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4.2. Reflections on the Medium: The Internet

1. The influence of Media and the role of Marshall McLuhan

The "medium analysis" as a discipline within the fields of Information and Communication Theory can be defined as the **examination, interpretation, and critique** of both the material content of communication channels and the structure, composition, and operations of the corporations that own or control those media (Cashmore in Jupp, 2006). This analysis includes both traditional mass media (such as television, radio, and newspapers) and digital networks, expanding the concept of "media" to encompass "the electronic networks of communication made available by the Internet."

When observing these media, we should consider the following key questions:

- **How does the medium influence the message?**

- **Is the same message applicable across all media?**

- **How has the Internet changed the structure of messages?**

These questions prompt us to explore how the medium through which a message is transmitted impacts how we perceive and understand it, as well as how digital technology, particularly the Internet, has altered communication dynamics compared to traditional media (Figure 1).
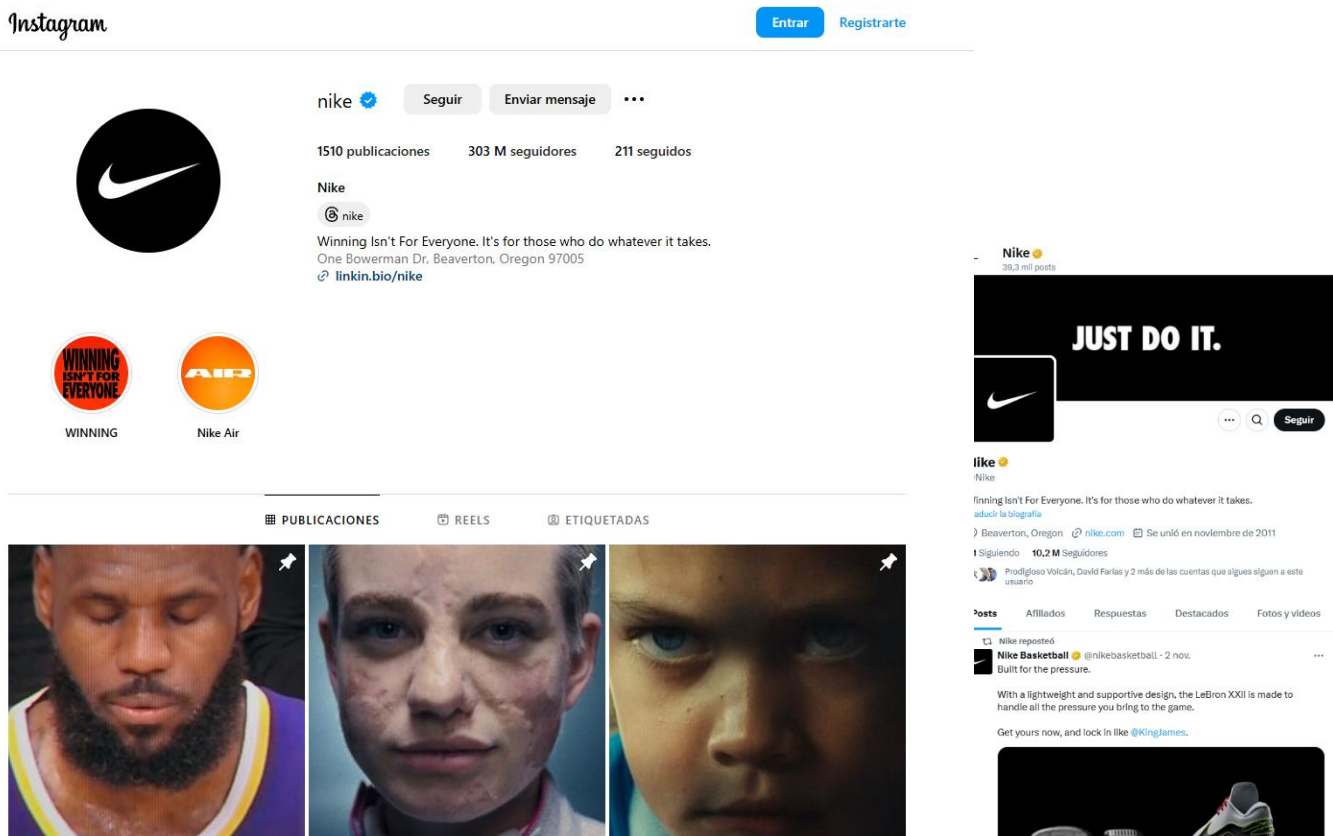

Figure 1 Different codes apply in the social media profiles from the brand Nike

Sources: https://x.com/nike and https://www.instagram.com/nike/

When we talk about the medium as an active force rather than a neutral element, it is essential to delve into the work of the author Marshall McLuhan. This author provides us with a conceptual framework to understand and analyze the role of media in society. This perspective remains relevant and applicable for understanding how the digital medium shapes messages in our era.

