improve the quality of what we think and share, the path forward is less glamorous than what going viral promises: we need to check facts, explain why something has been claimed, and accept that, sometimes, we have to correct ourselves.

REFERENCES

Aristotle. (1981). *Metaphysics*. Espasa-Calpe.

Aristotle. (2020). *On the Soul* (Trans. T. Calvo Martínez). Gredos.

Descartes, R. (2011). *Meditations on First Philosophy* (G. Graíño Ferrer, Trans.). Alianza Editorial.

Habermas, J. (1997). Theories of Truth. In *Teorías de la verdad en el siglo XX* (pp. 555–556). Tecnos.

Heidegger, M. (2003). *Being and Time*. Trotta.

Hume, D. (2023). *An Enquiry Concerning Human Understanding* (J. de Salas Ortueta, Trans.). Alianza Editorial.

Kant, I. (2016). *Critique of Pure Reason* (P. Ribas, Trans.). Taurus.

Kuhn, T. S. (2006). *The Structure of Scientific Revolutions* (C. Solís, Trans.). Fondo de Cultura Económica.

Leibniz, G. W. (2001). *Monadology* (Trans. E. de Olaso). Gredos.

Nietzsche, F. (2003). *Beyond Good and Evil* (Trans. A. Sánchez Pascual). Alianza Editorial.

Ortega y Gasset, J. (1923). *The Question of Our Time*. Revista de Occidente.

Wittgenstein, L. (2003). *Tractatus Logico-Philosophicus* Alianza Editorial.

To delve deeper into the concepts covered in this chapter and hone your critical thinking skills in an enjoyable way, we invite you to play "Forming Opinions," an interactive experience designed by the MELISE Project team.

Chapter 5

Seeing, Verifying, and Communicating in a Digital Visual Environment

Isabel Iniesta-Alemán

International University of La Rioja (Spain)

Renata Canevari-Modernel

International University of La Rioja (Spain)

1. SEEING IS NOT ALWAYS BELIEVING

Images and videos have become central to contemporary communication. In the digital and social media environment, these formats not only inform and entertain us, but also have a decisive influence on shaping opinions and emotions. Platforms like Facebook, Instagram, and TikTok rely on visual content to capture users' attention, generate engagement, and maximize user engagement time. For people over the age of fifty, who are using these platforms more and more frequently, is accompanied by a growing concern about the reliability of the content that circulates online. There is no doubt that "the emergence of new technologies, particularly artificial intelligence (AI), is having a profound impact on multiple dimensions of social, cultural, economic, and technological development" (Gabarda Balaguer et al., 2025, p. 1).

For much of the 20th century, photography and video enjoyed a high degree of social credibility. In many ways, capturing an image was seen as a way of preserving reality. As Roland Barthes (1986) noted, photography was seen as a "direct imprint of reality," an evidence of existence rather than a representation of existence rather than a representation of it. This perception was linked to the technical difficulty of manipulating an analog image: the chemical process of developing the film limited the possibility of its alteration. As a result, many generations who were educated in that context grew up associating photography with truth. Above all, visual images were considered a form of evidence.

The transition from the analog to the digital, however, has profoundly transformed the status of images. With the widespread adoption of digital cameras and photo-editing software, photography lost the stability that had once guaranteed its evidentiary value. Online, images are constantly cropped,

retouched, filtered, and recombined. As Mitchell (2015) noted, there is no longer a clear boundary between that which has been "captured" and that which has been "created," between document and fiction. In this environment, traditional reliance on the image as evidence has been replaced by a new attention-based economy, where what matters most is content's emotional impact, not its truth.

The emergence of artificial intelligence technologies has accelerated this transformation. Today, employing incredibly easy-to-use editing software and apps, virtually any photo or video can be cropped, retouched, filtered, recombined, or even generated from scratch. The same tools that let one correct the lighting in a photo, or remove red-eye, can also be used to alter scenes, change backgrounds, or even insert people who were never there (Farid, 2018).

In addition to this landscape, we now have the emergence of technologies such as deepfakes, which make it possible to create videos in which a person appears to say or do something they have never actually said or done. Recent research on the impact of deepfakes indicates that, rather than always deceiving people directly, they often create a general sense of uncertainty and a loss of trust in the news that circulates on social media. Deepfake videos or photographs artificially generated using deep learning algorithms can reproduce human faces and voices with remarkable realism (Farid, 2019). These tools, which were once the exclusive domain of technology labs, are now available to anyone. All one needs is a cell phone and a free app to create hyperrealistic images of things that have never existed.

According to Vaccari & Chadwick (2020), the spread of manipulated content poses a growing threat to public trust and media literacy. This overproduction of false images can fuel political, economic, or health-related misinformation, particularly affecting those who still equate seeing with believing. In other words, when people know that videos can be fake, many of them start to doubt everything, which undermines democratic cooperation and trust in information.

For older adults, this situation poses a particular challenge. Several studies show that older adults tend to trust visual content shared on social media, especially when it comes from personal contacts or family members (Sádaba et al., 2023). This trust, inherited from their experience with traditional media, may be put to the test in digital environments, where the criterion of authenticity has become more blurred. The fact is that media literacy is not just about using

devices, but also about understanding how messages, including visual ones, are produced and disseminated. Today, seeing no longer necessarily means understanding. Digital images should be interpreted as technical and narrative products with specific intents and particular distribution contexts. This means that every photo or video that circulates online is the result of human and technological decisions about what to show, what to hide, and how to evoke certain emotions. Even without overt manipulation, framing, filters and captions shape how people perceive reality.

We live within "information bubbles" (Parisier, 2012), which select content based on our pre-existing interests, reinforcing our beliefs rather than challenging them. This refers to a situation in which users are repeatedly exposed to information that aligns with their existing preferences to what we already like or agree with. This occurs because these platforms observe what we do—what we read, what we search for, what we comment on, or what we "like"—and use that data to decide what content to show us. As a result, we mostly see news, opinions, and videos that confirm our ways of thinking and our usual interests. In contrast, we see far fewer different, critical, or opposing points of view. Without realizing it, this can lead us to have a one-sided view of reality, as if we were inside an information bubble that protects us from new ideas, limiting and shielding us from the diversity of opinions that exists in society.

For those who entered the digital world as adults, media literacy is both an urgent and achievable task. It's not about being suspicious of everything, but rather about learning to look at things with a critical eye: identifying the source of images, questioning content that evokes extreme emotions, and checking information before sharing it. Recent visual literacy initiatives for older adults launched by universities and consumer associations show that this type of learning not only improves digital security, but also boosts feelings of competence and autonomy (Livingstone, 2021). At the same time, technology can be a valuable tool. There are projects for quickly verifying images, such as InVID and Google Lens, that allow users to check, in just seconds, whether a photo has already been circulated in a different context or whether it comes from a dubious source. By learning to use these tools, older adults can play an active role in combating visual disinformation, helping to create more secure and responsible digital communities.

