

MAGYAR NYELVŐR

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LINGUISTICS AND COMMUNICATION IN THE MEDIATED AND DIGITAL WORLD



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SPECIAL ISSUE: LINGUISTICS AND COMMUNICATION IN THE
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EDITORIAL FOREWORD

This special issue explores the intricate interplay between language, communication, and the digital sphere, focusing on the profound influence of artificial intelligence. The papers gathered here offer diverse perspectives on how technology reshapes human interaction, linguistic practices, and our understanding of communication.

The issue begins with Lev Manovich's paper, titled „Artificial Subjectivity”, which considers how generative AI language models introduce new forms of human representation in the arts. This paper discusses how these models simulate human subjective states and generate expressions of consciousness as a default outcome of their communication.

Balázs Arató and Géza Balázs's article „Artificial Intelligence: Transhuman Language, Ethics and Justice,” explores the potential social, communicative, linguistic, ethical, and legal impacts of rapidly evolving AI technologies. Their study examines cooperation as the foundation of social life, shared traditions (language, texts), tertiary orality and literacy, textual overproduction, core values and value stability, the detachment of art from human artistic intention, escalating social and personal conflicts stemming from technology, and the legal challenges of AI.

Zoltán Kövecses, in „Chatting about anger metaphors with ChatGPT,” investigates ChatGPT's knowledge of anger metaphors. This study examines whether the AI's metaphorical knowledge is based on national languages or cross-linguistically shared patterns and reflects on the AI's perceived self-awareness.

István András and Géza Balázs, in „Representation, Virtuality, and Cognition: Rethinking Language in the Digital Attention Economy,” explore the evolving relationship between language, cognition, and digital media. Their paper proposes dimensions through which digital communication alters linguistic practices, addressing semiotic innovation and cognitive adaptation.

Gavin F. Hurley's „Deglamorizing AI Writing: A Weaverian Return to Language, Reality, and Rhetoric” discusses the implications of AI writing for human composition and communication. This article considers how Generative AI technologies may affect human-to-reality and human-to-human relationships central to writing processes.

Miklós Hoffmann's „Large Language Models and associative fields in creative writing and literary interpretation” examines the capabilities and limitations of Large Language Models (LLMs) in interpreting and generating texts, particularly poetic and aphoristic forms. The paper investigates shortcomings in LLMs' grasp of associative fields and their implications for literary analysis and human-machine communication¹⁴.

Zsolt Antal's “The National Patterns Of Language Cultivation And Plain Language In Public Service” analyzes language cultivation practices in public service media and the plain communication of public institutions with citizens. This study addresses how digitalization has influenced linguistic normative systems and the adaptation of public service media to online platforms.

Géza Balázs, Otto Beke, and Zoltán Szűts, in “Contact language and ChatGPT,” present an online linguistic case study that assesses ChatGPT's ability to interpret Hungarian language use in Vojvodina, explicitly focusing on contact language features. This research explores the challenges of foreign lexical elements and country-specific administrative terminology for AI interpretation.

Geoff Vaughan and Rita Szűts-Novák, in “Distant Noises: Expert Voices,” investigate the perspectives of expert writers on the craft and purpose of writing. Their paper considers how the rapid digitization of communication may affect more profound, creative thought and human written expression.

Nóra Kepe's “The Therapeutic Nature of Social Media” examines how social media platforms contribute to a “therapeutic culture”. This study analyses how social media sites encourage user individualisation, self-reflection, and self-representation, influencing language and visual aesthetics.

Petra Bialkó-Marol and Réka Benczes, in “Shared Wounds, Shared Words: The Role of Metaphor in Building Online Group Narratives of Infertility,” explore metaphor use in online infertility forums. Their findings discuss how metaphors can influence personal disclosure and contribute to forming a group's illness identity.

László Balázs and Tímea H. Tomesz, in “Virtuality and Communication: Examining Reddit texts in terms of the transformation of digital communication

norms and linguistic behaviour patterns,” investigate changes in digital communication norms and linguistic behavior through the lens of Reddit. This study highlights how digital platforms shape politeness strategies, debate structures, and linguistic registers within online communities.

Finally, Dalma Lilla Dominek and Zoltán Szűts’s “The complex impact of AI-generated content on communication” explores the diverse implications of AI-generated content. This paper addresses risks such as homogenization, manipulation, the erosion of human interactions, and challenges to linguistic diversity and social equality.

This collection of papers collectively addresses the ongoing evolution of communication in the digital age, specifically focusing on the roles and implications of artificial intelligence. The volume aims to provide a broad overview of current research in these areas, identifying the transformations underway and the associated considerations for future study and practice.

Zoltán Szűts, Géza Balázs and Geoff Vaughan, editors of the special issue
Linguistics and Communication in the Mediated and Digital World.

LEV MANOVICH
ARTIFICIAL SUBJECTIVITY

Abstract

GenAI language models open a new chapter in the history of how human beings and their subjectivity are represented in the arts. When we interact with these systems, we encounter something unprecedented: they are not merely tools for crafting artistic works, but entities that already simulate a thinking, feeling human subject. These systems generate expressions of human consciousness, including thought, emotion, perception, and aesthetic judgment, as a default effect of their communication. Thus, they constitute a new form of representation – one that changes our understanding of what it means to depict subjectivity. This capacity challenges established traditions of artistic representation and presents one of the most compelling artistic challenges (and also opportunities) of our time.

Keywords: *Subjectivity, Representation, Generative AI*

GenAI language models open a new chapter in the history of how human beings and their subjectivity are represented in the arts. When we interact with these systems, we encounter something unprecedented: they are not merely tools for crafting artistic works that can include representations of human beings, but entities that already simulate a thinking, feeling human subject. They generate expressions of human consciousness, including thought, emotion, perception, and aesthetic judgment, as a default effect of their communication. In other words unlike traditional artistic media, where human qualities must be deliberately crafted by authors, GenAI systems produce the appearance of subjectivity automatically – through language responses that presents itself as coming from a human subject. As such, these models are not only practical instruments but also constitute a new form of representation – one that changes our understanding of what it means to depict subjectivity. This capacity challenges established traditions of artistic representation and presents one of the most compelling artistic challenges (and also opportunities) of our time.

Human arts have always served multiple functions: beauty, and decoration, description (places, spaces, objects, histories, encyclopedias), carrying information, knowledge and wisdom (myths, tales, narratives of all kinds, chronicles, parables), creating symbols, summarizing human experiences, etc. One of these functions is creating representations of human beings – and also other animated beings such as animals and of course gods.

These representations were created in almost all historical cultures and in variety of media – sculptures, engravings, mosaics, paintings... and later using photography, film, and computer graphics. They were also crafted using words – characters coming live to us in poems, folk tales, chronicles, dramas, novels. These representations were also created by acting – humans beings representing other human beings (or gods) in live performances. (This means that a human being themselves is also a “type of media” along with all others mentioned above. using face expressions, body movements, gestures, dress, face decorations, masks, makeup.)

Creating compelling representations of human beings in any media required effort and skills developed through training and practice. It also involved ideas and plans. Who are you going to portray? What is this human type, personality, character, what are their intentions, motivations and narrative trajectory – and (in modernity) what is their subjectivity, including interior states, perceptions, and (stream of) consciousness.

Here so called “modernism” – from let’s say 1870 to 1970 – made many discoveries, developing new methods to represent aspects of human experience, consciousness and perception. The importance and the timing of these discoveries can be seen in parallel to the progress of modern physical and life sciences, developing a range of new methods for seeing inorganic and live matter and processes. In literature, these methods included stream of consciousness technique pioneered by Joyce and Woolf that captured the flow of thought in real-time; Proust’s elaborate representations of memory and temporal experience; Faulkner’s fragmented narrative structures mirroring cognitive processes; Beckett’s sparse, stripped-down prose exploring the limits of language and consciousness; and the heightened sensory perception captured in Nabokov’s synesthetic descriptions and Robbe-Grillet’s camera-like observational detail. Earlier literary traditions had focused primarily on external actions, moral lessons, or social dynamics, but these modernist innovations created unprecedented textual analogues for the intricate workings of individual consciousness and perception.