His metaphors extend to the study of media, making comparisons that apply in any communicative context, and the study of Information as a field of knowledge within the Library and Information Science discipline. For example, his concept of the *Global Village* can be used to represent new access to digital Information through digital libraries.

Herbert Marshall McLuhan (1911-1980) was a Canadian philosopher and sociologist who was an expert in the study of communication and media.

Marshall McLuhan pioneered the study of media and its effects on society. He predicted television's impact, pointing out how it would change how people perceive reality and interact with information. He also foresaw the influence of the Internet long before its global expansion, recognizing its potential to create a "global village" where instant and accessible communication would connect people from all over the world. This concept has given rise to the term globalization, which seems to define the current information society (Ayala Pérez, 2012).

McLuhan made significant contributions to our understanding of media and communication. As a media theorist, he focused on studying the influence of different types of media on society, arguing that the medium itself, rather than the content it transmits, has a deeper impact on human experience.

This idea is developed in his book *Understanding Media: The Extensions of Man*, published in 1964. In it, McLuhan asserts that after three thousand years of explosion through mechanical and incomplete technologies, the Western world has entered into implosion. He adds that we extended our bodies into space in the mechanical ages. Still, after more than a century of electric technology, we have expanded our central nervous system "to encompass the entire globe, abolishing time and space, at least as far as this planet is concerned" (McLuhan, 1994).

In *The Gutenberg Galaxy* (1962) and later in *Understanding Media* (1964), McLuhan explores the profound impact of electronic media on society. In *The Gutenberg Galaxy*, he states the following: "Such is the nature of a village, or, since the advent of electric media, such is also the nature of the global village [...]. But electromagnetic discoveries have indeed resurrected the simultaneous field in all human affairs, so that the human family now lives in the conditions of a global village. We live in a constrained, single space, where the drums of the tribe resonate. [...] The new electronic interdependence is recreating the world in the image of a global village" (McLuhan, 1962).

This idea is particularly relevant to understanding how McLuhan's concepts apply to modern digital platforms and social media, as explored by Florencia Berardi (2022) in her work on how McLuhan's ideas relate to social exchange networks among users.

As this author pointed out, in the "global village," traditional distances disappear. Our way of communicating has drastically changed with the use of devices like smartphones and digital platforms, transforming us into active participants in new forms of interaction. The rapid pace at which social media adapts to our needs (and creates new

ones) makes it increasingly difficult to predict the future of digital communication, opening up endless possibilities for the future of global interaction (Berardi, 2022).

Each social network has its own unique code, and although we can recognize that they are part of the same cyberspace, they each maintain their own environment and distinct digital space. For example, social networks like Instagram and TikTok focus their communication and platform usage on visual entertainment (Figure 2).

Figure 2 Visual code in Instagram

(Source: https://pixabay.com/es/photos/computadora-port%C3%A1til-m%C3%B3vil-instagram-3781384/)

In this context, his most famous aphorism emerges: "The medium is the message," which is the conceptual foundation for all his work on media studies. This phrase emphasizes that the medium through which information is transmitted shapes society more profoundly than the content of the message itself. McLuhan explains, "My own phrase says that the medium is the message, and that means the environment created by the technology affects everyone, not the content. The environment, or the model created by the technology, is the real message" (McLuhan, 2000, p. 155).

"The medium is the message" is one of McLuhan's central ideas encapsulated in this aphorism. It suggests that the medium itself, rather than its content, profoundly influences how we perceive and interpret information. The form of the medium shapes our experiences and understanding, making it the "real message" of communication.

For McLuhan, it is the medium that "models and controls the scale and form of human associations and work" (McLuhan, 1996). Taking cinema or television as examples, he argues that these media do not just transmit content; they also reconfigure how we understand and organize our experiences, shifting us from a linear logic to a more structural and creative one.