In short, the image culture requires new cognitive and emotional skills. If the 20th century was the age of the printed word, the 21st century is the age of the

digital gaze. Older adults, who harbor audiovisual memories of the last century, have a lot to contribute to this process: their experience, their sense of time, and their prudence can counterbalance the speed and superficiality of social media. However, to achieve this we need to support them in developing a critical and active way of looking at things. Only then will they be able to fully benefit from the enormous potential of images to connect, learn, and share, without falling into the trap of visual illusion.

2. EXPANDING BROWSERS: VERIFICATION AND SKIMMING

For many years, people learned to trust what they saw. A photograph or a video was considered clear evidence that something had actually happened. However, in today's digital environment this automatic trust is no longer enough. Today, the ease with which images and videos circulate on social media, messaging apps, and websites has given rise to what some researchers call a loss of visual evidence; that is seeing something no longer guarantees that it is true, current, or properly contextualized.

Faced with this situation, the healthiest response is not to distrust everything, or to assume that everything is false, but to learn how to verify information. Fact-checking is not a task reserved for journalists or technology experts; it is a basic civic skill that anyone can develop through practice and a systematic approach.

At this point, a strategy known as lateral reading becomes particularly important. Put simply, lateral reading means not just relying on the information that appears on the screen, but going beyond it to compare it with other sources. Instead of delving deeper into the same website or social media page, one opens a new browser tab and looks for additional information to determine whether what one is seeing is reliable. This approach was described and analyzed by Wineburg and McGrew (2017), who showed that professional fact-checkers don't just read a single source in depth, but quickly compare multiple external sources before forming an opinion.

Therefore, opening another browser tab means taking an active approach. If we receive a shocking image in a WhatsApp group or see an alarming video

on Facebook, our first step should not be to share it, but rather to ask ourselves: Where did it come from? When was it recorded? In what context did it originally appear? These three questions—origin, date, and context—are key to spotting misleading content.

One of the most useful tools for this task is reverse image search. Services like Google Images and TinEye let one upload a photo or paste its web address to find out where it has appeared online before. In many cases, this simple step reveals that an image presented as current actually relates to an event that occurred years ago, or even in a different country. For example, photographs of natural disasters are often reused over and over again to illustrate new events, which creates confusion and unnecessary alarm. In addition to reverse image searches, it is essential to turn to reliable media outlets. In Spain, there are newspapers, radio stations, and television channels with a long history of professionalism that follow editorial standards and verify information before publishing it. Checking whether these outlets have reported on the alleged event is an effective way to verify its veracity. When a news story is important, it is usually reported by multiple reputable sources, not just in an isolated social media post.

Another very useful resource is the work of professional fact-checkers. Organizations such as Maldita.es, Newtral, and EFE Verifica specialize in analyzing rumors, images, and videos circulating online and clearly explaining whether they are true, misleading, or outright false. These platforms not only debunk hoaxes, but also explain the process they follow to reach their conclusions, which helps educate the public about media literacy.

Indeed, "in the age of data and images, it is necessary to reflect on the role played by infographics and data visualizations" (Canevari-Modernel and Abellán-Hernández, 2024, p. 249). When information is presented through these types of visual languages, the message reaches the reader in a clearer and more direct way. Furthermore, this helps to avoid the emotional reactions that are often elicited by other types of images commonly found in the press, such as photographs or more elaborate compositions, like photomontages, collages, and illustrations, which frequently influence how we interpret information.

Figure 1
Screenshot of the digital version of the ABC newspaper,
October 10, 2023

Note: Source: Iniesta-Alemán and Martínez de Bartolomé (2024)

Academic research has shown that most deceptive visual content is not, in fact, the result of sophisticated photo manipulations or completely fabricated videos. Rather, it is often based on real images that are reused out of context. Wardle and Derakhshan (2017) point out that this type of disinformation is particularly effective because it is based on authentic materials, which makes it difficult to detect at first glance. When taken out of its original context, a real photograph can convey a message that is completely different from the one it did at the time it was taken.

For people over 60, lateral reading and conscious fact-checking are particularly well suited to a more deliberate and reflective style of information consumption. Unlike other age groups, who are more geared toward immediacy, many older people are accustomed to reading the news calmly, listening to full news programs, and comparing different accounts. These skills, acquired before

the digital age, are a significant advantage today if they are adapted to the new technological environment.

Developing these skills not only prevents individuals from being deceived, but also has a positive social impact. Sharing false information, even without malicious intent, contributes to the spread of hoaxes that can sow fear, mistrust, and social division. Thus, taking a moment to check before forwarding a message is an act of civic responsibility and care for others. The truth is, expanding one's browser window and practicing lateral reading doesn't require advanced technical skills; it just takes curiosity, patience, and a clear method. Learning to verify images and videos is an effective way to regain control over the information we consume and share. In an increasingly complex digital environment, these practices enable us to maintain a healthier, more critical, and more conscious relationship with the social networks and the news media.

3. GAMES AS TRAINING FOR CRITICAL THINKING

Understanding how visual disinformation works and learning basic fact-checking techniques is a necessary first step, but it is not enough. Like many other skills in everyday life, knowing something in theory doesn't guarantee that one knows how to apply it in practice. For critical thinking to become an internalized habit, it needs to be practiced consistently. In this process, experience-based learning—and, in particular, learning through play—has proven to be a particularly effective tool for adults.

Traditionally, play has been associated with childhood, but a large body of research has shown that it is also a highly valuable educational resource in adulthood. Far from being a trivial activity, play enables learning in safe environments where making mistakes has no negative consequences. This aspect is especially important when it comes to digital skills, as many older adults feel insecure or fear "getting it wrong" when interacting with technologies they perceive as complex.

Learning by doing means directly experiencing situations similar to those that occur in real life. In the area of visual disinformation, this takes the form of games and activities that present participants with seemingly credible images,

videos, or news items and asking them to decide whether they are trustworthy or deceptive. Through this experience the participant can see for themselves how perceptual biases work: the tendency to believe what confirms our preexisting beliefs, overconfidence in what appears real, and the influence of emotions on our judgments.

Educational research has shown that playful learning increases engagement and motivation, which are key to developing new skills. Gee (2007) emphasizes that effective game-based learning environments encourage exploration, repetition, and reflection, making it easier to apply knowledge learned to real-life situations. Instead of memorizing abstract rules, one learns to recognize patterns and red flags through direct experience.

For people over 60, this approach offers additional benefits. Over the course of their lives, many have gained extensive life experience and strong personal judgment, but they may feel less comfortable in digital environments characterized by speed and information overload. Playing games allows them to slow down, observe calmly, and reflect without pressure. Furthermore, since it is a participatory activity, it encourages exchanges of opinions and shared learning, especially when carried out in groups.

