Note Introductory:
Communication and Artificial Intelligence

Nota Introdutória:
Comunicação e Inteligência Artificial

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1. Artificial Intelligence: Technological and Social Mediation

Artificial intelligence (AI) has soon reached a point of no return, leaving behind the phase of expectations to enter that of realisation... and dismay. Ambivalent feelings have dominated the debate about the centrality of technological infrastructure in producing information and supporting decision-making and planning. AI raises fundamental questions about the nature of cognition, decision-making and responsibility, which involve highly relevant ethical, epistemological and ontological considerations.

The interaction between humans and machines, based on algorithms and generative models, raises questions about the exclusivity of decision-making and cognitive delegation, questioning the centrality of the subject in the process of knowledge and the ethical responsibility derived from their actions. The Massachusetts Institute of Technology published a study on how the use of massive language models, such as ChatGPT, affects the brain and cognitive capacity, pointing to the benefits of greater neural connectivity in certain circumstances, but also only superficial fluidity of knowledge in users who rely heavily on AI tools: those who use these tools achieve a significant reduction in extrinsic workload, but also engage less intellectually, which negatively affects the development of critical thinking and long-term retention (Kosmyna et al., 2025).

In this sense, reaffirming thought as an exercise in existence today implies rethinking forms of communication and decision-making in an era of technological mediation, which is manifesting itself progressively and constantly accelerating. Descartes is revisited for a broader reflection on the human condition in the face of new technologies. While in "cogito, ergo sum", existence was anchored in conscious thought and the autonomy of the subject, an opinion article by Steven J. Vaughan-Nichols (2005) highlights the risks of technological dazzle and excessive dependence on proprietary models. The author questions not only the technical sustainability of generative AI but also the opacity of the power infrastructures that support it. The illusion of autonomy attributed to the machine, in a configuration close to that of a memory prosthesis, tends to make

corporate interests invisible, which emphasises their own embedded sectoral biases and the structural limitations of these systems.

In an article published in *Nature*, Shumailov et al. (2024) also warn of the epistemological vulnerability of large language models when they "think" about data that they have generated, producing a tautological cogito, a cycle in which validation results from the output itself, and not from human criteria or dialogue with reality. The risk is that of statistical degeneration known as "model collapse" if the training process involves data sets that contain too much AI-generated content, which introduces systematic errors that threaten the reliability of the information.

2. Media and Automated Content Generation

From the perspective of communication, this evidence suggests that the content production-consumption-reproduction chain is closing in on itself, losing the informational nutrient that maintains healthy and plural democracies. The implementation of AI systems has radically transformed information production and distribution routines: content automation enables the generation of news, summaries, headlines and even in-depth reports with unprecedented speed and scale (Parrat-Fernández et al., 2024), freeing journalists from repetitive tasks and allowing them to devote more time to research and analysis. However, this automation raises fundamental questions: can the automatic generation of content guarantee the quality, diversity and depth of information required by a democratic society? To what extent does the delegation of creativity and narrative to algorithms jeopardise the social function of journalism and the plurality of voices in the public space (Fieiras-Ceide et al., 2023)? This is why it is essential to maintain human supervision and editorial verification mechanisms, as demonstrated by the self-regulatory practices adopted by various international media, which limit the use of AI to complementary tasks and require review and approval of any automated content (Sánchez-García et al., 2024).

The emergence of AI in newsrooms redefines the role of the journalist, who moves from being a transmitter of information to a curator, analyst and verifier of machine-generated data. This transition requires the assimilation of new professional skills, including digital literacy, critical thinking in the face of algorithmic biases and mastery of automated verification tools. However, the essential question is how to guarantee the quality of information in environments where speed and personalisation threaten to displace depth and veracity (Flores-Vivar & García-Peñalvo, 2023).

3. The Impact of Algorithms on Media Consumption and Opinion Formation

Algorithmic personalisation, driven by AI systems, is irreversibly changing access to information and entertainment, as it can adapt the offer to the interests and preferences of each user. This segmentation capacity has improved the experience of readers,

listeners and/or viewers, but it has also intensified the fragmentation of audiences and the risk posed by information bubbles (Haim et al., 2018).

Faced with the inexorable normalisation of these practices, the question arises as to the extent to which algorithmic personalisation contributes to plurality and access to relevant information or, conversely, reinforces polarisation and cognitive isolation. Studies increasingly warn of the power of algorithms to influence opinion formation and limit exposure to diverse perspectives, which tends to weaken public debate and democratic deliberation (Thurman et al., 2019). Faced with this challenge, we advocate transparency in the definition of personalisation criteria and in the auditing of algorithmic systems.