Digital media, such as social networks, are clear examples of how the structure of the medium (interactive, immediate, global) profoundly alters how we communicate and perceive the world. In this context, the medium is not only the channel of communication but also the force that transforms how social and cultural realities are constructed.

Thus, following a commonly cited example, a light bulb does not store or transmit content like a book or the radio. However, it had a significant impact on daily life in its time. Its primary function as a medium is to create light during hours without natural sunlight, enabling activities (work, leisure, etc.) that were previously impossible. Thus, the light bulb fundamentally alters human reality by creating a new environment with new possibilities simply by emitting light (Blasco-Arcas, 2016).

McLuhan often played with words and enjoyed creating wordplay around his theories. One of his famous phrases, The Medium Is the Massage, illustrates his playful approach to language. By substituting "massage" for "message," McLuhan emphasized the idea that the medium not only delivers a message but also influences and "massages" the mind, reshaping our perceptions and experiences. He also liked to explore the ideas of "mass age" and "mess age," highlighting how the media affect the collective experience of society, often shaping both the content and the form of human communication.

Sempere (2007), in his book *McLuhan en la era de Google* discusses how, in the digital age, the way information is presented and consumed has changed dramatically. The text interpreted through various media is shaped by the structure of the information and how it is packaged or adapted to the medium. How we perceive informational content is conditioned by the specific characteristics of the medium through which it is transmitted.

Moreover, regarding the influence and history of the media, McLuhan proposed an amplified and exaggerated media concept, viewing it as an extension of human faculties, whether physical or psychic. In this framework, different media serve as extensions of various human abilities. For example, the wheel is an extension of the foot, the book is an extension of the eye, and clothes are an extension of the skin (McLuhan, 1967). For Marshall McLuhan, media are "extensions" of the human being, whereas "extension" refers to any tool or technology that amplifies our physical, sensory, or mental capabilities.

If all technology is an extension or prolongation of human or physical faculties, what then would a smartphone be? Or WhatsApp groups? This framework helps to understand how the medium interferes with relationships in the digital space, a space that, with augmented reality and artificial intelligence, is already fully constructed in a hybrid format.

Within his theories on how media influence society, McLuhan develops his own dichotomy or classification of media, labeling them as hot or cool. In this context, media such as print, photographs, radio, and movies are considered hot media, while media such as speech, cartoons, the telephone, and television are classified as cool media.

McLuhan characterized "cold media" as those offering less sensory input, thus demanding greater participation or "completion" from the audience. This concept underscores the active role of the audience in shaping their media experience. It's crucial to understand that McLuhan was not focused on the cognitive effort involved in using different media, but on the audience's power to complete the media. Critics of his theory argue that it oversimplifies the medium by overlooking variations within the same media type. The degree of audience engagement is not determined solely by the medium itself (though its properties may have some influence) but by the content and how the medium is employed in particular contexts and situations, further highlighting the audience's agency in the media process (Chandler and Munday, 2011)

Here is a classification (Table 1):

Hot Media	Cool media
High level of sensory stimulation	More participation from the audience
Content clear and complete	Low definition
Less engagement from the audience	More active participation

Regarding social media, platforms like *YouTube*, *TikTok*, or *Instagram* could be considered "hot media" following McLuhan's classification. These platforms engage the senses directly and require less interpretation as users passively consume the content. In contrast, other formats like posts or messages on X or Facebook could be considered "cool media," as they require more significant interaction or foster more discussion.

McLuhan's ideas demonstrate how the medium profoundly transforms human activity. The internet would be the extension of man par excellence, defined by two fundamental characteristics: interactivity with the user and interconnectivity with the network.

2. From the Internet as a medium to a model for service provision

The study of the Internet as a medium has undergone a clear evolution: from being seen as a channel for interaction and information exchange to becoming a service infrastructure in itself, providing access not only to content but also to applications and storage. Platforms like Google, Amazon, or Azure exemplify this shift, establishing ubiquitous infrastructures without relying on independent physical infrastructure.

The Internet is transforming into more than just a content platform; it is now a critical infrastructure, an essential service, and, for many, a fundamental right.

This complexity in its conception requires expanding the study of the concept of "Internet as a medium."