There are already several initiatives that use digital games or simulated activities to teach people how to spot hoaxes, visual manipulations, and fake news. Some of these games put the user in the role of a fact-checker, while others, in a deliberately provocative way, put the user in the role of someone who creates disinformation. This latter strategy is particularly effective, as it allows users to understand from the inside how deception is constructed and the elements that make it convincing. By experiencing the process of manipulation, the illusion of the image's transparency is weakened, and critical thinking skills are strengthened.

From the perspective of digital visual culture, these practices offer added value. We are surrounded by images that appear to be direct windows into reality, when in fact they are the product of numerous technical, aesthetic, and narrative decisions. Lister (2013) points out that digital images combine a strong appearance of realism with a profound technical artificiality. In other words, they can appear very real without necessarily being true to the facts they represent. Playful learning helps to "denaturalize" the image, enabling us to understand that seeing does not always mean knowing. This process of denaturalization is essential for developing reasoned doubt. To doubt does not

mean to distrust everything, but rather to learn to suspend immediate judgment and to ask questions before accepting information as true. Rather than an instinctive reaction, doubt is a skill developed through practice. Through play, which repeats situations that require evaluation and decision-making, this critical mindset can become an almost automatic habit.

Furthermore, play-based learning has an important emotional component. In contrast to alarmist rhetoric that portrays disinformation as a constant threat, gaming offers a more positive and empowering approach. Instead of instilling fear, it conveys the idea that it is possible to learn, improve, and gain control over the digital environment. This sense of competence is key to fostering a healthier relationship with the social networks and the news media.

We should also not overlook the social dimension of gaming. Playful activities carried out in workshops, senior citizens' associations, or informal educational settings encourage conversation and exchanges of different points of view. Sharing questions, mistakes, and discoveries helps normalize difficulties and fosters collective learning. In this way, games not only train individuals' critical thinking skills, but also strengthen communities' information resilience. Therefore, learning by doing and learning through play are particularly effective strategies for training people over 60 to think critically about visual disinformation. These methodologies enable participants to internalize skills, reduce their fear of making mistakes, and gain a practical understanding of how the mechanisms of visual deception work. In an increasingly complex media environment, play, therefore becomes a serious and effective tool for strengthening information autonomy and critical thinking throughout life.

4. COMMUNICATING RESPONSIBLY

Visual literacy is not just about learning to correctly interpret the images and videos we consume on a daily basis. It also inherently involves reflecting on our own behavior as message senders. Today, anyone with a cell phone can produce and disseminate images instantly, without the need for intermediaries. While this capability offers enormous expressive and communicative potential, it also comes with an ethical responsibility that is not always taken into account. People over the age of 60 often hold positions of particular trust within their

family, social, and community circles. Their opinions are often valued, and the content they share on social media or messaging apps tends to be given greater credence by their children, grandchildren, friends, and neighbors. Precisely for this reason, the images and videos they share can have a greater impact than those shared by other users. Communicating responsibly doesn't mean self-censoring; it means being aware of the reach and potential consequences of our communicative actions.

Every image is a way of looking at the world, but also of interpreting it. As Susan Sontag pointed out, photographs are not mere neutral reflections of reality, but rather selections laden with meaning (2006). By choosing what to include in the frame and what to leave out, which moment to capture, or which angle to use, one builds a story. In the digital world, this ability to interpret is amplified by highly accessible technical tools: filters that alter colors, cropping that removes elements from the context, montages that combine different images, and edits that emphasize certain emotions.

In many cases, these practices are not employed to deceive. Applying a filter to enhance a family photo or cropping an image to focus attention on a specific detail are common and legitimate actions. However, even when there is no malicious intent, the result can lead to misinterpretations if the image is presented without sufficient explanation. A photograph taken out of context, a video edited in part, or an old image shared as if it were current can lead to confusion, alarm, or unfair judgments about people or situations.

From an ethical perspective, communicating means asking oneself not only whether something is true, but also whether it is fair, necessary, and respectful. When it comes to images, this reflection also involves considering the people depicted. Sharing photographs of others without their consent, disseminating images that ridicule or stigmatize them, or sharing videos of humiliating situations can cause significant harm, even if done unintentionally. Communication ethics remind us that behind every image are people with rights, dignity, and a life that extends beyond the screen. This approach is particularly relevant in a context where emotions play a central role in the circulation of images. Content that evokes outrage, fear, or tenderness tends to be shared more quickly. Before hitting the "Forward" button, it is advisable to pause briefly and consider: What effect could this image have on the person who receives it? Could it offend anyone? Does it help inform people, or does it just stir up emotions? Taking this moment to reflect is a tangible way to exercise responsible communication.

Image ethics is not just about avoiding harm; it also means making a positive contribution to the digital public sphere. Sharing content with proper context, citing the original source whenever possible, and adding an explanation to help people interpret an image correctly are simple practices that improve the quality of communication. In this regard, visual literacy is not just a technical skill, but a civic attitude.

Some authors have emphasized that these practices are part of what they call media citizenship. According to Clark (2012), in contemporary societies, the media do not occupy a sphere separate from social life, but rather a central space where meanings, identities, and power relations are constructed. Participating in this space means taking on responsibilities similar to those we exercise in other areas of civic life: respect, caring for others, and awareness of the impact of our actions. For older people, this concept of responsible communication naturally aligns with values they have already developed over the course of their lives. Prudence, respect for others' privacy, the importance of reputation, and care for community have always been fundamental principles in interpersonal communication. The current challenge is to carry these values over into the digital environment, where speed and apparent informality can lead to them being neglected. Furthermore, communicating responsibly helps combat disinformation in an indirect but effective way. It's not always about explicitly debunking hoaxes; sometimes, it's enough to simply not amplify them. Choosing not to share a questionable image, even if it is shocking, or aligns with our beliefs, is a powerful form of ethical action. This conscious restraint helps reduce the spread of misleading content and promotes a healthier information ecosystem.

Ethical reflection on images also involves being aware of our own exposure. When sharing personal or family images, we need to consider the risks associated with losing control over that content. Even a photo posted in what appears to be a private setting can end up circulating outside of it. Thinking about the long term—about how that image might be interpreted in a few years' time or in a different context—is part of our responsibility as communicators.

Therefore, achieving full visual literacy is not just about learning to spot manipulation or verifying information from others. Rather, it is achieved when we adopt an ethical perspective on our own communication practices.

Communicating responsibly means recognizing that every image we share helps shape a particular worldview. For people over 60, this task does not

represent a radical change, but rather an adaptation of existing values to a new technological setting. Exercising this responsibility is a form of active citizenship that is consistent with accumulated life experience and is essential for fairer and more respectful digital cooperation.