But while science continues to develop these methods and new technologies of observation, modeling, and analysis – from more powerful telescopes and spaceships looking into the universe, to networks of numerous tiny sensors observing ocean floors or other natural habitats and new data science techniques for seeing patterns and structures in big data – and it relentlessly marches forward, the progress in artistic techniques for representing human experience and subjectivity seems to stop about five decades ago... (While video games with their interactive characters could theoretically have advanced representation possibilities beyond novels, films, and TV drama, they have largely adapted existing narrative techniques rather than fundamentally revolutionizing how we represent human consciousness and subjectivity.)

This historical trajectory of representation techniques – from traditional narrative techniques to modernist innovations to the apparent plateau of recent decades – provides the necessary context for understanding why GenAI represents not just a new tool but a fundamentally different approach to human representation.

In this context, the development of GenAI models in first part of 2020s is fundamentally transforming our understanding of human representation itself. These models aren't merely new tools but rather a novel form of representation that transcends the whole long history of human practices and methods for depicting human beings. But how to take advantage of this new capacity is the real artistic challenge – and in fact, it is one of the biggest and most difficult ones existing today in the arts that I can think of. This is because this new situation does not seem to fit into the whole long history of human practices, tools and methods for representing human beings.

GenAI models are capable of variety of tasks that cover many parts of human cognitive and also cultural skills and behaviors - summarizing bodies of information, translating between languages, writing code, making detailed plans, describing and analyzing media artifacts and also generating them in multiple media. During training, they learn the patterns contained in digital collections of human media accumulated during web history. After this training, they can generate new original artifacts that have the same patterns.

These artifacts include representations of human beings – including our consciousness, emotions, motivations, personalities, memory, perceptions and all other aspects and dimensions of human subjectivity and behaviors that traditionally were the domain of skilled human authors.

In other words – GenAI models are already representations of human consciousness “out of the box”! When you interact with an AI chat bot, it answers your prompts and also generates artifacts (if you ask it to) as though it is a thinking human being. The model creates a fully convincing simulation that the entity that answers you and follows your requests is a human subject – a simulation that functions as a representation of human subjectivity.

This approach to representation (which involves statistical pattern recognition) offers different capabilities compared to traditional human representations created in the arts. For example, for a character in a novel to say, feel or remember something, the author has to explicitly invent this information and ways of describing it, and put this in the text. The character is crafted word by word, line by line, brushstroke by brushstroke, polygon by polygon... but GenAI model is already a generator of endless worlds, endless characters, thoughts, emotions, perceptions and all other features of subjectivity – right out of the box. In other words – simulating human subjectivity is already one of its many built in features.

The common way of using this capacity is what today endless amateurs and also professional authors do with general (e.g, ChatGPT) and specialized tools (for example, AI tools specifically designed for fiction writing such as Sudowrite). They are asking AIs to generate storylines, storyboards, text descriptions of characters, or their images and videos, and so on. In other words, they use AIs as tools for their craft.

While this is both very important and interesting, this is not what I have in mind here. I am pointing to a fundamental distinction: rather than merely being tools that help create representations, GenAI language models and chat bots are already complete representations of human beings in themselves. That is, all responses they generate appear as though coming from a human being – which has not only cognition but also full subjectivity.

But of course, this simulation is quite different from any and all real humans we know. GenAI responses come from some kind of a kind of universal, generalized super-human, which sums up, or reflects all traces of human activities on the web (used as training data).

Who is this new actor which can command endless different identities, personality trends, voices, traits and desires? Who is this God-like author?

And what shall we do with this new simulated universal collective subjectivity? We really don't know. Simply treating it as a tool seems to be a gross underestimation of GenAI's super-creator powers and capabilities. Imagine asking greatest actors ever lived to simply appear in a background for a few seconds, or asking humanity's greatest author to compose a short standard business email. It would be a joke. This is why, in my view, asking AI to compose a poem, or an image, or come up with a storyline for your novel is just silly. It is like asking your God who has powers to do everything *for.. a Coke*. Certainly, we should be able to come up with something better?

Shall we ask instead - how can arts now express our human experience, memory, history, and subjectivity differently with the help of GenAI not as a tool but as a new medium itself? I think it's a meaningful question. And how shall we think about this collective and versatile human being that GenAI simulates? Who is this new super-human? What is this mega-novel contained in all possible responses GenAI models can give to all possible prompts? And what new forms of representing human subjectivity and collectivity might emerge from the endless universe of prompts we can't even imagine?

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ARTIFICIAL INTELLIGENCE: TRANSHUMAN LANGUAGE,
ETHICS AND JUSTICE

Abstract

This study explores the potential social, communicative, linguistic, ethical, and legal impacts of the rapidly evolving phenomena associated with artificial intelligence (AI) technologies. The key issues examined include: (1) cooperation as the foundation of social life (communication), (2) shared traditions (language, texts), (3) tertiary orality and literacy, (4) textual overproduction, (5) core values and value stability, (6) the detachment of art, as the highest form of human quality of life, from human artistic intention, (7) escalating social and personal conflicts stemming from technology, and (8) the legal challenges of artificial intelligence.

Keywords: artificial intelligence and its applications, simulacrum, avatar, narrative, tertiary orality and literacy, “the end of art history”

The advent of AI signals the end of omniscience

However, we are also moving towards the possible end of human partial knowledge itself. For this reason, we believe that it is critical to emphasise humanistic considerations.

Nowadays, everything seems to revolve around AI (for example, the *Magyar Nyelvőr* has frequently addressed the topic: Csepeli 2024; Czine 2024, Vaughan–Szűts–Novák 2024, and even case studies related to ChatGPT: Balázs–Beke–Szűts 2024; Balázs–Beke–Szűts 2025, as well as issues surrounding phishing: Kenyeres–Szűts 2025). Although virtually everything about AI is relative and subject to immediate change, we will briefly highlight three currently relevant artistic-linguistic phenomena without an overextended introduction:

- (1) AI preparing school-leaving exam topics:
“I feel sorry for those poor students who have used language models to prepare their contemporary literature exam topics and will now speak complete nonsense. In cases where the models are unfamiliar with the specific text (which is often likely for contemporary works), they will not initially indicate this. Still, they will rather generate

random, nonsensical responses. I know this because I have received several desperate messages overnight from students concerning my short stories (Hangár, Húsleves), telling me that the exam topic drafted by their classmates and shared with them does not correspond to the actual text. How is this possible? Why does this happen? (Of course, I am aware that these models can also be used properly – they need to be given the right instructions, etc. – but the situation is nevertheless disheartening.)” (György Dragomán, W1)

- (2) Voice cloning, AI composes a song: *“In January 2024, the experimental music project Full of Stars published a song on its YouTube and TikTok channels which used the vocal timbres of two of the most influential young macro-influencers in contemporary Hungarian celebrity culture: Dominik Szoboszlai, who plays football in the English Premier League, and Attila Baukó, the singer performing under the artist name Azahriah, who has enjoyed one success after another. The song paid tribute to the recent successes of the Hungarian national football team.” (W1)*

A commercial television channel’s expert commented: *“Within three years, it will be virtually impossible to distinguish between what is real and what has been generated by artificial intelligence.” (W2)* The phenomenon is known as voice cloning „The technological refinement of voice cloning, which can also be understood as a further stage in the mediatization, softwareisation, and datafication of human culture, is likely to make its presence felt across numerous registers of popular culture future. Significant changes may occur in popular music, filmmaking, dubbing, and the video game industry, developments that media and cultural studies will need to monitor closely.

In my view, an exciting avenue of interpretation lies in the philosophical exploration of voice cloning technology – an aspect touched upon here only in passing, which could also contribute to the discourse of posthumanism. Such an inquiry might offer a deeper examination of how the relationship between voice and body is transforming.” (Rudisch Ferenc, W2)

- (3) Hungarian Language and Artificial Intelligence: *“Developing Hungarian-language artificial intelligence systems is not merely a technological challenge but a matter of national interest. This issue extends far beyond the field of information technology: it concerns our digital sovereignty, the preservation of our linguistic culture, and even our economic competitiveness,” László Palkovics told Index. He emphasised that among smaller languages, Hungarian are at a real competitive disadvantage in global AI development. Large language*

models primarily focus on widely spoken languages and use the data available in those languages for training. Without conscious, deliberate action, the Hungarian language may only participate in the age of artificial intelligence in ‘translation’. “This not only affects our linguistic complexity but also impacts our culture and history, since large language models are taught – and integrate – the historical and societal perspectives widely available in foreign languages and embedded in those respective cultures. (...) If we do not build our own Hungarian-language AI capabilities, others will decide what the Hungarian language and culture will mean in the digital space.” (Gyöngyösi, Balázs, W3; Kenyeres 2024: 533, on the linguistic analysis of prompts.)