This precaution becomes even more relevant in the face of the proliferation of deepfakes, bots and automated systems in the digital space, which represents one of the most urgent challenges to the credibility and security of information. Deepfakes have demonstrated their ability to manipulate public perception and undermine trust in the media, forcing communications professionals to adopt increasingly sophisticated detection and verification tools.

The use of bots and automation in social media also raises questions about the authenticity of interactions and the manipulation of trends and public debates. How can we distinguish the human voice from the automated voice? What control and transparency mechanisms can be implemented to guarantee the integrity of the digital space? The solution lies in the development of auditing systems, interdisciplinary collaboration and the promotion of a culture of verification and critical thinking among the public.

4. Generative Artificial Intelligence and Creativity in Communication Practices

In the last two years, generative AI has opened up new creative possibilities in journalism, advertising, strategic communication and audiovisual production. Tools such as text, image and video generators now make it possible to explore innovative narratives and experiment with immersive and interactive formats. However, this machine-assisted creativity raises questions about the authorship, originality and social value of AI-produced content.

Can algorithmic creativity replace human intuition, sensitivity and judgment? How do we negotiate copyright and attribution in works generated collaboratively between humans and machines? According to academic literature, the answer lies in conceiving AI as a tool to support and enhance, rather than replace human ingenuity. The challenge is to find a balance that allows the innovative potential of AI to be harnessed without sacrificing the authenticity and cultural relevance of communication.

The evolution of human-machine interaction driven by AI has also given rise to immersive experiences that transform the relationship between senders and receivers. Conversational agents, virtual assistants and augmented and virtual reality environments redefine ways of participating, learning and entertaining. These technologies open up opportunities for more personalised, interactive and efficient communication, but they also require critical reflection on the limits of automation and the risk of depersonalising communicative relationships.

How can we ensure that technological mediation enhances, rather than weakens, the agency and autonomy of individuals? What role should empathy, ethics and social responsibility play in the design of AI-mediated communicative experiences? These answers can only be drawn from ethical and normative frameworks that prioritise respect for human dignity, inclusion and cultural diversity (Descampe et al., 2022), while also considering the specificity of these frameworks depending on the distribution and access channels and devices (Pedrero-Esteban & Pérez-Escoda, 2022).

5. Open Questions and Research Horizons

Faced with the advancement of AI and the centrality of technological infrastructures in communication, forms of resistance and critical appropriation are also emerging among communities and social movements. These practices aim to challenge techno-solutionism and promote a just transition, oriented towards the common good and the strengthening of collective rights. Initiatives such as the citizens' audit of algorithms, the promotion of open technologies and the call for "decommodification" — the rejection of dependence on opaque, centralised infrastructures — illustrate society's ability to negotiate, resignify and reorient technological development according to its own interests and values.

AI in communication raises more questions than definitive answers. How can transparency, fairness and responsibility be guaranteed in the automation of information? How can regulation accompany innovation without stifling creativity and plurality? What skills and values should communication professionals cultivate in order to lead an ethical and sustainable transition towards the digital future?

This monographic edition invites a plural and situated reflection on these challenges, proposing an interdisciplinary dialogue that combines academic rigour with social commitment. The articles gathered here aim to offer contributions that critically problematise the role of AI in contemporary communication ecosystems, addressing topics such as the automated production of journalistic content, algorithmic surveillance mechanisms, interactions with conversational agents, the challenges of regulation and transparency, or even emerging forms of resistance and critical appropriation of AI by communities. More than a celebration of technological innovations, we propose a space for critical problematisation, where the centrality of the human condition is not eclipsed, but rather renegotiated in the light of ongoing transformations.

The topic of the technological mediation of memory is not new. Still, current advances require new approaches, such as the article "The "Fantastic" (Re)Construction of the Past: An Analysis of Memory and Artificial Intelligence in the Series *Fantástico — 50 Anos*", by Mario Abel Bressan Júnior and Ana Paula Bazi, who help us to "understand how artificial intelligence serves as a mediator in the preservation and re-signification of historical narratives, assessing its relevance in terms of simplicity, practicality, and symbolic impact in the construction of collective memory" (p. 1), as well as its influence on the credibility of journalism.

Also applied to the specific field of journalism, one of the areas most sensitive to the integration of AI, João Canavilhas' article, "The Technology of Disquiet: Should Human Journalism Feel Threatened by Artificial Intelligence?", reflects on the penetration of this technology into contemporary communication practices, pointing to the risk of human labour being replaced by automated models, and the consequent erosion of the authority, creativity and ethical responsibility associated with journalism as a socially recognised and regulated practice. But, he suggests, in an increasingly automated digital ecosystem, the human attributes of creativity, empathy and ethics remain unreplicable by generative models.

