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**REPRESENTATION, VIRTUALITY, AND COGNITION.
RETHINKING LANGUAGE IN THE DIGITAL ATTENTION ECONOMY**

Abstract

This study explores the evolving interplay between language, cognition, and digital media in the context of the attention economy. It proposes six key dimensions – representation, virtuality, attention, community language, cognitive transformation, and the speech-writing continuum – through which digital communication reshapes linguistic practices. Drawing on contemporary theories of mediatisation, multimodality, and sociolinguistics, the authors argue that digital environments fundamentally alter linguistic representation and identity construction. Through the analysis of semiotic innovation, platform logic, and cognitive offloading, the article highlights how digital discourse is not a degradation of language but an adaptive response to new communicative affordances. The findings invite a rethinking of linguistic norms and suggest directions for further research into the ethical, cultural, and neurological consequences of pervasive digital communication.

Keywords: digital communication, attention economy, linguistic representation, virtuality

Introduction

The contemporary landscape of human interaction is inextricably linked with the pervasive influence of digital technologies. Over recent decades, the proliferation of networked computers, mobile and smart devices, and diverse online platforms has fundamentally reshaped how individuals communicate, share information, form relationships, and participate in society. This transformation extends beyond mere changes in channels; it involves a profound restructuring of communication practices, linguistic norms, and even cognitive processes. The advent of digital media has fundamentally reshaped human communication, creating environments where traditional distinctions between spoken and written discourse, private and public speech, and producer and consumer collapse (Crystal 2011). The rise of computer-mediated communication has expanded far beyond early email and forum interactions to include synchronous and asynchronous exchanges across text, image, sound, and video formats (Herring 2001: 127).

In the mediated digital environment, media logic, defined by speed, visibility, algorithmic filtering, and platform-based interaction, affects how messages are transmitted and how meaning is created and interpreted (Hepp 2011: 615–617). This shift necessitates new frameworks for understanding language use, emphasising the interdependence of communication technologies and sociocultural practices (Balázs L. 2023). However, the scope of digital communication has dramatically expanded. It now encompasses a vast array of synchronous and asynchronous interactions, multimodal formats (integrating text, image, audio, video), social media platforms, virtual worlds, and increasingly, communication involving or augmented by artificial intelligence (Szűts–Szűts–Novák 2023; Vaughan–Szűts–Novák 2024; Farkas et. al. 2024; Czine 2024; Csepeli 2024). This evolution necessitates a move beyond early conceptualisations anchored to specific technologies towards a broader understanding of mediated communication in an age where digital tools are omnipresent and deeply integrated into daily life. Drawing on the concept of a technological language ecosystem, this paper views language not as a static system but as an adaptive medium that reflects and is reshaped by digital infrastructure. Consequently, studying digital communication entails examining linguistic change, cognitive adaptation, and the socio-technical shaping of discourse.

To rethink the language, we must focus on six core themes: representation, virtuality, the attention economy, online community language, cognitive transformation, and the spoken-written continuum. These themes are not isolated but deeply interconnected. For instance, digital representation is directly influenced by the demands of attention-driven platforms, reshaping linguistic habits and cognitive processing.

Rethinking the Internet as Metaphor

In addressing the evolving nature of language in the digital age, beginning with a conceptual reconsideration of the Internet itself is critical. Rather than treating it merely as a technical infrastructure or communication tool, we should approach the Internet as a cultural and symbolic environment shaped by the metaphors we use to describe and understand it (E-nyelv Magazin 2024/1–4). As Zoltán Szűts (2013) argues, metaphoric thinking reflects and actively constructs our digital practices. For example, the idea of the Web as a Borges's Babel Library invokes an endless repository of combinable texts, where the boundaries between meaningful and meaningless content collapse and the concept of authorship becomes fluid (Szűts 2013: 19–23). This metaphor captures not only the vastness of digital content but also

the challenge of navigating a system where all variations of a message – authentic or erroneous – coexist. This reframing is essential for any linguistic analysis of digital communication. It situates digital discourse within a symbolic universe governed not only by syntax and semantics but also by interconnectivity, redundancy, and algorithmic remix. The web is no longer a neutral platform for language use; it is a dynamic, non-linear, and ever-expanding hypertextual space (Szűts 2013: 84–90), where reading and writing become acts of navigation and association. In this sense, digital language operates under new constraints and affordances, which are better understood when examined through metaphorical and cognitive frameworks. Recognising these metaphors is therefore not a matter of stylistic curiosity but a methodological necessity for understanding how digital technologies shape and reshape our communicative realities.