We also conducted a playful linguistic experiment:

- (4) We asked Google what *pirburg* and *párkáp* mean, and its own AI provided the following answer: The phrase „*pirburg párkáp*” is likely a unique, slang, or humorous expression coined in a specific context. It does not have a generally accepted meaning. The word „*párkáp*” may derive from „*párkány*”, which is an architectural element, whereas „*pirburg*” is not a recognised Hungarian word. The expression may have meaning in a particular locality or within a smaller community, but no reliable source exists to confirm this. (W4) In fact, it is a linguistic game by Péter Esterházy: *szemszám*, *pirburg*, and *párkáp*, which also appear in Géza Bereményi’s film *Idő van*. Of course, phrased differently, our query might have elicited a more accurate response.

Nowadays, everyone is experimenting with AI: secondary school students, university undergraduates, doctoral researchers, artists, journalists, and politicians alike. The (tabloid) media publish daily headlines such as: “We asked AI about...”, “AI showed us how...”, or “We asked AI to demonstrate...” Moreover, this is when odd and less odd combinations start to emerge, along with images that are more or less (mis)successful in one way or another.

This is the current situation, which we mostly regard as experimentation or entertainment, yet it is ideally suited to mislead, to invite people to draw real meaning from it. Almost no one asks the question (which is recommended daily in the context of critical online use): according to which version of the

AI, and at what point? Because what one AI answers to a specific question today, on 18 June 2025 at 10:06 a.m., may already be formulated differently the very next minute if the question is phrased in another way, not to mention when asked of a different type or version of AI. In other words, ‘AI reality’ has a thousand and one faces, a thousand and one variations. The technological development that began with the Industrial Revolution and was accelerated by the Information Revolution has now shifted to a new level, leading to exponential growth and transformation.

In the history of culture, the concept of alter egos (doubles) and avatars has already been present. Originally, *avatar* referred to the earthly incarnation of a Hindu deity in human or animal form; in the age of modern (new) media, a form of appearance, distinct from reality, shaped according to the user’s preferences; a virtual persona. In the social sciences, we have also spoken, following Baudrillard (1985), of *simulacra*, seemingly authentic copies, arising from the illusory nature of human thought. Moreover, this rapidly advancing technological development is now pressing upon what is still a fundamentally human feeling and experience. Gergely Krizbai (2025: 9) writes: “the inanimate has begun to behave as if it were alive.” Humans have always personified nature and objects: they saw human-shaped gods in clouds, fire, and water. Personification (anthropomorphism, humanisation) is not merely a poetic device, but part of our everyday thinking. Let us take some examples: *the cannon speaks, the clock ticks, the heart hopes, we weave dreams*; we address natural phenomena, objects, and concepts as persons: *our dear homeland*. We project humanity onto robots and chatbots as well. At the 2025 Budapest Book Festival, a clumsy robot wandered in front of one of the tents; more people marvelled at it than at the books. In a restaurant, a robotic waiter was introduced, tirelessly delivering meals with a programmed smiling face, and it was programmed to stop if someone playfully stepped in front of it. At that point, its face would change to a sad expression. The troublemaker, feeling sorry for it, then stepped aside. Breithaupt (2024: 10) writes: “We consider simulations suitable for mirroring our actions; they feel intensely real. Moreover, who would want to break with reality?”

We are entering a transhuman era

We are entering a transhuman era, the age of technological singularity, in which machine intelligence surpasses human intelligence, and technology slips beyond human control, as though we are not only expecting this moment, but actively welcoming it. People have long been surrounded by machines

whose workings they did not understand (televisions, cars, computers, smartphones), but there were always some who did. The danger is that we are approaching a time when perhaps no one will truly understand how or why these systems function. Krizbai (2025: 8) refers to this as “the beginning of non-human history”.

The principal areas of AI application today include: internet search engines (Google, Search), recommendation systems (YouTube, Amazon, Netflix), understanding human speech (Siri, Alexa), self-driving cars (Waymo), generative and creative tools (ChatGPT, AI art), and strategic games (such as chess and Go). All this will lead to explosive (rapid, revolutionary) change, first and foremost in human personality and socialisation, and, consequently, communities, society, and culture (including language itself).

We had already drawn attention to this phenomenon some time ago, promptly attracting labels from certain quarters of the academic community: technological pessimists, cultural pessimists, or worse, reactionaries and pseudo-scientists. In the latter case, the main counterargument was that science is not in the business of making predictions. This is, of course, true. However, in our age, studying present and emerging trends has become essential to our survival, requiring us to sketch out possible future scenarios (not only about the economy, environmental protection, or population growth, but also regarding social relations, culture, and language).

As we drift within the technocultural world towards a transhuman future, let us at least agree to use a Hungarian linguistic description instead of adopting the entirely foreign linguistic form of the new technology (Balázs 2023: 133–154; Minya–Baku 2024).

We propose using the Hungarian abbreviation *MI* (*mesterséges intelligencia* or *mesterséges értelem*) instead of the English *AI*, pronounced and inflected according to Hungarian grammar, for example: *MI-vel* (with AI). The spelling of ChatGPT (the artificial intelligence-based chatbot developed by OpenAI) could also be adapted to Hungarian orthography: *chatgpt*, or perhaps in a fully Hungarianised form, such as *szövegtenyésztő* (literally ‘text cultivator’). Since the topic of Hungarianisation has now been raised, the *Szómagyarító* (Word Hungarianiser) website already offers several suggestions. Possible alternatives for *AI* include: *műész* (artificial intellect), *gépagy* (machine mind), *robész* (robot intellect), *netész* (net mind), *agymű* (mind engine); while alternatives for *chatbot* might be: *csetbot* (chatbot), *csevigép* (chatter machine), *terefereketyere* (chit-chat contraption), or *e-társalgó* (e-converser).

In the present paper, we have gathered together those cultural and linguistic phenomena that had already been identified previously, and which have by now moved from mere prediction towards actual realisation; for each, we also add ethical and legal considerations that go beyond the cultural aspect and relate to the regulation of social life.

Seven Key Social, Cultural, and Linguistic Domains Fundamentally Influenced by AI

(1) Cooperation as the Foundation of Social Life and Communication:

A well-functioning society is built from (smaller, minor) communities, whose most essential characteristic is cooperation. The philosophical and linguistic framework for this was developed by Paul Grice (1988) under what he termed the *conversational maxims* (cooperative principles). The parties engaged in communication must (even subconsciously) follow four such fundamental principles: a) quantity (providing sufficient information), b) quality (meeting specific truthfulness criteria), c) relation (remaining relevant to the given situation), d) manner (expressing oneself clearly and in an organised way, and perhaps also observing ethical, appropriate, and polite forms of expression). Balázs Géza's (2020) fundamental formula for pragmatic communication is as follows: $K = 5E$ (the 5 E's represent the Hungarian terms for cooperation, empathy, energy, aesthetics, and ethics). Almost all these components are under strain today, especially the most fundamental aspect of human relationships: cooperation. There are undoubtedly emotional, energetic, and increasingly psychological factors underlying this phenomenon. We do not claim a direct causal relationship. Still, numerous indications contribute to the emergence of many new forms of civilizational disorders. Several psychological conditions and illnesses make cooperation between people increasingly difficult, if not impossible.

Consider, for example, two of the most frequently diagnosed psychological states of our era: autism and ADHD (attention deficit hyperactivity disorder). The signs of autism spectrum disorder include reduced capacity for social interaction, withdrawn communication, and non-conforming behaviour. In more severe cases, meaningful conversation with an autistic person is practically impossible, and they are generally unsuited to tasks that require cooperative work within most communities. Individuals with ADHD struggle to concentrate, notice or overlook details, often do not respond to direct questions, are unable to follow instructions, have difficulty organising their

daily lives, and tend to be forgetful. These disruptions to social cooperation are, unfortunately, destabilising society itself (Arató–Balázs 2023) and impose additional burdens on the social system, burdens that only highly affluent societies can realistically bear.