REFERENCES

Barthes, R. (1990). *La cámara lúcida. Nota sobre la fotografía* (1ª ed., Vol. 43). Paidós Comunicación. https://monoskop.org/images/c/c9/Barthes_Roland_La_camara_lucida_Nota_sobre_la_fotografia.pdf

Canevari-Modernel, R., & Abellán-Hernández, M. (2024). Comunicación visual de la información. Análisis comparativo de la visualización de datos en las portadas de periódicos españoles en 2023. En I. Iniesta-Alemán, *Todo Comunica* (1ª ed., págs. 225-252). Egregius. https://egregius.es/catalogo/todo-comunica/

Clark, L. S. (2013). Nick Couldry: Media, Society, World: Social Theory and Digital Media Practice. London: Polity. 2012. *MedieKultur: Journal of media and communication research*, 29(54), 4 p. https://doi.org/10.7146/MEDIEKULTUR.V29I54.8080

Farid, H. (2018) Digital forensics in a post-truth age. *Forensic Science International*, 289, 268-269. https://doi.org/10.1016/j.forsciint.2018.05.047

Farid, H. (2019). Fake Photos. *The MIT Press Essential Knowledge series.* https://mitpress.mit.edu/9780262537490/fake-photos/

Gabarda Balaguer, J., Iniesta-Alemán, I., & Fernández-Fernández, A. (17 de 06 de 2025). Los derechos de autor frente a la Inteligencia Artificial emergente: una revisión de la literatura. Plataforma OSICO, s.p. https://www.osicoplatform.com/los-derechos-de-autor-frente-a-la-inteligencia-artificial-emergente/

Gee, J. P. (2003). What video games have to teach us about learning and literacy. *Computers in Entertainment*, 1(1), 20-24. https://doi.org/10.1145/950566.95059

Iniesta-Alemán, I., & Martínez de Bartolomé, I. (2024). Análisis de la prensa española y su audiencia social en torno al ataque de Hamás a Israel. En R. Mancinas-Chávez, *Poder y comunicación mediática en la era digital: perspectivas y desafíos* (1ª ed., págs. 175-202). Dykinson. https://www.dykinson.com/libros/poder-y-comunicacion-mediatica-en-la-era-digital-perspectivas-y-desafios/9788410700642/

Lister, M. (2014). *The Photographic Image in Digital Culture* (2ª ed.). Routledge.

Livingstone, S. (2004). Media Literacy and the Challenge of New Information and Communication Technologies. *The Communication Review*, 7(1), 3-14. https://doi.org/10.1080/10714420490280152

Parisier, E. (2012). *The Filter Bubble: What The Internet Is Hiding From You*. Penguin.

Sádaba, C., Salaverría, R., & Bringué-Sala, X. (2023). How to teach the elderly to detect disinformation. *Profesional de la información*, 32(5), e320504. https://doi.org/10.3145/epi.2023.sep.04

Sontag, S. (2008). *Sobre la fotografía.* Debolsillo.

Vaccari, C., & Chadwick, A. (2020). Deepfakes and Disinformation: Exploring the Impact of Synthetic Political Video on Deception, Uncertainty, and Trust in News. Social *Media + Society, 1, 1-13* . https://doi.org/10.1177/2056305120903408

Wardle, C., & Derakhshan, H. (2017). Information disorder: Toward an interdisciplinary framework for research and policy making. *Council of Europe*. https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-researc/168076277c

Wineburg, S., & McGrew, S. (2017). Lateral Reading and the Nature of Expertise. *Stanford History Education Group, Teachers College Record*. https://stacks.stanford.edu/file/druid:yk133ht8603/Wineburg%20McGrew_Lateral%20Reading%20and%20the%20Nature%20of%20Expertise.pdf

To delve deeper into the concepts covered in this chapter and hone your critical thinking skills in a fun way, we invite you to play "The Manipulation of Images and Videos," an interactive experience designed by the MELISE Project team.

Chapter 6

What is Essential Is Invisible to the Eye. Verification Pedagogy: Recognizing Fake News and Disinformation

Simón Gil-Tévar

Catholic University of Ávila (Spain)

Sandra Valiente Sánchez

National University of Distance Education (UNED) (Spain)

1. FAKE NEWS AND DISINFORMATION

1.1. Conceptualizing: Fake news and disinformation

In *The Little Prince*, the fox reminds us that "what is essential is invisible to the eye," a famous line from Saint-Exupéry's work (1943) which for over 75 years has served as a poetic and personal quest for the truth of reality. However, today, it could perfectly describe a dystopia of the post-digital ecosystem. Disinformation and fake news do not deny the essential (reality, truth, the common good, trust); rather, they abruptly weaken it. What is essential is dissolved by falsehood, which appeals to our emotions and ideologies and corrupts the way we perceive and judge reality. In this regard, Hannah Arendt had already warned us that one of the major problems was not just lying itself, but the gradual loss of truthfulness and the search for it.

To conceptually define this term, it is useful to consider the various definitions that refer to it. Allcott and Gentzkow (2017) define fake news as "news articles that are intentionally and verifiably false and that could mislead readers." For his part, Marc Amorós (2018) states that fake news is that which is designed "to pass as news with the aim of spreading a hoax or deliberate disinformation in order to achieve a political or financial goal."

Other authors point out that fake news can be understood as a phenomenon made up of three types of information: *misinformation*, which refers to false content disseminated without an explicit intention to cause harm; *disinformation*, which refers to false information deliberately created for harmful purposes; and *malinformation*, which involves the use of truthful information with the aim of causing harm. Furthermore, fake news is not limited to the realm of journalism

and the news; it can take many forms, such as falsified or poorly translated documents, manipulated images, or intentionally distorted content.

However, for other authors, this term is insufficient to describe the complexity of the different types of misinformation and disinformation. Therefore, it is necessary to analyze the current information ecosystem, breaking down the different types of content that are created and shared, the motivations of those who create it, and the way in which it is disseminated.

In the field of disinformation research, some prefer to use the term *information disorder,* which encompasses misinformation, disinformation, and malinformation, with the first two being verifiable. These researchers agree that the phenomenon of disinformation is broader and more transgressive than the concept of fake news, which became popular due to the wide dissemination of its content (Wardle, 2017). Disinformation does not refer only to fraudulent informational content, commonly known as fake news; it also includes deceptive content, hate speech, and false or deliberately misleading statements. Essentially, disinformation is the distortion of information, involving the dissemination of false information with the knowledge that the end recipient is being misled.

As can be seen from the various theoretical contributions, despite its widespread use, the term "fake news" lacks a single, agreed-upon definition in the academic literature. While some approaches define it as news deliberately created for deceptive purposes, later studies have highlighted the limitations of the concept.