Restructuring of Linguistic Representation

Digital communication platforms are not passive conduits for information but active agents in shaping how reality is linguistically constructed. The “affordances” of digital media – such as brevity, hypertextuality, multimodality, and instant feedback – condition how language is used and meaning is formed (Kress 2010). These affordances foster a mode of representation that privileges speed, visibility, and impact. The semiotic systems employed in digital spaces extend beyond verbal language to include images, emojis, hashtags, GIFs, and other symbolic resources. These forms operate together in complex, hybrid ways that often defy traditional syntactic or semantic analysis (Thurlow–Mroczek 2011). For example, emojis provide emotional cues that mimic nonverbal communication in face-to-face settings, offering affective clarity where written language alone might fail. This new semiotic environment necessitates rethinking linguistic norms: the digital context produces “weightless texts” that are easily modifiable, searchable, and reproducible, challenging the notions of authorship and textual stability (Balázs G. 2023). A dynamic interplay between technology and language emerges, where meaning is shaped not just by grammar or context, but by platform logics and interface design. Thus, digital representation is not merely about encoding information but about participating in a socio-technical system where form and content are mutually constituted. The challenge for linguistics is to analyse these evolving forms with tools that acknowledge digital communication’s multimodal and participatory nature.

The inherent “media logic” of digital platforms – their underlying operational principles, formats, and biases – influences the selection and presentation of

information, thereby impacting linguistic representational choices. For example, the character limits of early Twitter encouraged brevity and abbreviation, while the visual emphasis of platforms like Instagram foregrounds image-based representation, often complemented by text in specific ways.

Digital semiotics adapts traditional semiotic concepts to account for the specific characteristics of new media, such as interactivity, hypertextuality, and the dynamic nature of online signs. For instance, the meaning of an emoji is not fixed but depends heavily on context, co-occurring text, platform rendering, and the shared cultural understanding between communicators (Antal, 2022). Memes function as complex signs relying on intertextuality and cultural knowledge for interpretation (Berlanga-Fernández-Reyes 2024: 121). Analysing these multimodal texts requires considering not just individual signs but their combination and the “grammar” of their interaction. How signs are produced, disseminated, and consumed within digital media shapes public perception and reflects broader societal values and tastes.

Language and Mediation

To fully grasp the depth of these changes, it is insufficient to merely catalogue the features of different digital platforms or document shifts in linguistic usage. The concept of mediatisation offers a more robust analytical lens. Mediatisation theory posits a fundamental interrelation between changes in media and communications on the one hand, and transformations in culture and society on the other. It is understood as a long-term process, akin to globalisation or modernisation, where media logic – the inherent operational rules, formats, and affordances of media technologies – increasingly permeates and shapes other social institutions and spheres of life, including language. This perspective moves beyond simple “media effects” to analyse how social actors and institutions adapt their practices and structures in response to and interact with the media environment. Studying language and communication in the digital world through the lens of mediatisation allows for examining how media technologies are not just tools, but environments that shape communicative possibilities, norms, and outcomes.

Virtuality and Communication

Virtual spaces, enabled by digital technologies, are not merely extensions of physical environments – they are socio-linguistic realms with distinct communicative structures. These spaces foster new forms of interaction that reshape interpersonal relationships and challenge traditional notions of

presence and community (Herring 2001: 129). The defining characteristics of virtuality – anonymity, asynchronicity, message persistence, and the absence of embodied nonverbal cues – transform communicative behaviour. Contrary to early critiques that labelled online discourse impersonal (Sproull–Kiesler 1986), subsequent research reveals that users adapt creatively to these environments. Through emojis, affective markers, and emerging stylistic conventions, individuals construct intimacy and identity in novel ways (Derks et. al. 2008: 770). Virtual communication fosters the emergence of group-specific norms and linguistic behaviours that differ from face-to-face interaction. These norms are dynamic, shaped by social negotiation, and often serve as community boundaries (Baym 2010). Géza Balázs (2023) notes that the digital environment cultivates a unique “technological language register.” Symbolic interaction is not bound to traditional linguistic rules but evolves based on the medium’s constraints and affordances.

These transformations align with the mediatisation framework, where media logic actively reconfigures social practices (Hepp 2011). In virtual contexts, the platform becomes an agent shaping discourse - what is said, how it is said, and who is heard. Such environments blur the line between personal and public communication, enabling forms of sociality previously unimaginable. As the virtual becomes increasingly embedded in everyday life, it is crucial to recognise its role in mediating and generating linguistic and cultural change. The digital sphere is not an alternative to reality – it is a site of interaction, creativity, and identity formation.