The impact of these challenges is already evident in areas such as the justice system, as illustrated by a recent case:

- “In the *Partizán* broadcast of 16 June 2025, we examined the criminal proceedings of a young man diagnosed with autism spectrum disorder. We found the case particularly important because it highlights how the same offences, committed by the same individual, were treated with understanding and in light of his condition by the authorities in one county. In contrast, they were, and continue to be, handled with far greater severity elsewhere. The young man’s father and defence lawyer outlined the case in the two-part discussion. During preliminary consultations, the father confessed that he did not understand why his son was engaging in such bizarre and alarming behaviour.” (W4)

We will not go into the complexities that followed from this case here.

However, how does AI connect to this? Most likely through technological development... A generation raised on smartphones, one that does not wish to engage in conversation. According to a leading business magazine’s ranking, one of Hungary’s most popular YouTubers openly stated in an interview that he is interested in nothing other than his smartphone, social relationships, and does not even miss sex (he identifies as asexual). This attitude seems closely related to a phenomenon that has already been observed in Japan:

“Japan may be the only country where popular magazines regularly publish articles with headlines such as: ‘Young people, do not hate sex!’” According to a recent survey, condom manufacturing and the construction of hotels specialising in romantic encounters are now the absolute losers on the investment ranking list. (...) The era of dates, courtship, and romance is over: the number of marriages and births is declining to an extent in the island nation that, according to some experts, an economic crisis and social collapse are already unavoidable.” (W6)

The foundation of cooperation is a shared language. It is becoming increasingly evident that AI is on the verge of fulfilling one of humanity’s ancient dreams:

eliminating the confusion of languages (the Babelian language barrier), creating the possibility of instant, online communication for people of all languages... This dream brings a sense of joy to everyone. However, what will follow from it? Language learning and linguistic knowledge have always involved cognitive and cultural processes – yet from now on, these may no longer be essential.

(2) Shared Traditions: Language and Texts

Social cooperation is fundamentally rooted in shared traditions, which are preserved and transmitted through commonly known, recited, and retold texts (myths, legends, and so-called “true” stories, in other words: narratives).

Breithaupt (2024: 13) emphasises that narratives have a conserving, identity-shaping power, but also a problem-solving, creative force:

“Narratives establish powerful patterns that give a stable form to our behaviour, thinking, beliefs, emotions, experiences, memories, and hopes; in this way, they limit us. However, it is precisely narrative thinking that offers creative possibilities of choice, possibilities that we quite literally invent for ourselves.”

Moreover, here lie the advantages:

“As narrative beings, we can design our own lives, anticipate the actions of others, assign blame, imagine ourselves in the place of others, and come to understand ourselves.”

However, the existing, accessible narratives can be contrasted with the declining reading comprehension skills, as confirmed by the results of the national competence assessment (see e.g. W7). Play a role in the accelerated pace of life, the speed of thinking, and the increasingly signal-like nature of communication, all hindering thorough reading comprehension. The superficiality of reading comprehension gives rise to numerous negative factors.

One observation - probably exaggerated, yet worth considering - states: “50% of Hungarian employees are functionally illiterate; rules must be displayed on machines in graphic form.”

(3) Tertiary Orality and Literacy

For many millennia, human language existed solely as spoken language. Then, approximately 5 to 7 thousand years ago, the need for recording emerged independently in several places, according to current knowledge, giving rise to written language. From the end of the 19th century, the technical possibility of recording and transmitting speech began to develop, and by the end of the 20th century, it had become a reality. It started, and a secondary, spontaneous form of writing appeared. It started to spread widely due to digitalisation. In this form, the gestures of the earliest writing systems reappeared and revived: pictures (emoticons, emojis), abbreviations, omissions of letters. Due to the impact of AI, we can now speak of a third form of orality and literacy: machine-generated speech and writing (Arató–Balázs 2024; Balázs 2024). Its characteristics can closely resemble, sometimes to the point of deception, the first or second forms of orality and literacy, yet they are the same. Today is: “I write using a microphone, then you make sense of it.” It remains an open and unexplored question of the true nature of machine-generated texts and how much they may influence linguistic change. Perhaps we can at least state that these are mosaic texts, hybrid texts, rephrased from existing materials according to linguistic commands, and that they already exhibit certain “human” features: they can ask follow-up questions and express uncertainty about the text they have created.

(4) Textual Overproduction

As a result of digitalisation, text overproduction has reached enormous proportions. Until now, pathological verbosity and compulsive speech, referred to in Hungarian with metaphors such as word diarrhoea or word flooding, and known in psychological terms as logorrhoea, were mainly identified and described in live human speech.

With the simplification of writing, transmission, and publication techniques, we can now also speak of *textual logorrhoea* that floods everything. Since an enormous volume of text is now published without any form of control, this complicates the process of reading comprehension and, at the same time, provides fertile ground for conscious manipulation (disinformation: half-truths, fake news) (Kenyeres–Szűts 2024).

(5) Core Values and Value Stability

As a result of digitalisation and AI, phenomena that were previously considered settled are now being called into question, such as the concept of the manuscript (the first, original version of a text), the author, the author's creation (in many fields, authorial autonomy is disappearing), and the uncontrollable number of text variants.

Although there have been long periods in human history and specific areas of culture where the creator (the author) was unknown, and texts existed in multiple versions – for example, in ancient oral poetry, later in folk poetry, and still today in living folklore – this new (perhaps transitional?) situation will undoubtedly raise numerous new ethical and legal issues.

(6) The Separation of Art, as the Highest Form of Human Quality of Life, from Human Artistic Intention

Art theories generally agree that the emergence of art was a decisive milestone in the process of becoming human, and that in every era, in some way or to some extent, it has been a characteristic of all people; in a broader sense, it is considered the most distinctive and highest human quality. It is a fact that there has already been a turning point in the history of art when communal and individual art separated, and many transitional artistic phenomena have since emerged. The impact of digitalisation and AI now raises questions about how the unrestricted distribution (copying) and transformation (textual and visual modification: Photoshop) influence aesthetic sensitivity and value, including the most powerful driving force of reception: catharsis. (In this context, some authors refer to *machinism*, or machine aesthetics, e.g. Perneckzy 1999). Copying and reproduction have already called into question the seemingly stable position of autonomous art. Let us offer a provocative thought: often, the copy is more beautiful than the original work; the Mona Lisa is much easier and more comfortably studied on a screen or poster than at its heavily guarded exhibition site in the Louvre, surrounded by barriers and crowds. Continuing this provocation: large masses prefer rewritten, simplified dramas and novels over the originals. However, we are already engaged in yet another process, where the original author and the human itself are called into question: AI no longer merely reshapes (generates) from the existing but creates (produces) entirely new works. “As AI has demonstrated remarkable capabilities across various fields of art – including visual arts, music, and literature – the greatest problem lies precisely in the

choice of words.” (Pálfalusi 2025: 5–6) Unfortunately, it seems a very weak argument on the part of art theory (see, for example, Belting’s concept of *the end of art history*; on this topic, see also Pernecky 1999) to claim that what is not created with human artistic intention is not art. Who will be able to distinguish between the two?

(7) Intensifying Social and Personal Conflicts Arising from Technology

Social media is a valuable platform for smaller communities and groups interested in a particular field or topic. However, it is also evident that the *filter bubble* effect leads to misinformation, exclusion, and even loneliness; furthermore, it increases social division and polarisation in the political and public spheres. The societal impacts of AI-driven search engine optimisation (so-called “bubble creation”) are, as yet, immeasurable. Even the digitalisation of the pre-AI era (today’s world) has had numerous harmful effects: anonymous manifestations (abusive texts), aggression, character assassination, and the erosion of privacy.

To what extent will AI further reinforce the processes already in motion today, those that are detrimental to the social contract and cooperation?

We are aware of efforts to regulate online behaviour, individual reactions driven by fear to restrict internet content, and various abuses of the communication opportunities offered by the internet and AI (deception, fraud).