In this context, Marwick and Lewis (2017) argue that we are in the midst of a veritable information war, and that our main concern should be people who share disinformation unintentionally, as this situation is far more alarming than systematic disinformation campaigns. In the past, attempts to influence public opinion were made exclusively through traditional channels, but in the digital age, social media allows information to spread rapidly and directly to users who are more likely to accept and share it. This content is often spread through trusted peer-to-peer networks, which means we tend not to question the veracity of what people we trust send us. As a result, we can unconsciously become part of the chain of transmission of fake news by sharing it, precisely because we are guided by that trust.

It is important to be clear that fake news is news presented as true with the aim of deceiving the reader, whereas disinformation encompasses any type

of false, misleading, or manipulated information deliberately created to cause harm or gain advantage. Unlike fake news, disinformation is not limited to news alone; it also includes misinformation and malinformation, as noted above. Other authors also include the following within the category of disinformation: satires and parodies (humorous articles); false connections (statements or images unrelated to the content); deceptive content (biased use of a news story, omitting important information); false context (information or images taken out of context regarding an event); impostor content (impersonation of primary sources, such as a government ministry, a mayor, a witness, or a journalist); manipulated content (images or videos altered or modified with the intent to deceive); and fabricated content (content created entirely with the intent to deceive).

These insights help us understand the complexity of today's information ecosystem and the need to carefully analyze both the content that is created and shared and the motivations of those who produce it, as well as the ways in which it is disseminated.

Allcott and Gentzkow (2017) noted that the 2016 U.S. elections popularized the concept of fake news, taking it from academic circles into popular culture. In this context, there is broad consensus that the rise of social media is the main driver of the high volume and relevance of fake news. In 2016, on Web 2.0, the biggest problems were caused by texts shared by users on WhatsApp and Facebook. With the advent of Web 4.0, driven by algorithms and artificial intelligence, these dangers will increase exponentially. In short, advances in technology are the main difference between propaganda, which is centuries-old, and fake news.

Now that we understand what both phenomena are, it's time to hop in a time machine to learn how fake news and disinformation have been part of human history.

1.2. The origins of fake news and disinformation

While the term "fake news" is a modern problem of Post-digital Society, the phenomenon itself is ancient. There are historical examples, such as propaganda from the Romans and other civilizations, which was used to gain power, discredit rivals, justify military attacks and influence the population. With the advent of the printing press, information began to spread more rapidly, but

so did disinformation, in the form of false statements, exaggerations, and the dissemination of false or out-of-context information.

Arguably, the first piece of fake news in contemporary history was *The Great Moon Hoax,* which originated in the United States in 1835. In August of that year, in New York City, the newspaper *The Sun* reported for six days on the discovery made by a British scientist, Sir John Herschel, who, thanks to a powerful, large telescope, was said to have glimpsed intelligent life on the Moon. This story spread like wildfire, reaching far beyond the borders of New York State and sweeping the country. From the very start, the story went viral, making it the first piece of fake news of this era. Because information traveled so slowly at the time, given the media available, it took weeks to establish that the story was false, as it had already captivated the entire country and even other parts of the world.

To further refute the naysayers' claims and dispel any lingering doubt among the few skeptics who might question the veracity of the story, *The Sun* set up a committee of experts tasked with attesting to the authenticity of the news. These experts even claimed to have been eyewitnesses to the event. Because the story had been "proven" by the testimony of the committee of experts, smaller media outlets known as penny papers also jumped on the bandwagon, spreading the news and attributing it to a scientific journal from Edinburgh that never existed. This narrative reached such proportions that even educated people of the time believed these fallacies to be true, harboring no doubt about their veracity, as Edgar Allan Poe attested.

Hoaxes and lies have existed for as long as the world has been around, believed and accepted by large portions of the population. Examples include Socrates, who denounced the Sophists for telling lies and criticized the sale of their books in the towns of Hellas back in the 5th century B.C.; Octavian's false claims about a supposed will of Mark Antony in the 1st century B.C.; and the existence of a second part of *Don Quixote* entitle *Don Quixote de Avellaneda*, in 1614 (Boese, 2005).

One of the events that marked a turning point was the *Maine* incident, which showed that one of the goals of fake news can be to manipulate public opinion in the service of ulterior motives, such as stirring up support for a war against Spain. The event in question was the sinking of the battleship *USS Maine* in February 1898 in the city of Havana, Cuba (which at that time belonged to the Spanish crown). Before any investigation into the incident had taken place,

journalists Joseph Pulitzer and William Randolph Hearst ran headlines in their newspapers accusing Spain of destroying the ship, thereby creating a bellicose atmosphere among the public and government officials. At this point, Pulitzer and Hearst's publications marked the birth of the tabloid (sensationalist) press. The phrase "*Remember the Maine, to Hell with Spain*!" echoed throughout the U.S. media. A few months later, the United States declared war on Spain. Subsequent investigations concluded that the explosion had been caused by a fire inside the battleship.

Another piece of fake news that had a significant impact was the radio adaptation of H.G. Wells's novel *The War of the Worlds*. A radio program based on the book was created and broadcast by the young director Orson Welles on October 30, 1938. Mimicking a live news program, it announced that extraterrestrial spaceships had reached Earth and were destroying everything in their path. The broadcasting sowed panic among the public, who thought the news was real, especially those who tuned in late and didn't hear the announcement that it was a work of fiction.

Spain also had its own episode resembling that of *War of the Worlds*. In June 1995 journalist Roberto Sánchez hosted the program *Si amanece, nos vamos* (Cadena SER), on which he reported that all the trains on the Spanish railway network had mysteriously stopped. Over the course of the show the host introduced alleged witnesses and a fake RENFE spokesperson. Other media outlets picked up the story, and even sent journalists to various locations and stations. The network itself had to broadcast a news bulletin announcing that the story was false and that the program had been a work of fiction.

The most recent and high-profile case of fake news and disinformation was the 2016 U.S. presidential election, in which Donald Trump won despite having all the most influential mainstream media outlets against him due to his constant rhetoric of hatred, racism, xenophobia, and sexism. At that time, deep political polarization, coupled with the increasing use of the internet and social media, made fake news the central focus of the election campaign and public debate related to it. The presidential candidate's team took advantage of smear campaigns and fake news tarnishing his political opponent, and his social media campaign, against all odds, led him to victory.

