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Media, internet, and cognition: beyond Screens, towards a balanced understanding.

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Abstract

This article employs a multidisciplinary methodological approach to investigate the complex relationships between media, technology, and cognition, drawing insights from key works such as McLuhan's "Understanding Media" and Carr's "The Shallows." By examining theoretical foundations, it highlights McLuhan's theory of *"the medium is the message,"* emphasizing how the transition of media has profoundly altered the nature of information. Similarly, Carr's study on brain plasticity related to Internet use finds concrete illustrations in fast online browsing behaviours, demonstrating a shift towards rapid thinking at the expense of deep concentration. These illustrations also demonstrate impacts on individual and social cognition. Social networks, by promoting quick thinking through incentives such as likes, create an environment where information superficiality thrives. Concurrently, the transformation of communication modes, influenced by media evolution, is reflected in more fragmented and less contextualized interactions. The article proposes insights for conscious usage, suggesting the integration of media education into school curricula to promote critical analysis of online information. By calling for ongoing research, it underscores the importance of understanding the implications of emerging technologies, such as virtual reality and artificial intelligence, on human cognition. These conclusions call for collective reflection on how we can proactively navigate this changing media landscape, thus fostering balanced adaptation to contemporary challenges.

Keywords: Media, Cognition, Brain Plasticity, McLuhan, Carr, Media Education,

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1. Introduction

The advent of media, the Internet, and technologies has profoundly reshaped how individuals interact with information and construct their understanding of the world around them (Burdick, A.et al 2012). This rapid evolution raises crucial questions about the impact of these media on human cognition, a complex and ever-evolving field of study.

Understanding the impact of media, the Internet, and technologies on human cognition is essential in a context where society is increasingly immersed in an omnipresent media environment (Vitali-Rosati, M. 2018). Media are no longer just channels for transmitting information but act as influential forces actively participating in shaping our individual and collective reality. They shape how we perceive the world, process information, socially interact, and form our opinions (Carey, W. J. 1988).

In this light, this article employs a multidisciplinary methodological approach to investigate the complex relationships between media, technology, and cognition, drawing insights from key works such as McLuhan's "Understanding Media" (1964) and Carr's "The Shallows" (2010). The objective is to delve into the underlying mechanisms of cognitive changes induced by media and offer constructive perspectives to guide our interaction with these media in the future.

At the heart of this exploration lies a crucial question: how does the intensive use of media, the Internet, and technologies alter our cognition, and what are the implications of these changes for contemporary society? Through this central question, we will venture into analysing the underlying mechanisms of these transformations, while seeking to understand the cultural, social, and individual consequences of these developments.

Our approach will be anchored in a balanced perspective, seeking to identify the opportunities and challenges presented by this convergence of media and cognition. The structure of the research will involve revisiting McLuhan's key concepts, exploring Carr's ideas in "The Shallows," examining concrete examples and case studies, discussing implications for contemporary society, reflecting on the nature of attention, concentration, and memory, and proposing strategies for a balanced understanding and usage of media and technology.

Ultimately, this exploration aims to contribute to a better understanding of the complex interactions between media, technology, and cognition and to inspire proactive engagement with these evolving dynamics in our digital age

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Revisiting McLuhan

Marshall McLuhan introduces the provocative concept that "the medium is the message." This fundamental idea suggests that the nature of the medium itself, rather than the content it carries, shapes our perception and understanding of the world. For example, television as a medium influences how we see and understand information differently from print. This principle highlights that each form of communication has inherent characteristics that shape our experience and understanding.

He also develops the notion that media are extensions of human senses. Each new medium, whether print, radio, or television, acts as a technological extension of our sensory faculties. For example, print is an extension of the sense of sight, while radio is an extension of the sense of hearing. This perspective broadens our understanding of technology as an integral part of human evolution.

McLuhan uses the metaphor of the telescope and the microscope to illustrate how media can either expand our view of the world (like a telescope) or allow us to examine specific details in depth (like a microscope). This metaphor underscores the ability of media to influence our perception and attention, determining what we see on the surface and what we can explore in depth.