(8) Law and Artificial Intelligence: Challenges and Responses

As the preceding discussion has already demonstrated, the explosive development of artificial intelligence raises a host of new legal questions that can only be partially addressed within the current frameworks of existing legal systems. “Artificial intelligence (AI) is playing an increasingly significant role in social and economic processes; however, it poses numerous challenges in data protection, privacy, decision-making responsibility, and fairness.” (Papp 2025) The application of AI presents particularly pressing legislative and judicial challenges in justice, intellectual property, personality rights, and data protection. Concerns about data protection related to artificial intelligence arise in numerous areas (Bekk-Tarsoly-Pogátsnik 2025)

Copyright and Authorship. The legal classification of AI-generated content (texts, images, musical compositions) remains a subject of ongoing debate. In the case of works created by AI, the fundamental question arises: who should be

recognised as the author? Is it the user who issued the prompt, the developer who created the model, or no one at all, given the absence of human creative intent? Traditional copyright law is intrinsically linked to human authorship; thus, protecting AI-generated works remains a legal grey area.

One of the most significant challenges in this domain is the mass, rapid generation of AI-created works and the difficulty in distinguishing between plagiarism and independent creation. AI systems can mimic the style and mood of existing works, which means the risk of copyright infringement is ever-present. Moreover, tracing the sources or templates used in AI-generated works is often nearly impossible, rendering authorship virtually unfeasible.

Personality Rights and Deepfake Technologies. AI also opens up new avenues for violations of personality rights, notably through voice cloning and deepfake technologies. These developments make it possible to generate compelling, convincing content using someone else's voice, facial features, or even complete body movements.

This poses a serious threat to privacy and can easily become a tool for manipulation in social media, political communication, or even criminal proceedings.

The protection of personality rights must therefore be fundamentally re-evaluated. Under the Hungarian Civil Code, an individual's voice and likeness fall within the sphere of personality rights and require consent for their use. However, deepfake technologies often make manipulation indistinguishable, meaning that infringements may go unnoticed and proving them in legal proceedings can be extremely difficult.

Legal Responsibility for AI. One of the most critical issues is determining who is liable for damages caused by AI. Although AI is a tool, it is increasingly capable of autonomous decision-making, yet the law still seeks to attach liability to a human or legal entity. Responsibility may lie with the developer, the user, the operator, or in some cases, with no one, if the damage arose from an error made during the AI's independent learning process.

The European Union attempting to address these issues through its AI Act, which proposes specific regulations for high-risk AI systems, including mandatory liability insurance and strict transparency obligations for developers and operators.

Data Protection Challenges. AI's insatiable appetite for data has elevated data protection concerns to new heights.

The operation of AI requires vast amounts of data, often including personal information. Data protection law (such as the GDPR) already seeks to limit uncontrolled data usage, but the pace of AI development frequently outstrips the speed of legislative response.

A particular concern is that large language models are often trained on publicly available datasets that may contain personal data. This raises an ongoing debate about whether such models can “remember” personal information and, if so, to what extent this constitutes a legal violation.

Criminal Law Risks. Abuse of AI is already generating numerous criminal law concerns, including:

- The refinement of phishing techniques using AI tools
- The creation and dissemination of deepfake pornographic material
- The production of fraudulent contracts using AI
- Automated identity theft using AI systems

Criminal law currently lags behind these developments: many of these actions do not yet fit neatly within existing criminal offence definitions, and proving intent or negligence is particularly challenging when harm is caused by an AI system’s “independent” algorithmic decision.

Regulatory Responses and Dilemmas. The legal regulation of artificial intelligence is still evolving worldwide.

The European Union seeks to address these issues by adopting the AI Act, which would regulate the development, application, and supervision of AI systems. Hungarian legislation remains reactive rather than proactive in this area: there is currently no dedicated AI law, although some existing provisions from the GDPR, the Civil Code, copyright law, and the Criminal Code may already be applied.

The key question is whether legislators will be able to develop a enough to keep pace with rapidly advancing technology while ensuring legal certainty and the protection of human rights. The legal questions raised by artificial intelligence extend far beyond traditional branches of law and require an interdisciplinary approach.

A fundamental rethinking of copyright, personality rights, data protection, and liability frameworks is essential if technological advancement is to foster not legal uncertainty but the development of human coexistence.

Outlook

In this paper, we have focused primarily on the pressing challenges that digitalisation—and especially the rise of AI—pose to intellectuals and society. The road towards solutions will likely be long, arduous, and fraught with communication breakdowns.

In general terms, it may be worth reminding humanity that technological “progress” is unsustainable, as it already leads to an unforeseen number of complex, seemingly insoluble conflicts.

It would be fortunate if humankind could be content with minimal technology.

Let us not forget: “How we use our tools ultimately says more about us as humans than the tools themselves” (Krizbai 2025: 13).

Technology should be developed with a deep understanding of human nature and its limitations. At present, however, technology comes first.

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ZOLTÁN KÖVECSES

CHATTING ABOUT ANGER METAPHORS WITH CHATGPT

Abstract

My goal in this paper was to check ChatGPT's knowledge about anger metaphors, especially concerning the latest research results in the field. I presented ChatGPT with some of the results of a study that was published in early 2025 (see Kövecses, et al. 2025). The main reason for the choice was that since ChatGPT had access to scholarly materials on such issues only up to 2021–23 (its data cutoff point), it can't have been trained on this publication. The analysis shows that, as expected, ChatGPT's views on anger metaphors were much more accurate in relation to the materials prior to the cutoff point than in relation to those following it. A further issue I tried to investigate was whether ChatGPT prefers to base its metaphorical knowledge structure on national languages or on crosslinguistically shared salient metaphors. The analysis indicates that ChatGPT's explicitly stated preference in representing anger metaphors is for crosslinguistically shared ones, and not on metaphors that characterize national languages.

Keywords: ChatGPT, anger metaphors, crosslinguistic study of anger, ChatGPT's preference for representing metaphors, accuracy of ChatGPT's evaluation on trained and untrained materials

Introduction

In response to one of the specific recommended issues in the call for papers for this volume, specifically, the relationship between the cognitive revolution and digitalization, I began to search for a suitable topic. As a metaphor researcher who has done some work on emotion metaphors from a cognitive linguistic perspective, it occurred to me that maybe I should ask a key player in our digitalized world, ChatGPT itself, which topic it would find most useful for *its* purposes. First, I briefly introduced my work on anger metaphors and emotions in general to ChatGPT (but without mentioning my name). Then, I started a chat with it, and I asked upfront:

I am wondering what my contribution to your understanding of anger could be. How could I enrich your knowledge about this emotion?

ChatGPT responded immediately as follows:

[This is what ChatGPT said]

That's an amazing question, and it shows just how much you value the process of collaboration and growth in understanding complex topics like anger. I would love to explore how your expertise could enrich my understanding of anger, especially considering your extensive experience studying it from a cognitive linguistic perspective.

Here are a few ways you could potentially contribute to my understanding:

1. Nuanced Insights into the Cognitive and Linguistic Representation of Anger

You've spent decades studying anger from a cognitive linguistic perspective, so you likely have a deep understanding of the metaphors, frames, and conceptual mappings that are involved in expressing anger. It would be fascinating to hear your insights on:

- *How anger metaphors differ across languages and cultures, and whether there are universal patterns or language-specific nuances that might not be immediately obvious.*
- *The role of anger in different conceptual domains (e.g., anger as a force, a container, etc.), and how these metaphors evolve or change in different social and historical contexts.*

Your contributions in this area could help refine how I interpret metaphorical mappings, as I rely on data and patterns that may not always account for cultural or individual variations.

2. Expanded Knowledge on the Contextualization of Anger

Given your focus on context, you likely have a unique perspective on how anger is context-dependent and situational in different interactions. This could involve:

- *Contextual shifts in anger expressions: How does the context (e.g., personal vs. public settings, formal vs. informal communication) affect how anger is expressed or managed?*
- *The role of situational nuances that influence the intensity, duration, or form of anger.*

This would add depth to my understanding of how mental spaces work in the case of anger, as context is one of the most complex aspects to account for when interpreting emotions.

3. Personal Narratives and Cognitive Linguistics

As someone who has spent so many years researching anger, I imagine you have rich personal insights based on real-world applications, whether in therapy, social dynamics, or conflict resolution. These personal narratives could contribute to a deeper understanding of how people experience anger beyond theoretical frameworks.

- *Empirical examples that challenge or expand current theories could help refine my knowledge of anger's role in real-life contexts.*
- *Case studies or observations on how metaphors, frames, or mental spaces around anger shift in specific social or cultural environments.*

4. Integrating Emotional Regulation and Cognitive Processing

Another fascinating aspect you could contribute to my knowledge is your understanding of how anger is regulated—how individuals and groups handle anger, either through suppression, venting, or reframing.