One of the best-known examples was the Pizzagate case, where a piece of fake news took on a particularly dangerous dimension. This conspiracy theory claimed that the Democratic presidential candidate, Hillary Clinton, along with

her campaign manager, were involved in a child abuse ring operating out of a pizzeria in Washington, D.C. Proponents of this theory asserted that a series of emails disclosed by WikiLeaks revealed the existence of this ring through codes supposedly hidden in the messages. These accusations were unfounded, however, and both experts and authorities repeatedly confirmed that they were false. The case reached such proportions that a citizen armed with a rifle went to the establishment with the intention of "investigating" and dismantling the alleged conspiracy, and even fired shots on the premises. Fortunately, no one was injured, and the individual was eventually apprehended by law enforcement.

This was not the only news story that sullied Clinton's image and credibility, however. One of the most significant issues related to disinformation was the alleged interference by foreign countries in both the U.S. elections and in the U.K., and the vote over Brexit. In this context, trolls were found to be spreading polarized and divisive messages with the aim of eroding trust in the democratic process and further dividing Americans and Britons. To this day, the impact of these allegations on the vote remains a matter of debate, even though authorities and subsequent investigations have determined that there were, indeed, organized efforts to influence political discourse.

To this day, there is still no scientific consensus on whether fake news altered the outcomes of the U.S. elections and the referendum in the U.K. However, many experts agree that it did influence public perceptions, especially among undecided voters and those who were not very wary of online information sources. Furthermore, it increased polarization, eroding trust between different political groups, and it also sowed distrust in traditional media outlets. Since 2016, in the wake of this tumultuous election campaign, there has been intense debate about the responsibility of digital platforms, leading to discussions about fact-checking, bots, algorithms, and information security. This not only highlighted the need to rethink these issues, but also helped establish the term "fake news" as part of the global political lexicon.

Forming part of the economic ecosystem of disinformation, fake news, supported by advertising revenue and the "viralization" of content, and also favors certain ideological positions, with public trust in the media having eroded as a result of continuous exposure to streams of online disinformation (Steensen, 2018).

The only difference between the past and the present is the medium and the speed at which information travels; in essence, fake news has not changed, but the way it is disseminated has.

1.3. The impact of fake news and disinformation

Disinformation, which has surged thanks to social media and the internet, is creating a sense of upheaval and undermining social cohesion. In an environment of information overload, the public is constantly faced with the dilemma of assessing whether the content they encounter is reliable information or fake news, which puts both the public and the very functioning of democratic systems at risk. These effects not only deceive people, but also disrupt various foundations of society. As we saw with the *USS Maine* incident, and in recent elections, disinformation can threaten democracy. How? In various ways: by inciting violence based on false rumors, or by influencing election results through the defamation of political rivals. In this regard, countries can also interfere in and destabilize other ones through disinformation.

Another area that can be affected is public health. In this regard, the COVID-19 pandemic provided an example of the risks posed by disinformation. Because it was a new virus, the scientific community did not have all the answers about it. During this "knowledge gap," speculation and fake news filled the void, with information spreading faster than the virus itself. An overwhelming amount of information—some true, some false—flooded users' devices and all media outlets. The World Health Organization (WHO) dubbed this phenomenon an "infodemic." But, why was it so dangerous? For several reasons. One was that people were paralyzed by the overwhelming amount of conflicting information, which led to doubts among the public about things like the effectiveness of certain medications, and the possibility of false remedies. Another factor was information fatigue on the subject, which led people to either completely disconnect from the news or to accept as true any information they received from their contacts.

Another dimension is on the personal level, where fake news often plays on feelings of fear, uncertainty, and indignation. During the previous pandemic the infodemic caused people to feel anxious, fearful, and vulnerable about their lives and those of their loved ones. In this context, official institutions and fact-checking agencies were unable to cope with the flood of information, which is why the public was called upon to take responsibility for curbing disinformation through critical thinking.

We are currently experiencing information overload, which means we not only have constant access to data, but also to misinformation. The excessive accumulation of content and the emergence of conflicting versions of the same

event are generating growing uncertainty about the veracity of information. This situation raises a number of questions among the public, who are finding it increasingly difficult to distinguish between what is true and what is false, even going so far as to question what has traditionally been considered true. In this context, information can become a vulnerable commodity for those who trade in it, as they can twist the truth to favor their own interests. The constant effort necessary to verify and cross-check information only leads to fatigue and frustration, resulting in a state of information apathy that ultimately turns into indifference and a critical distancing on the part of the public.

To prevent this information overload from leading to apathy and anger, it is essential for the public to adopt active strategies to verify data and information. In this regard, one of the main obstacles to overcome is *confirmation bias*. This phenomenon limits our ability to critically analyze data and encourages us to accept content that accords with our pre-existing beliefs, regardless of its veracity. Confirmation bias occurs when we tend to select information that concurs with our beliefs and reinforces our preexisting opinions. This behavior also has a neurobiological basis: when our brain receives information that confirms our beliefs, it releases dopamine, a neurotransmitter associated with pleasure. Conversely, when information contradicts our beliefs, it produces unpleasant sensations, activating brain regions associated with pain. Thus, the brain, which is pre-wired to avoid discomfort, reinforces our tendency to favor information that confirms our pre-existing beliefs. In this context, the statement "people don't believe in facts" (Chomsky, 2018) is particularly relevant. We tend to seek out only information that accords with our beliefs and thoughts. Even when evidence shows us that these are wrong, we seek to ignore it in order to spare ourselves the suffering of processing the idea that what we have internalized is, in fact, false.

In connection with confirmation bias, it is also essential to be familiar with the term *information bubble*, or *filter bubble*, which Pariser (2017) defines as:

> A state of intellectual isolation created by the algorithmic personalization of online content, whereby search engines and digital platforms select and present information based on a user's exposure to diverse viewpoints and enclose the user in a "personal information ecosystem" that reinforces their existing tastes and beliefs (p. 24).

In a post-digital context characterized by post-truth dynamics, to what extent are we, as individuals, the ones who decide on and control the information

we consume on social media and search engines? To what extent is this selection mediated—even determined—by personalization algorithms? Although users generally see themselves as neutral agents with broad and diverse access to information thanks to the abundance of content, this perception is problematic in today's post-digital context. The algorithmic personalization of content and the increasing sensationalism of public discourse create biased information environments that, far from broadening users' cognitive horizons, tend to reinforce their pre-existing beliefs and interpretative frameworks (confirmation bias and the information bubble). As a result, traditional epistemological consensus—based on the cross-checking of sources, traditional deliberation, and a shared notion of truth—is being weakened.

1.4. Fact-checking and critical thinking

Today, the infodemic has become a global problem, exacerbated by the development of the internet and, in particular, by the spread of social media. This phenomenon, analyzed by authors such as Byung-Chul Han, refers to the excessive noise of information—both true and false—that circulates at an accelerated pace, making it difficult for individuals to discern reliable content and leading to disorientation, confusion, and cognitive overload.

Several studies show that people tend to share more fake news than true news, highlighting the urgent need to promote media literacy worldwide. Cyberspace is disrupted by digital noise, with massive volumes of content circulating instantly every day (Romero and Tejedor, 2025).