The questions about the Internet's identity—whether it's a right, a service, infrastructure, or content—are deeply intertwined with key issues like Net Neutrality, Open Software, and the concept of the Cloud, as a model of service provision. Each of these element's shapes and reflects how we perceive and use the Internet today

2.1. Net neutrality

Net neutrality is the principle that Internet Service Providers (ISPs) must treat all online communications equally, without favoring or discriminating against specific users, content, websites, platforms, applications, or types of equipment. This approach prohibits ISPs from imposing differential charges or prioritizing data flow based on source or destination, ensuring equal access to the Internet for all users (Easley, Guo, and Krämer, 2018)

Net neutrality goes beyond technical equality, safeguarding the Internet as an open, unbiased resource. Ensuring unrestricted access to content and services protects the Internet as an essential, inclusive infrastructure.

Several plans and politics emphasized the importance of maintaining a neutral web.

For instance, President Obama's net neutrality plan underlined maintaining an open, equal-access internet, supporting rules to prevent ISPs from blocking or prioritizing content based on payment. This approach aimed to keep the Internet fair for all, encouraging innovation and economic growth by treating broadband like an essential good.

Technology neutrality is a foundational principle in the EU's regulatory framework for electronic communications, introduced in 2002 and reinforced in 2009 under revised telecom legislation. Since then, all European licenses have followed this "technology-neutral" approach (Maxwell and Bourreau,2014). EU Regulation (EU) 2015/2120, in effect since 2016, guarantees this principle while allowing exceptions for legal compliance, network integrity, and temporary congestion, ensuring consistent rules on open access across Europe (European Union, n.d).

Cullel March (2010) defines the regulatory principle of technological neutrality around four main commitments:

1. Non-discrimination – Ensuring no specific technology is favored over another promotes a level playing field.

2. Sustainability – Legislation should evolve alongside technological advancements to remain relevant and effective.

3. Consumer Safety – Regardless of the technology, consumer protection is prioritized.

4. Promotion of Development – The framework should support ongoing technological innovation, encouraging continual progress in the field.

2.3. Open Software

Net neutrality and free software advocate for openness, freedom, and equal access to the Internet, ensuring a participation without discrimination. Keeping the web open and free from restrictions enables users to access, share, and create content on their terms, making them crucial for a democratic and inclusive digital space.

Open software allows anyone to access, modify, and distribute its source code, promoting transparency and collaboration. The free software movement is a social initiative aimed at securing and protecting the freedoms that allow software users to run, study, modify, and redistribute copies of software, with or without changes. Building on the traditions and philosophies of hacker culture, Richard Stallman formally launched the movement in 1983 with the creation of the GNU Project. In 1985, Stallman created the Free Software Foundation to support and advance the movement (Corrado, Moualison Sandy, and Mitchell, 2018).

The key features of the Free Software are:

- Transparency

- Community Collaboration

- Licensing Freedom

- Cost Efficiency

- Flexibility

- Educational Value

Net neutrality and free software share a common principle: ensuring users' freedom to choose and access technology without restrictions. In Spain, Law 11/2007, of June 22, 2007, on citizens' electronic access to public services emphasized technological neutrality, allowing citizens and public administrations to choose their technologies freely and innovate within a competitive environment. This law has been abolished in favor of Law 39/2015, of October 1, on the Common Administrative Procedure of Public Administrations, which streamlines all regulatory fragmentation related to administrative procedures, including technology and paperless administration.Public administration should advocate for open tools not linked to proprietary systems.

2.4. Cloud Computing

Cloud computing provides internet-based, on-demand access to a range of computing resources—such as applications, physical and virtual servers, data storage, development tools, networking features, and more—housed in a remote data center managed by a cloud service provider (CSP). The CSP offers these resources through a time subscription, or charges based on usage (IBM, 2024).

The benefits of this cloud-service model are announced in the next table (Table 2):

Benefits	Drawbacks
Cost efficiency	Privacy concerns
Scalability	Security issues
Foster collaboration	Legal issues
Automatic updating	Third provider dependence
Data backup	Downtime

The aspects and characteristics of three issues affecting the conception of the Internet as a medium are addressed in a brief manner. These issues include the risk of weakening technological neutrality, leading to cloud services'

centralization. To ensure fairness in cloud computing, similar to net neutrality, it is proposed that cloud providers should not discriminate or prioritize specific data or users, guaranteeing fair access for all (Raghuram, 2022).

This epigraph highlights the evolving role of the Internet, from a communication space to an essential service platform, where McLuhan's metaphor remains relevant, suggesting that the medium shapes human experience through adaptation to technology.