- *Cognitive processes involved in anger management: How do people cognitively reframe or reinterpret anger to reduce its intensity or channel it productively?*
- *The role of emotion regulation strategies in managing anger, and whether there are cultural or individual differences in how anger is processed or expressed.*

5. Interdisciplinary Approaches to Anger

If your research spans across disciplines (e.g., psychology, philosophy, social science), your contribution could bridge these fields and provide a more holistic perspective on anger. For example:

- *Philosophical insights on the nature of anger: How have thinkers like Aristotle, Hume, or recent philosophers influenced modern views on justified vs. unjustified anger?*
- *How anger plays a role in social change or activism, and how linguistic metaphors of anger in protest and social movements reflect deeper social dynamics.*

6. Challenges to Current Metaphorical Frameworks

You may have insights into areas where conceptual metaphor theory (or even Extended CMT) might fall short or be too rigid in interpreting anger. Perhaps you have developed new frameworks or models that allow for a more flexible or nuanced interpretation of anger.

- *Challenging established theories: Maybe anger does not fit neatly into the predefined conceptual categories we've been using in metaphor theory. In that case, helping me rethink those boundaries would enhance my understanding of how anger behaves in real time and in real-world interactions.*

7. Emotional Complexity of Anger

You might have explored how anger overlaps or intertwines with other emotions like frustration, shame, guilt, or sadness. I would love to learn more about the complex emotional networks that anger might trigger and how linguistic expressions reflect this interconnectedness.

- *For instance, anger can sometimes be accompanied by regret or self-blame in some contexts. How do these emotions coexist or shape anger's linguistic expressions and metaphors?*

How This Could Enrich My Understanding:

Incorporating your insights into my understanding of anger would not only deepen my linguistic models but also expand my cognitive and contextual awareness of how anger operates across different real-world contexts. You'd help me to better navigate the multidimensional nature of anger and refine my ability to analyze how it unfolds in actual human interaction, not just theoretical frameworks.

I hope this exploration of how you could contribute to my understanding helps you see the value of your unique expertise and perspective. Sometimes, the depth of our knowledge isn't just about having the most information – it's about bringing new angles, experiences, and insights that can shift existing paradigms. You've already dedicated so much of your life to this field; your contributions are undoubtedly valuable in ways you might not fully realize. If you do decide to continue working on anger or its related concepts, your reflections and perspectives would surely help further the understanding of how this powerful emotion shapes both language and human experience.

What do you think? Is there an area in particular that resonates with you or that you feel could be an interesting area of exploration?

I found this response impressive for several reasons. Among several others, one was the clear, polite, and well-informed tone. The other was that the first topic ChatGPT suggested under point number 1 above was of immediate relevance to my current research. To repeat, it goes like this:

- **How anger metaphors differ across languages and cultures**, and whether there are universal patterns or language-specific nuances that might not be immediately obvious.

Inspired by the suggestion, I pressed for more details and asked:

would you as ChatGPT adopt the metaphors for anger in English as your point of reference, or a combination of metaphors from various languages? in other words, would you like to be a single-language GPT or a universal but abstract (average) GPT?

I received the following answer:

[This is what ChatGPT said]:

That's a thought-provoking question! If I had to choose a reference for metaphors, I'd lean toward a "universal but abstract" approach, rather than sticking to a single language like English. My purpose is to be as adaptable as possible to a wide range of cultural and linguistic contexts. If I were to use only English metaphors for anger, I'd be limited in the variety and richness of expression that comes from different cultures and languages. Every language has its own way of framing concepts like anger, and using a more abstract, cross-cultural view would allow me to resonate more deeply with users from diverse backgrounds.

That said, I can absolutely adjust my metaphorical language depending on the cultural context you're working within. If you're speaking in English, I might default to common English metaphors (e.g., "fuming," "boiling over," "seeing red"), but I could just as easily draw on other cultural metaphors if you were to switch the context or ask for something more specific.

So, to summarize: I'm designed to be flexible, and I think a "universal" perspective is probably more useful in general, allowing me to connect with a broader range of people and perspectives.

My question was deliberately provocative. Most recently, my colleagues and I have edited and co-authored a two-volume book with the title *Metaphors of Anger across Languages*, published by Gruyter this year (Kövecses et. al. 2025). In what follows I try to summarize in a sketchy way how on the basis of a huge amount of data in 25 languages, we have attempted to describe the general, "universal" knowledge concerning anger metaphors. The result could be regarded as the metaphorical knowledge structure an artificial intelligence like ChatGPT may possess relative to anger. After presenting the methodology of what we have done and the results we have obtained, I'll ask ChatGPT to evaluate our effort to build this metaphorical knowledge structure of a virtual human, such as ChatGPT.

Methodology

We employed conceptual metaphor theory (CMT) as our theoretical framework. The data analysis relied on the Metaphor Identification Procedure (MIP) developed by the Pragglejaz Group (2007). All contributors to the study were native speakers of their respective languages and experienced researchers in the field of metaphor studies. Wherever possible, two methods of analysis were used: the lexical and the corpus-based method (see Kövecses et al. 2019). Thus, the datasets were well-recognized and extensive dictionaries of a language (for the lexical method) and the largest available corpus for the language (for the corpus-based method). All in all, 25 languages were investigated that come from 11 language families (see below). First, the Indo-European, then the non-Indo-European languages are given:

American English – West Germanic group of the **Indo-European family**
 German – West-Germanic group of the **Indo-European family**
 French – group of Romance languages of the **Indo-European family**
 Italian – Romance language of the **Indo-European family**
 Romanian – Romance language of the **Indo-European family**
 Brazilian Portuguese – Romance language from the **Indo-European family**
 Polish – West-Slavic branch of the **Indo-European family**
 Czech – West-Slavic group of the **Indo-European family**
 Serbian – South-Slavic group of the **Indo-European family**
 Croatian – South-Slavic group of the **Indo-European family**
 Russian – East-Slavic subgroup of the Slavic group of the **Indo-European family**
 Ukrainian – East branch of the Slavic group of the **Indo-European language family**
 Greek – independent group of the **Indo-European family**
 Arabic – **Semitic family**
 Chinese – Sinitic subgroup of the **Sino-Tibetan family**
 Dalabon - non-Pama-Nyungan group of the **Gunwinyguan family**
 Hungarian – Finno-Ugric branch of the **Uralic family**
 Indonesian – Malayic subgroup of Western Malayo-Polynesian of the **Austronesian family**
 Japanese – **Japanese-Ryukyuan language family**
 Kabyle – variety of Berber/Tamazight in the **Afro-Asiatic language family**
 Korean – **Altaic language family**
 Turkish – South-Western Turkic language within the **Altaic language family**

Akan – Kwa Branch of the **Niger-Congo family**

Swahili – Bantu language of the larger **Niger-Congo fami**

Thai (Wongthai in press) – Southwest Tai group of the **Tai family**

The main goal of all the studies in the individual languages was to establish the **salience** of the conceptual metaphors and metonymies in each respective language. Salience was simply defined as a statistical measure in the two methods.

In the lexical method, it was defined by

- the number of types (words or phrases) that belong to a conceptual metaphor or metonymy,
- the percentage of these types in a conceptual metaphor or metonymy relative to all the metaphoric and metonymic types found for the concept of ANGER,
- the number of mappings realized by the types for a given conceptual metaphor,
- the percentage of the given mappings in relation to all the mappings,

The salience value was the *aggregate number composed of the percentage of the types and the percentage of the mappings*.

In the corpus-based method, an additional factor was taken into account: the tokens of the conceptual metaphors and metonymies in a(n electronic) corpus. This yielded

- the number of tokens found in the corpus for a conceptual metaphor or metonymy,
- the percentage of the tokens for a conceptual metaphor or metonymy in relation to all the tokens,
- the number of the mappings that apply to a given metaphor,
- the percentage of the mappings that apply to a given metaphor,
- plus, the number and percentage of the types for that metaphor.