The Attention Economy and Linguistic Simplification

In the digital age, attention is a limited and highly valued resource. The attention economy concept (Zuboff 2019) captures how platforms, advertisers, and content creators design environments and messages to capture and monetise users’ attention (Davenport–Beck 2001; Wu 2016). Rather than merely facilitating communication, digital media incentivise forms of discourse that maximise engagement, often at the cost of linguistic depth and complexity. This economic pressure has linguistic consequences. Clickbait headlines, meme culture, and algorithmically optimised content formats favour brevity, emotional resonance, and immediate recognizability. Linguistic simplification becomes not just a stylistic tendency, but a strategic adaptation to digital environments where speed and visibility are rewarded (Blom–Hansen 2015: 90).

Clickbait, for example, relies on linguistic features such as ambiguity, imperative mood, and hyperbole to provoke curiosity and compel clicks.

These forms often prioritise emotional arousal and surprise over substantive information (Chen et al. 2015: 90). Memes, meanwhile, condense cultural commentary, humour, or social critique into highly shareable visual-linguistic units, facilitating rapid diffusion and remix (Shifman 2013). Géza Balázs (2023) has argued that these trends signal a transition toward compressed language registers, where clarity and precision are secondary to virality and aesthetic impact. While such formats may seem linguistically impoverished, they also demonstrate creative adaptation and novel rhetorical strategies, revealing how users navigate digital constraints with ingenuity. This duality – simplification and innovation – reflects the broader dynamics of mediatisation. As media logics increasingly shape discourse, language is moulded by platform affordances, algorithmic filtering, and attention-maximising imperatives (Hepp 2011). The result is not linguistic decline, but transformation: a recalibration of language to fit the communicative logic of digital capitalism. The sheer volume of online information, constant notifications, and attention-grabbing tactics contribute significantly to information overload. In this state, input exceeds an individual's processing capacity (Shahrzadi et. al. 2024). This is closely related to cognitive load, the mental effort required to process information. Excessive information quantity and poor quality contribute to overload, leading to stress, difficulty in decision-making, and negative emotions. High cognitive load resulting from prolonged social media use or complex information environments can negatively impact mental health (e.g., anxiety, depression) and the quality of interpersonal relationships (Arató–Balázs 2023: 756).

Language and Identity

Digital technologies have enabled virtual communities – networks of individuals who share interactional spaces grounded not in physical proximity but in common interests, ideologies, and practices (Baym 2010). These communities function as socially meaningful units, fostering collective identity through discourse. In these environments, language becomes both a tool and a marker of affiliation, creativity, and belonging. Virtual communities often develop distinctive linguistic repertoires, including in-group slang, emojis, acronyms, and stylised spelling. These features signal membership and solidarity while excluding outsiders (Androutsopoulos 2006: 420). Géza Balázs (2023) describes this as linguistic identity construction, whereby users craft personae through adaptive and expressive language forms. Like traditional speech communities, online communities cultivate norms through interaction, often under anonymity and asynchronous communication.

Linguistic innovation thrives in these contexts. Freed from formal constraints, users remix existing language and invent new forms, reflecting play, subversion, and the evolving digital culture (Crystal 2011). Memes, for example, become sites of collective storytelling, while unique orthographic practices (e.g., lowercase-only writing, unconventional punctuation) express affect, irony, or stance (Tagg 2015). Such practices illustrate the semiotic richness of digital discourse, where written language increasingly adopts the pragmatic functions of speech. The formation of online linguistic communities also demonstrates how digital media facilitate communities of practice (Wenger 1998), where language use is shaped by shared activity and mutual engagement. These communities are dynamic, culturally diverse, and reflective of broader mediated identities. As Géza Balázs emphasises, digital environments give rise to language cultures that blend local specificity with global accessibility – a phenomenon he frames as the interplay between linguistic fragmentation and unification in the network society (Balázs 2023).

Digitalisation and the Cognitive Revolution

The digital transformation of communication has profound implications not only for language but for cognition itself. As digital technologies mediate more of our mental activities – reading, remembering, learning, socialising – they become embedded in the cognitive processes they once merely supported. This shift can be understood through the lens of the “cognitive revolution,” which redefined the human mind as an information processor, a metaphor now extended and reconfigured in the context of pervasive computing (Gardner 1985; Norman 1993).

Digital media influences attention, memory, and reasoning. The rapid pace of online information flow, constant notifications, and multitasking environments foster fragmented attention and reduced capacity for deep focus (Carr 2010). Researchers have documented correlations between digital media habits and declines in sustained concentration, particularly among youth (Rosen 2012). The so-called “Google effect” suggests that individuals increasingly rely on external memory sources – search engines and cloud storage – rather than internalising knowledge (Sparrow et al. 2011). The implications for linguistic practice are significant. As the mind externalises part of its function to screens and networks, the form and function of language adapt. Shortened syntax, multimodal messaging, and hyperlinked discourse reflect communicative trends and rewire habitual thought structures. Language, once a tool of introspection and memory, increasingly becomes a means of rapid signalling and retrieval.