2. **How do these concepts enlighten our understanding of the relationship between media and perception?**

The key concepts of "Understanding Media" shed insightful light on the complex dynamic between media and human perception. By considering that the medium itself shapes the message, McLuhan invites us to examine not only what media transmit but how they do it. This approach highlights the profound influence of format, transmission channel, and communication form on our understanding of information.

The extensions of man provide a framework for exploring how media are not merely tools but technological extensions of our sensory and intellectual faculties. This perspective expands our understanding of technology by considering it as a natural continuation of our cognitive evolution. The telescope and microscope metaphor, meanwhile, enriches our reflection by illustrating the ability of media to direct our attention, influence our perception of the world, and define the boundaries of our intellectual exploration.

3. **Impacts of Media on Cognition**

3.1.Exploring Carr's Ideas in "The Shallows" Regarding Brain Plasticity

Nicholas Carr, in "The Shallows," delves deeply into the concept of brain plasticity in response to intensive Internet use. He draws on neuroscience research to show how our brains can be

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reshaped by our online browsing habits. The central idea is that constant exposure to an overload of online information can lead to changes in the structure and functioning of the brain, affecting memory, attention, and concentration.

Carr argues in this regard that intensive Internet use, characterized by rapid browsing, hyperlinks, and a multiplicity of visual stimuli, can have repercussions on how we think. The ease of access to an infinite variety of information can encourage a form of faster, but also shallower, thinking. Sustained attention and deep concentration, necessary for deep reflection, are often compromised in favour of a constant search for new information. The author also explores how the structure of the Internet itself, with its notifications, advertisements, and constant interruptions, can contribute to a decrease in concentration ability. Users may develop a propensity for distraction, with a potential impact on their intellectual productivity and critical thinking.

One of the major concerns raised by Carr is the inherent superficiality in how information is presented online. Short formats, catchy headlines, and information fragmentation can encourage surface reading rather than deep exploration of subjects. The emphasis on the quantity of accessible information rather than quality can lead to shallower thinking, with potential consequences for deep understanding and the ability to analyse complex ideas.

3.2.Case Study

Nicholas Carr highlights in "The Shallows" that intensive Internet use can reshape brain plasticity. Let's apply this idea to social networks, where constant variety of visual content, short messages and notifications create a stimulating environment. Social networks promote fast thinking by encouraging rapid consumption and immediate reaction. Newsfeeds scroll quickly, prompting users to absorb information in an instant. This can lead to shallow thinking, as priority is often given to the quantity of information consumed rather than the depth of understanding.

Brain plasticity, altered by constant exposure to social media stimuli, fosters fast thinking that aligns with platform content format. This fast thinking can contribute to superficiality, as the instantaneous nature of interactions on social networks encourages impulsive responses rather than deep reflections.

3.3.Concrete Example: The Effect of Likes and Shares

Reward systems such as likes and shares on social networks reinforce fast thinking and superficiality. Users are incentivized to produce content that quickly generates positive reactions, favouring the pursuit of instant gratification over critical reflection.

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This case study illustrates how the combination of altered brain plasticity, fast thinking, and superficiality on social networks creates a unique cognitive landscape. The implications extend to how individuals interact with information, make decisions, and construct their understanding of the world, thus influencing overall social dynamics.

By integrating concrete examples like this, our analysis unveils the profound impact of social networks on brain plasticity, fast thinking, and superficiality. This case study contributes to understanding the complex links highlighted by Carr, emphasizing the cognitive changes that shape how we think and interact in the digital age.

4. Implications for Contemporary Society

Transformations in cognition induced by media, especially the Internet, are not limited to individual impact; they have profound cultural and social repercussions. The shift towards fast, fragmented thinking and often fleeting attention can influence how society interacts with information, knowledge, and human relations.

Evolution of Communication Modes: The emergence of a culture of immediacy, fueled by social media and online platforms, can shape new modes of communication. Short messages, instant images, and rapid interactions become norms, influencing how ideas are shared, discussed, and understood.

Impact on Decision-Making: Changes in how we process information can also have implications for individual and collective decision-making. The speed of information dissemination online can influence opinion formation and polarization of viewpoints, with repercussions on democratic processes and social dynamics.