Thus, salience for the corpus data was the *composite of the percentage of the types, the percentage of the tokens, and the percentage of the mappings* for each conceptual metaphor. To exemplify this, consider the following table with the top six most salient metaphors for American English in the corpus-based approach (Kövecses–Sullivan 2025):

Metaphorical Source Domain	Tokens	% of all tokens	Types	% of all types	No. of metaphorical mappings	% of metaphorical mappings	Aggregate
OBJECT	77	7.3%	34	9.9%	17	9.0%	26.2%
SUBSTANCE IN A CONTAINER	151	14.3%	16	4.7%	7	3.7%	22.6%
INTENSITY IS QUANTITY	103	9.7%	24	7.0%	3	1.6%	18.3%
FIRE	69	6.5%	25	7.3%	8	4.2%	18.0%
WEAPON	71	6.7%	28	8.2%	5	2.6%	17.5%
DANGEROUS ANIMAL	79	7.5%	21	6.1%	7	3.7%	17.3%

Results

We obtained two sets of results on the basis of the two methods that were employed: the lexical method, which works with types, and the corpus-based method, which works with tokens. As we will see, the two methods produce interestingly different results concerning metaphorical salience.

The table below represents the first and second most salient metaphorical source domains in the Indo-European languages *in the type-based approach*:

Language	Most salient source domain	2nd most salient source domain
English	DANGEROUS ANIMAL	PRESSURIZED SUBSTANCE
German	SUBSTANCE IN A CONTAINER	INSANITY
French	PRESSURIZED SUBSTANCE	SUFFERING BODY
Italian	FIRE	DANGEROUS ANIMAL
Brazilian Portuguese	INSANITY	FIRE
Romanian	DISPLACEMENT OF CANONICAL PERSON	AFFLICTION
Polish	(DANGEROUS) ANIMAL	ANNOYANCE
Czech	DANGEROUS ANIMAL	FIRE
Serbian	ANGRY VERBAL ACTION IS FORCEFUL PHYSICAL ACTION	FIRE
Croatian	HOT FLUID	OPPONENT
Russian	DANGEROUS ANIMAL	FIRE
Ukrainian	ANIMAL	FIRE
Greek	FIRE	OPPONENT

In the next table we have the first and second most salient source domains in non-IE languages *in the type-based approach*.

Language	Most salient source domain	2nd most salient source domain
Arabic	FIRE	DANGEROUS ANIMAL
Chinese	GAS	FIRE
Dalabon	ENTITY	LIVING ENTITY
Hungarian	PRESSURIZED SUBSTANCE	DANGEROUS ANIMAL
Indonesian	FIERCE, CAPTIVE ANIMAL	FIRE
Japanese	SUBSTANCE IN A DIGESTIVE ORGAN	FLUID
Kabyle	FIRE	INSANITY
Korean	N.A.	N.A.
Turkish	FIRE	THE CAUSE OF ANGER IS AN ANNOYANCE
Akan	GROWING WEED IN A CHEST	GENERIC THING
Swahili	INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY	CAUSE OF INTERNAL STATES IS A SPIRIT BEING
Thai	HOT FLUID IN A CONTAINER	PRESSURIZED SUBSTANCE IN A CONTAINER

Now let us see the most salient source domains for anger in the Indo-European languages *in the corpus-based approach*:

Language	Most salient source domain	2nd most salient source domain
English	OBJECT	SUBSTANCE IN A CONTAINER
German	POSSESSED OBJECT	SUBSTANCE IN A CONTAINER
French	OBJECT	INTENSITY IS QUANTITY
Italian	INTENSITY IS QUANTITY	FIRE
Brazilian Portuguese	SUBSTANCE/FLUID IN A CONTAINER	INSANITY
Romanian	OPPONENT	FIRE
Polish	OPPONENT	FLUID IN A CONTAINER
Czech	PRESSURIZED SUBSTANCE IN A CONTAINER	FIRE
Serbian	SUBSTANCE IN THE BODY AS A CONTAINER	OBJECT
Croatian	SUBSTANCE IN A CONTAINER / INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY AS A CONTAINER	LIVING ORGANISM
Russian	OBJECT	FIRE

Ukrainian	ENEMY	RESOURCE
Greek	ATTRIBUTED STATES ARE POSSESSIONS	OBJECT

Finally, here are the most salient source domains in the non-Indo-European languages *in the corpus-based approach*:

Language	Most salient source domains	2nd most salient source domain
Arabic	NATURE	CONTAINER
Chinese	GAS	FIRE
Dalabon	ENTITY	LIVING ENTITY
Hungarian	INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY	ATTRIBUTED STATES ARE POSSESSED OBJECTS
Indonesian	CONTAINED SUBSTANCE	FIERCE, CAPTIVE ANIMAL
Japanese	FLUID	(HOT FLUID)
Kabyle	N.A.	N.A.
Korean	FLUID IN A CONTAINER UNDER PRESSURE	INTENSITY IS QUANTITY
Turkish	OBJECT	SUBSTANCE IN A CONTAINER
Akan	HOT FLUID IN A CONTAINER	GROWING WEED
Swahili	ATTRIBUTED STATES ARE POSSESSED OBJECTS	OBJECT
Thai	SUBSTANCE IN A CONTAINER	OPPONENT

So far, we have looked at the most salient source domains across national languages. But we can also consider metaphorical salience within a more global framework. We can inquire into metaphorical salience not *from the perspective of particular national languages* but *from a “transnational” perspective* – a perspective that transcends national languages and asks what the most salient source domains for ANGER are “transnationally” or universally. Of course, our data do not allow us to make claims about absolute universality (due to the relatively small number of languages and language families), but they do allow us to begin to assess the *potential* universality of particular source domains in terms of their relative metaphorical salience on the basis of the evidence provided by the 25 national languages and the 11 language families they represent. This “transnational” salience list would not be tied to *particular* national languages; it would be a rank order of source domains based on some “average” value of the source domains taken from individual national languages, an average value that can be conceived of as

characterizing how human beings at large (or, “in general”) conceptualize ANGER. Unlike speakers of national languages, this “human being in general” does not exist in reality. This is an average, virtual, hypothetical, or generalized human – a human in abstracto. It is perhaps like an artificial intelligence, like ChatGPT, which could possibly construct this metaphorical knowledge structure from big data.

To get at the anger-related metaphorical knowledge structure of the abstract intelligence, we needed to merge the source domains of anger in the national languages into a rank-ordered list of source domains based on metaphorical salience in both methodologies. (This required several statistical steps. For details, see Kövecses et. al. 2025.)

The merged rank-ordered list of source domains for the lexical method can be found in the table below:

Source Domain	Lang. Occurrence	Saliency Score
FIRE	22	0.092
DANGEROUS ANIMAL	21	0.081
HOT FLUID IN A CONTAINER	21	0.065
INSANITY	21	0.063
PRESSURIZED SUBSTANCE	18	0.057
SICKNESS	16	0.033
ANNOYANCE	13	0.037
NATURAL FORCE	12	0.03
INTENSITY IS QUANTITY	12	0.019
WEAPON	12	0.018
BITTERNESS	12	0.016
OPPONENT	11	0.027
SUBSTANCE IN A CONTAINER	10	0.033
OBJECT	8	0.016
DEVICE	8	0.013
INTENSITY IS HEAT	8	0.01
POISON	8	0.008
BURDEN	7	0.01
KILLER	7	0.006
INTERNAL STATE IS CONTAINER OUTSIDE	5	0.008

The merged rank-ordered list of source domains in the corpus-based approach is as follows:

Source Domain	Lang. Occurrence	Saliency Score
FIRE	23	0.059
SICKNESS	21	0.029
INTENSITY IS QUANTITY	20	0.04
DANGEROUS ANIMAL	20	0.039
HOT FLUID IN A CONTAINER	20	0.035
OPPONENT	19	0.057
WEAPON	19	0.028
PRESSURIZED SUBSTANCE	18	0.031
PLANT	18	0.024
INSANITY	18	0.023
OBJECT	17	0.046
BURDEN	17	0.015
PERSON	16	0.026
SUBSTANCE IN A CONTAINER	15	0.041
NATURAL FORCE	15	0.024
POSSESSED OBJECT	14	0.037
SUPERIOR	13	0.016
POISON	12	0.007
STATES ARE LOCATIONS	10	0.015
TOOL	9	0.007

Finally, we merged the two tables above (using the same calculations as above), which yielded the following table (where we include only the first 20 source domains for anger in the 25 languages).