In an interview with the news outlet *20 Minutos*, journalist Inaki Gabilondo (2024) stated that, throughout his career and on various occasions, he has found that "in floods of information, reliable information is scarce." In a world where we are surrounded by misinformation, it is difficult to find the truth. To this end, fact-checking and critical thinking stand as fundamental practices. Traditionally, this task fell to journalists, who took responsibility for verifying the authenticity of information prior to its publication.

In today's world, disinformation has become a challenge for society, constituting a collective, complex, and multidimensional problem rooted in the media and technology landscape. The infodemic resulting from this phenomenon, coupled with the challenges facing society, poses significant hurdles when it comes

to striking a balance between freedom of expression and the need for reliable and transparent information.

In the face of this communication phenomenon, it is necessary to manage potential conflicts, with strategic intelligence serving as an essential tool to combat disinformation (Santa, 2023). This problem is exacerbated by the spread of social media, along with various current technological breakthroughs. Advances in artificial intelligence (AI) are creating a new paradigm, particularly generative artificial intelligence (GenAI) and chatbots, which are blurring the boundaries between what is real and what is fictional, making it necessary to take measures to help identify and combat disinformation.

Both government agencies and social media platforms are taking steps to curb this massive spread of disinformation in cyberspace, with fact-checking having become the most effective tool for combating the impact of disinformation (Amorós, 2019).

A number of traditional media outlets are incorporating fact-checking tools or sections. Despite this, several authors point out that in Spain, there are not enough ongoing fact-checking initiatives in the news media. An increasing number of traditional media outlets are distributing news that has not been properly verified, thereby also becoming disseminators of fake news. During the COVID-19 pandemic, for example, rumors circulated claiming that the virus originated in a secret laboratory, and had been spread by powerful people with an ulterior motive: to profit from the antidote. It was even said that they planned to implant microchips in the population, a story that seemed like something straight out of the movie *Resident Evil*. During the DANA storm in Valencia, Spain, just over a year ago, a large percentage of such false rumors originated from or were disseminated by outlets considered to be reputable, as the urgency of being the first to break a story took precedence over the need to verify the information. There were also cases in which, although not completely false, headlines or information were published that were misleading, precisely due to this lack of proper fact-checking and context, thereby contributing to the propagation of disinformation.

In 2015, on the initiative of the Poynter Institute, the International Fact-Checking Network (IFCN) was founded, comprise of organizations dedicated to promoting ethical and professional standards in the fight against disinformation. The IFCN established a code of principles that member organizations must adhere to, which includes accrediting media outlets and platforms

as fact-checkers, and promoting transparency, impartiality, and verifiable methodologies. The IFCN also promotes media literacy and international cooperation, serving as a point of reference for governments, digital platforms, and the public (Tejedor and Sancho, 2023).

IFCN signatory organizations commit to being impartial and nonpartisan; disclosing their sources and methodology transparently; and correcting errors openly and responsibly, while clearly distinguishing between information, opinion, and fact-checking. This commitment establishes a key code of conduct that legitimizes fact-checking as a democratic practice. The IFCN network comprises around 170 fact-checking organizations worldwide. Among them, we can highlight several Spanish entities that are members of the IFCN, such as Newtral, a fact-checking outlet dedicated to countering disinformation; Maldita.es, a platform focused on verifying claims, debunking hoaxes, and promoting critical thinking among the public; Verificat, an IFCN-accredited fact-checking project based in Catalonia; AFP Factual España, the Madrid-based fact-checking office of the French news agency Agence France-Presse, which is a signatory to the IFCN Code of Principles; and EFE Verifica, a fact-checking initiative of the EFE news agency, which is also a signatory to the IFCN Code of Principles. These organizations form part of the fact-checking ecosystem in Spain, demonstrating the institutionalization of fact-checking in line with global standards. In Spain, we can also find other fact-checking tools that are not affiliated with the IFCN, such as Polétika, a non-profit organization created by a coalition of Spanish activists led by Oxfam Intermón and CIECIDE, which monitors legislatures and political promises and the extent to which they are fulfilled, and Miniver.org, one of the first online fact-checking sites. There are also tools that are not strictly classified as fact-checking tools, such as VerificAudi, an innovative initiative that uses AI to detect the manipulation of audio content. At the international level, it is important to highlight signatories such as AFP (France), Chequeando (Argentina), Deutsche Welle (Germany), and Reuters (United States of America).

However, it is not enough to have specialists who verify information; it is also necessary to educate the public on fact-checking strategies and methods.

1.5. Fact-Checking Education

Verification Pedagogy is part of media education. In this context, disinformation is no longer just an information-related issue; it is also an

educational one. Fact-checking itself is an educational strategy that promotes media literacy and reflective thinking.

John Dewey's concept of reflective thinking is considered one of the foundations of modern critical thinking. In *How We Think* (1910), Dewey defines reflective thinking as the active and conscious analysis of any belief or assumed knowledge, evaluating the evidence that supports it and the consequences or conclusions that follow from it (Maturrano, 2022). It is a deliberate, active, and careful process of considering beliefs and knowledge before taking action. It involves initial doubt, formulating hypotheses, evaluating evidence, and making an informed decision. In essence, it is a methodical process that goes beyond a simple reaction or routine.

According to Dewey, reflection begins when we question the veracity and value of any given piece of information, assessing its authenticity and the evidence supporting the idea it puts forward, in order to justify accepting it. The reflective process consists of several stages: it begins *with uncertainty and inquiry*— a state of doubt, hesitation, perplexity, or mental difficulty that gives rise to thinking— and culminates in *the regulation of thinking based on its purpose*; that is, the active search for information to resolve doubt and dispel perplexity.

In this same work, the foundations of critical thinking are laid through the development of the concept of reflective thinking. This approach forms the core around which critical thinking is subsequently developed, as it emphasizes doubt, inquiry, and the rational evaluation of knowledge. Critical thinking does not have a single leading proponent, as it is a broad, multidisciplinary theoretical tradition. Although Dewey is considered the classic authority on the subject, authors such as Ennis, Paul, and Elder have systematized its development in contemporary education. Figures such as Hannah Arendt and Paulo Freire, meanwhile, have contributed a key critical and emancipatory dimension.

In the current educational context, various projects have supported the education of individuals on the topics of fake news and disinformation from a critical-thinking training perspective. Some of these projects have used gamification strategies, motivating students to engage in a narrative that brings together the meanings of connecting, sharing, participating, and collaborating (Gil-Quintana, 2023).