5. Reflection on the Nature of Attention, Concentration, and Memory

In a fast media environment, where visual stimuli and information abound, the nature of attention undergoes significant changes. The tendency to quickly switch from one piece of information to another can alter the ability to focus on a specific task or subject. This raises questions about the quality of attention in a world where distraction is ubiquitous.

Additionally, the constant availability of online information can pose a challenge to deep concentration. Frequent interruptions, notifications, and a multitude of choices can hinder individuals' ability to fully engage in intellectual activities that require deep reflection. Ultimately, the immediacy of online information access can influence how memory functions. Reliance on online search can lead to less intensive memorization, as information is often externalized rather than memorized. This raises questions about how the evolution of individual memory may affect knowledge construction in society.

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6. Towards a Balanced Understanding

The crucial question of the need for balance in media and technology usage, aware of potential impacts on cognition. It is essential to recognize that media and technology are neither inherently positive nor negative, but their impact depends on how we use them. The goal is to promote a thoughtful and balanced approach to leverage the benefits while minimizing the drawbacks.

Rather than rejecting media and technology, it is crucial to consciously integrate them into our daily lives. This involves setting clear limits on usage time, especially in environments where distraction can be detrimental, such as at work or during moments of deep concentration. Moreover, encouraging healthy media practices involves fostering mindful and critical consumption of information. This can include source verification, diversification of viewpoints, and implementing a proactive approach to filter online content, thus reducing the risk of superficial information overload.

The need for balance also implies promoting a culture of reflection. Encouraging deep reading, critical thinking, and contemplation becomes essential in a fast media environment. This can be achieved by promoting educational programs focused on critical thinking and awareness of media effects on cognition.

To do this, the development of media literacy skills is necessary. Integrating media education into educational curricula to teach individuals the skills needed to effectively navigate the current media environment. This includes understanding the source, evaluating the credibility of information, and developing conscious consumption practices (Covey, R.S. 1989).

Additionally, encouraging regular periods of disconnection to allow a break from media use. This can promote reflection, relaxation, and sustained attention, thus contributing to a more balanced use of technologies. But also promoting awareness of digital mental health by highlighting the potential effects of excessive media use on mental well-being. This can include recognizing signs of media addiction and promoting resources for conscious use.

Ultimately, it is crucial to encourage individual and collective responsibility in media usage, emphasizing the impact of our actions on the global media culture. This may involve active participation in creating a more balanced and respectful media environment.

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7. Conclusion

Media theories continue to evolve with the evolution of society. Analysing theoretical foundations through the works of McLuhan, particularly "Understanding Media," has revealed how media shape our perception and reality construction. We have examined how concepts such as "the medium is the message" and "extensions of man" offer unique perspectives on the relationship between media and cognition.

As the examples we have discussed in the text, exploring Nicholas Carr's ideas in "The Shallows" has shed light on the profound implications of intensive Internet use for brain plasticity, fast thinking, and the superficiality of online information. These changes have significant repercussions on how we process information, focus our attention, and construct our understanding of the world.

By analysing the implications for contemporary society, we have highlighted the cultural and social transformations resulting from these cognitive changes. The nature of attention, concentration, and memory is constantly evolving in a fast media environment, influencing communication, decision-making, and knowledge construction.

Several examples illustrate this dimension. First, online conversations are often characterized by short messages, rapid responses, and an abundance of emojis, transforming how individuals interact and express their emotions. Second, consumers, faced with abundant online choices, adopt rapid decision-making strategies based on online reviews, thus affecting purchasing trends and preferences. Finally, the tendency to rely on search engines to retrieve information can affect long-term memorization ability, reshaping our information storage processes.

However, this exploration represents just one step in understanding the complex interaction between media, technology, and cognition. We call for ongoing research in this ever-evolving field. Rapid technological advancements and societal changes require continuous exploration to understand the new challenges and opportunities that emerge.

In perspective, we invite future reflections on how society can proactively adapt to these changes. How can we design educational strategies that foster conscious media use from an early age? How can businesses and institutions promote a work environment that fosters concentration and creativity in a digital world? These questions pose stimulating challenges that require interdisciplinary collaboration and innovative thinking to shape a future where media and cognition coexist harmoniously.

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