While some view this as a cognitive decline, others interpret it as evolution: a reorganisation of mental resources suited to a hyperconnected world. Understanding this transformation requires a holistic perspective considering technological affordances, cultural adaptation, and linguistic change.

The Blurring Boundaries between Spoken and Written Language

Digital media have transformed the communicative landscape by dissolving the once-clear distinctions between spoken and written language. This hybridisation, often Netspeak, reflects an emergent digital register that borrows features from both modalities to suit online platforms' immediacy, expressiveness, and constraints (Crystal 2011; Tagg 2015).

Text-based digital communication – instant messaging, social media updates, or SMS- often mirrors spoken interaction in its tone, brevity, and structure. Features such as sentence fragments, ellipses, discourse markers (“like,” “so”), expressive lengthening of words, and unconventional punctuation simulate conversational rhythm and emotion (Herring 2011). At the same time, the written form persists in its visuality and permanence, marking these exchanges as distinct from ephemeral spoken talk. Géza Balázs (2023) frames this phenomenon as part of a broader technological register, wherein language adapts not only to social functions but to the affordances and limitations of digital tools. He emphasises that the visual channel, though “speech-like,” remains grounded in writing’s visual logic, where users compensate for the absence of prosody and body language through graphic strategies – emojis, capitals, phonetic spelling, and visual spacing.

Moreover, there is evidence that these hybrid forms influence spoken language, particularly among digital natives. Acronyms like “LOL” and terms such as “hashtag” are sometimes spoken aloud, and meme-derived phrases are adopted in oral interaction (Baron 2008). While concerns have been raised regarding the erosion of formal literacy, empirical research suggests that users are adept at code-switching between registers, maintaining awareness of context-appropriate language use (Thurlow–Mroczek 2011). This convergence invites a rethinking of the traditional binary of speech vs. writing. Rather than viewing digital language as a corruption of standards, it may be more productive to understand it as an adaptive, creative response to new communicative conditions. These linguistic innovations are not merely stylistic flourishes – they reflect broader cultural shifts toward informality, immediacy, and participatory authorship.

The influence of spoken language (orality) is readily apparent in the linguistic features standard in much written digital communication (Fenianos 2020).

Spontaneity and Immediacy: Digital text often mimics the real-time flow of conversation, prioritising quick responses over careful composition. (Dominek 2022).

Fragmentation: Sentences may be shorter, less complex, and grammatically incomplete, reflecting the piecemeal nature of spoken turns. Omissions of words (ellipsis) are common.

Dialogicity: Features facilitate interaction, such as turn-taking cues (even if asynchronous), frequent use of discourse markers (like ‘so’, ‘well’, ‘like’), and direct address.

Informality: A general relaxation of formal grammar, spelling, and punctuation rules prevails, along with colloquialisms and slang.

Expressivity: Lacking vocal tone and physical gestures, users employ textual strategies to convey emotion and attitude, such as emoticons, emojis, creative use of punctuation (e.g., multiple exclamation marks), capitalisation for emphasis (SHOUTING), and expressive lengthening of words (e.g., ‘soooo good’).

Phonetic Representation: Spelling often reflects pronunciation rather than standard orthography, seen in abbreviations like ‘u’ for ‘you’, ‘r’ for ‘are’, ‘thru’ for ‘through’, or other respellings.

Future Research Directions

Despite considerable research, many questions remain, and new ones constantly emerge. Key areas for future investigation include:

Longitudinal cognitive impacts, where rigorous, long-term studies are needed to understand the cumulative effects of lifelong digital immersion on cognitive development, brain structure (neuroplasticity), and cognitive health across different age groups. AI-mediated communication (AI-MC), where the increasing role of AI in generating, modifying, or augmenting human communication aligns with earlier analyses suggesting that AI not only augments communicative capacity but also reshapes agency and authenticity in educational settings (Rajcsányi-Molnár et al. 2024; Kókuti et al. 2023). Cross-cultural digital Linguistics, where while some research exists, more comparative studies are needed to understand the diversity of digital language practices, norms, and adaptations across different linguistic and cultural contexts globally. Ethical dimensions, where further investigation is required into the moral implications of algorithmic framing, the potential biases embedded in digital platforms, privacy concerns related to digital communication data, and the responsibilities associated with cognitive offloading and reliance on AI. Speech-writing interface, where the influence

of digital writing patterns on spoken language warrants more systematic empirical study beyond anecdotal observations.

Navigating the evolving digital linguistic landscape requires ongoing critical inquiry. By integrating diverse theoretical perspectives and pursuing rigorous empirical research, scholars can continue illuminating how digital technologies reshape human language, communication, cognition, and society.

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