One of these initiatives is the National University of Distance Education's (UNED) MELISE (Media Literacy for Senior European Citizens) Project, which

aims to promote media literacy among older adults. Also worth mentioning are initiatives launched by students themselves, such as the Fakehunters project (Gil-Tévar, 2024), an educational initiative based on active methodologies, whose main features are its educational model, a sMOOC (social massive open online course) and its gamified narrative. This experience took place as part of the Virtual Scenarios for Participation course, part of the Master's Program in Online Communication and Education (UNED).

1.6. Reflections

In conclusion, fake news and disinformation not only threaten our perception of reality, but also distort it. The repeated use of lies and the thoughtless dissemination of information through communication channels undermine public trust in the media, organizations, and even individuals.

In this regard, media and information literacy initiatives are important, as they encourage critical and responsible thinking among citizens. This is why it is so important to learn how to verify information. Essentially, this means analyzing the information we receive, checking sources, asking ourselves whether the news story or text is reliable, and whether it harms any group or individual. Media literacy is not just a technical skill; it is a tool for empowering citizens, especially in the social sphere.

Misinformation affects not only individuals; it has collective and structural consequences too, as it influences social, political, and health-related decision-making, as has been demonstrated throughout this chapter. The spread of false information can generate fear, social polarization, a rejection of institutions, and distrust of scientific knowledge itself, thereby weakening the foundations of democracy and social cohesion. Training citizens in information verification means giving them the resources they need to participate actively, knowledgeably, and ethically in public life, thereby reducing their vulnerability to the manipulation to which we are all, without exception, exposed. Teaching people to think critically and to use information responsibly is essential for building more just, aware, and resilient societies.

In short, the pedagogy of fact-checking not only teaches people how to identify fake news and disinformation, but also proposes a way of living in the world: with responsibility and critical thinking. As *The Little Prince said,* "What is essential is invisible to the eye." In this regard, given the media overload, it

is essential to adopt a critical perspective, questioning and asking questions about all information content. What is essential is to learn to look beyond the headlines, beyond the immediate, and beyond appearances.

REFERENCES

Allcott, H., y Gentzkow, M. (2017). Social Media and Fake News in the 2016 Election. *Journal of Economic Perspectives* 31 (2): 211–36. https://doi.org//10.1257/jep.31.2.211

Amorós, M. (2018). *Fake news. La verdad de las noticias falsas.* Plataforma Actual.

Boese, A. (2005). *The Museum of Hoaxes: The World´s Greatest Hoaxes.* Orion.

Choamsky, N. (2018). *Malestar Global. Conversaciones con David Barsamian sobre las crecientes amenazas a la democracia*. Ensayo Sexto Piso.

Elías, C. (2018). Fake news, poder y periodismo en la era de la posverdad y 'hechos alternativos'. *Ámbitos. Revista internacional de comunicación*, (40), 19-24 https://doi.org/10.12795/Ambitos.2018.i40.04

Ferrández Mas, A., & López López, P. C. (2022). *Análisis comparado de las herramientas de factchecking de España y Argentina*. *Cuadernos del Centro de Estudios de Diseño y Comunicación*, (161), 125139. https://dialnet.unirioja.es/servlet/articulo?codigo=8692395

Gil-Quintana, J. (2023). *Educación y Comunicación en la Red.* Editorial Octaedro.

Gil-Tévar, S. (2024). *Academia de detectives: gamificación en contextos universitarios.* En Portero, M., Boillos, F. y Jareño,B. (Coords). Más allá del juego: Gamificando de la A-Z. Ediciones Algorfa.

Marwich, A. y Lewis, R. (2017). *Media manipulation and disinformation online.* Data & Society.

Maturrano, E. F. L. (2022). El desarrollo del pensamiento científico a través del método de comprensión reflexiva del conocimiento de John Dewey. *EDUCARE ET COMUNICARE Revista de investigación de la Facultad de Humanidades*, *10*(2), 15-26. https://doi.org/10.35383/educare.v10i2.817

Pariser, E. (2017). *El filtro burbuja: Cómo la web decide lo que leemos y lo que pensamos*. Taurus.

Rød, B., Pursiainen, C., & Eklund, N. (2025). *Combatting Disinformation – How Do We Create Resilient Societies? Literature Review and Analytical Framework*. European Journal for Security Research,1-43. https://doi.org/10.1007/s41125-025-00105-4

Romero-Rodríguez, L. M., y Tejedor, S. (2025). Noticias falsas, desinformación y alfabetización mediática en Iberoamérica: un debate necesario. *Desde el Sur*, *17*(4), https://doi.org//10.21142/DES-1704-2025-0079

Saint-Exupéry, A- de- (1943). *El Principito.* Salamandra.

Salas, C. (2019). La primera fake news de la historia. *Historia y comunicación social*, *24*(2). https://doi.org/10.5209/hics.66268

Santa, A. (2025). *Combatir la desinformación: herramientas de inteligencia en relaciones públicas para contrarrestar las noticias falsas (fake news)*. Palabra Clave, 28(Suplemento 1), e28s13. https://rua.ua.es/entities/publication/9940aec9-b140-4600-8c02-a11d787732a9

Steenson, S. (2018). Journalism's epistemic crisis and its solution: Disinformation, datafication and source criticism. *Sage Journals.* https://doi.org/10.1177/1464884918809271

Tejedor, S., y Sancho, B. (2023). Cartografía mundial de herramientas, fact-checkers y proyectos contra la infodemia. *Estudios sobre el mensaje periodístico*, *29*(4). https://doi.org/10.5209/esmp.87838

Wardle, C. (2017, 16 de febrero). *Fake News. It's Complicated.* First Draft Footnotes. https://medium.com/1st-draft/fake-news-its-complicated-d0f773766c79?utm

To delve deeper into the concepts covered in this chapter and hone your critical thinking skills in a fun way, we invite you to play "Stopping Fake News," an interactive experience designed by the MELISE Project team.

MELISE Metaverse – Videos in All Languages

Click on the link below to access the project's metaverse, where you will find videos in various languages on the topics covered in this book. These videos serve as a supplementary resource to the games and can be used in a variety of educational settings.

We live immersed in a post-digital society, where technology is no longer an external tool but the invisible foundation that shapes our reality. This book, the result of the MELISE Project and coordinated by Javier Gil Quintana (UNED), is an invitation to move from being passive spectators to active protagonists in the media ecosystem. Aimed especially at older adults, but of interest to all citizens, it addresses the fundamental challenges of our time: growing distrust of the media, the uses and abuses of generative artificial intelligence, and the critical formation of opinions in digital environments. Through a journey ranging from philosophical reflection on knowledge to practical strategies for visual verification and detecting hoaxes, the book offers a conceptual framework and concrete tools for navigating with autonomy and critical thinking. With a pedagogical and interactive approach, this volume aims to repair the digital mirror, restoring to the most vulnerable sectors the leading role they deserve in building a more just, critical, and humane society.