The article "Artificial Intelligence as a New Field of Human Interaction: A Critique of Knowledge Production", by João Francisco Pinho and Fernando Bessa Ribeiro, draws attention to the increasing centrality of AI and the profound transformations this technology has brought to information production, interpersonal relationships and decision-making processes. The excerpt provides a critical assessment of the imprecise application of concepts such as "communication", "consciousness", "creativity", or "knowledge", highlighting the lack of proper historical and epistemological contextualisation. It underscores the materiality of databases and how they are fuelled by human-generated content, often extracted without consent or compensation, reflecting a sceptical perspective of contemporary capitalist society.

Bruno Rodolfo's article, "Ethical Implications of Artificial Intelligence Technologies: Copyright, Privacy, Security, and Regulation", delves deeper into the normative and ethical aspects, bringing into play the crucial technopolitical dimensions of regulation, protection of rights and institutional accountability. The real challenge is not only one of technological advancement, but also of the political, ethical and epistemological spheres, which is why it is important to emphasise strategies that take into account copyright, privacy, security, and regulation, requiring coordinated efforts among governments, the private sector and civil society.

The article "Artificial Intelligence and News: Opportunities, Trends and Challenges — A Systematic Literature Review", by Catarina Feio and Lídia Oliveira, offers a reflective framework on journalism as a field of intensive experimentation with AI, where ethical, technical and social challenges intersect in particularly relevant ways. Based on a systematic review of the literature between 2020 and 2024, the article maps the main subthemes that dominate the academic debate on AI and journalism, including "content creation, algorithmic gatekeeping, audience engagement, and regulatory implications" (p. 1). Journalism emerges as a privileged space for analysing the communicative transformations introduced by the advent of AI, revealing its dual nature as "both a tool of innovation and a source of disruption" (p. 19).

The article by Tiago Salgado, Natália Cortez and Daniel Ribeiro, "Representational Aspects of Artificial Intelligence Generated Images: Semiosis, Self-Referentiality, and Meta-Synthesis", situates the reflection on AI within the field of representational dynamics and image production. This approach analyses the synthetic images generated by AI as products of self-referential and statistically predictable processes, contributing both

technically and conceptually to the critique of the opacity of automated systems. This opacity may lead to the erosion of semiotic diversity and a distancing from the representation of reality.

The article "Generative Artificial Intelligence in Media Production. The Emerging Role of Artificial Intelligence Artist in Spain", by Sonia Dueñas Mohedas and Francisco Jiménez Alcarria, provides an empirical and context-specific perspective on the integration of generative AI into the creative industries. It places particular emphasis on the audiovisual field, especially in genres such as music videos or science fiction, where the construction of dreamlike atmospheres and synthetic realities is especially sought after. The emerging figure of the AI artist is highlighted by challenging the simplistic dichotomy between human and machine, showing that the effective use of AI depends on the creative, critical and specialised intervention of human professionals. In this sense, the potential of the articulation between these tools is highlighted as new possibilities for artistic expression in the field of audiovisual creation, discussing a scenario of complex integration in which artists act on the parameters (such as LoRAs) and configure the behaviour of the models to achieve unique aesthetic results. In this context, AI becomes a technical extension of human creativity, without, however, replacing its deliberative role.

In "Journalistic Ethics in the Age of Artificial Intelligence: Towards an Update of Deontological Codes in the Ibero-American Context", Ingrid Viviana Estrella Tutivén and Cristina Garde Cano present a significant normative, epistemological and practical extension by offering a thorough reflection on journalistic ethics amid the challenges posed by AI. They particularly emphasise the urgent need to update deontological codes for the algorithmic era. In the specific field of journalism, this shift risks undermining enduring values of responsible communication, such as truth, justice, freedom and accountability. By demonstrating that the existing ethical codes were not designed to address AI's impacts, the article highlights a critical issue in today's landscape: the disjunction between rapid technological progress and the normative and ethical frameworks intended to govern it. The authors call for structural measures that safeguard the integrity of public communication amid profound technological reconfiguration.

From various perspectives, the contributions assembled in this thematic volume reflect a reality whose full extent is yet to be fully understood. Nonetheless, they provide valuable insights that foster reflection on the challenges that technology currently poses, not only to communication professions and practices, but also to scientific research within this field.

Machine Translation Post-Editing: Anabela Delgado

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Alberto Teixeira de Sá is an assistant professor in the Department of Communication Sciences at the University of Minho. He is a full member of the Communication and Society Research Centre, where he has been conducting interdisciplinary research on the sociotechnical dynamics of cultural and collective memory, with a particular emphasis on media archives and digital preservation, the central theme of his doctoral thesis. His research interests also extend to medieval urban history, the subject of his master's thesis, as well as to memory technologies and cultural heritage, social network analysis, and data visualisation applied to journalism, particularly in the context of health

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