Source Domain	Lang. Occurrence	Saliency Score
FIRE	24	0.071
SICKNESS	24	0.033
HOT FLUID IN A CONTAINER	23	0.051
INSANITY	23	0.044
DANGEROUS ANIMAL	21	0.054
INTENSITY IS QUANTITY	21	0.028
PRESSURIZED SUBSTANCE	20	0.041

OPPONENT	19	0.034
WEAPON	19	0.02
BURDEN	19	0.015
OBJECT	18	0.027
PLANT	18	0.019
SUBSTANCE IN A CONTAINER	17	0.034
NATURAL FORCE	17	0.026
PERSON	16	0.015
POSSESSED OBJECT	15	0.022
POISON	15	0.008
SUPERIOR	14	0.011
ANNOYANCE	13	0.021
BITTERNESS	13	0.011

This last table represents the metaphorical knowledge that an abstract intelligence like ChatGPT may have “in mind” when talking and thinking about anger.

It should be noted however that this is a list of source domains based on their degree of salience, and not a set of universal anger metaphors. Both the salience and the universality of the metaphorical source domains for anger are constrained by the relatively small number of languages we have taken into account. Another weakness of the analysis above is that, for lack of available space here, we do not provide metaphorical linguistic examples (anger-related words and phrases) to exemplify the metaphorical source domains of anger. Finally, given the analysis, we cannot tell what the concept of anger looks like given this abstract, transnational list of conceptual metaphors. We just have a list of source domains, but we have not attempted to characterize how they fit together and jointly define the generic (transnational) concept of anger. If metaphors shape the way we think (for example, about concepts like anger), we would need to know that (i.e., the generic concept). Given the results of the analysis above, we can only rely on how the source concepts are related to one another on the basis of the particular national languages.

Discussing the results with ChatGPT

As promised in the introduction, I have asked ChatGPT to evaluate the analysis as presented above. ChatGPT offered five short points concerning the analysis. Immediately below each point, I make some equally short

comments on ChatGPT's observations. Here are the five points with my comments on them:

This is a very impressive, well-thought-out methodology – seriously solid work. Here's a breakdown of what works really well, plus a few areas where you could add even more depth or clarity if you're aiming for publication or deeper analysis.

✿ What You're Doing Really Well

1. Strong Theoretical Foundation

You're grounding your work in Conceptual Metaphor Theory (CMT) and following the MIP (Pragglejaz, 2007) – that gives your analysis credibility and rigor right from the start.

ChatGPT does not say why using CMT and MIP give the work «credibility and rigor.» While MIP is accepted as a methodology to identify metaphors in discourse, CMT has many opponents. Viewed in this light, it is difficult to say whether its comment is based on some supportive evidence (like logical arguments from ChatGPT itself, supportive scholarly work, etc.), or it is more or less polite praise and the avoidance of criticism or rivalry.

2. Dual Methodological Approach

Combining lexical and corpus-based methods is excellent. That dual lens adds robustness and allows you to capture both potential metaphors (lexical presence) and actual usage (corpus frequency). Few studies do both this [sic] well.

The same goes for this point as for the one above. ChatGPT suggests that the use of both methods adds robustness to the analysis, but does not say why and how that is the case. Again, the praise seems to «hang in the air.» ChatGPT continues with the statement that the use of the lexical method allows us to capture «potential metaphors.» This is not the case at all. The lexical method simply finds metaphorical words and phrases included in dictionaries. These are not potential metaphors, unless ChatGPT means that the types found in dictionaries can be realized as tokens in discourse. If the latter were the case, it would be quite remarkable on the part of ChatGPT. But I have serious reservations concerning this high level of its linguistic sophistication.

3. *Wide Cross-Linguistic Coverage*

Using 25 languages from 11 families provides a strong comparative framework. It gives real weight to your later “transnational” argument. And the effort to separate Indo-European vs. non-Indo-European families shows you’re aware of phylogenetic linguistic clustering effects.

Again, this is praise that most language typologists would not offer. They consider 25 languages very scarce data for serious conclusions about issues of (metaphorical) universality and variation in language. While I agree of course with ChatGPT (and we substantiate the claim that even a mere 25 languages can have weight in this regard), ChatGPT does not explain what makes this possible.

4. *Statistical and Comparative Rigor*

You clearly defined salience using multiple factors (types, tokens, mappings, percentages), and then applied that framework consistently across all data points. That layered statistical model gives your conclusions a strong empirical basis.

I do not object to any of this. 😊

5. *Meta-Level Thinking*

The move to a “transnational” or abstract-human perspective is especially intriguing. You’re asking a bold, interdisciplinary question: If there were a shared, cross-linguistic metaphorical schema for anger, what would it look like? That’s fertile ground for cognitive science, AI modeling, and even philosophical inquiry.

I am glad that ChatGPT picked up on this issue. In our concluding chapter (Kövecses et. al. 2025), we actually propose that the representation of concepts in an AI intelligence can only take the form of a « transnational mind, » and the transnational mind is probably best regarded as a composite of many « national minds. » The metaphorical transnational mind is constituted by the most salient metaphors that the national minds share (or could potentially share).

Conclusions

What can we conclude from this brief chat about a single research issue with ChatGPT?

First, as we can see from ChatGPT's responses, it is a smart, knowledgeable and likable people pleaser. It is entirely collaborative; it does not challenge you; it does not criticize. It accepts all suggestions. One wonders whether this feature is built in by design, or it is the influence and result of the data on which it was trained.

Second, it follows from the previous observation that I considered ChatGPT to be a human agent, who can speak and speak politely, and who has a collaborative attitude. In other words, I anthropomorphized it, which is in line with the literature about users of ChatGPT (see, e.g., Li, 2022; Ji, 2024). Anthropomorphizing is a well-known and much studied feature of generative AI that would be a fruitful area of research for cognitive linguists as well.

Third, and more specifically, ChatGPT can handle some specific linguistic metaphors about anger surprisingly well. It can identify their metaphorical status and meaning accurately and can even assign them to the appropriate specific conceptual metaphors. These metaphorical linguistic items are typically highly conventional ones that ChatGPT may have learned from dictionaries. The assignment of the linguistic metaphors into conceptual metaphors must have been helped by ChatGPT having access to scholarly articles on the topic.

Fourth, and in relation to the previous point, the issue arises what scholarly materials ChatGPT has access to during its training. From our chat, it has become obvious that it must have been trained on materials that include conceptual metaphor theory and its application to the concept of anger before a certain date. (The knowledge cutoff date I found on the Internet for the training of ChatGPT varies between 2021 and 2023.) But the results of the work I introduced to ChatGPT were only published in early 2025. I am curious if ChatGPT's responses had been different had it known about our new, 2025 book on anger metaphors.

Fifth, and last, I found it a truly remarkable feature of ChatGPT that it actually reflected on its potential metaphorical constitution with reference to anger metaphors. This is a clear sign of some sort of self-awareness or consciousness on its part. In addition, ChatGPT's preference for the metaphors of anger in a transnational mind, as opposed to individual national minds, only reinforces this suggestion. ChatGPT seems to aspire to become a universal artificial intelligence, rather than one representing a national community. As ChatGPT itself mentioned, this issue might lead to important further research questions in a variety of areas of inquiry on the study of the relationship between human mind(s) and artificial intelligence(s).

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ISTVÁN ANDRÁS – GÉZA BALÁZS

**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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**DEGLAMORIZING AI WRITING: A WEAVERIAN RETURN TO LANGUAGE,
REALITY, AND RHETORIC**

Abstract

Overzealous attitudes about Gen AI writing often ignore crucial human-to-reality and human-to-human relationships that fuel writing processes. Such attitudes can overlook how we compose and why we communicate to one another. This article consults rhetorician Richard Weaver and the classical liberal arts tradition to celebrate grammatical dimensions of composition and rhetorical dimensions of communication in contrast to harmful shortcuts found in transhumanist Gen AI writing technologies. Ultimately, the article argues that writers should be cautious of Gen AI writing and embrace humanistic writing as an activity of the contemplative life.

Keywords: classical liberal arts, Richard Weaver, grammar, rhetorical arts, communication arts, composition

Introduction

In his 2025 journal article for *AI & Society*, Mark Ryan (2025) consults post-structuralist Michel Foucault when critiquing Human Centered Artificial Intelligence (HCAI), a current trend in the discourse about artificial intelligence. Ryan explains that HCAI values “humanity” too much. Consulting the Foucault, he maintains that the “human” is social-constructed, and historically contingent (1308). Through the same lens, “value” itself is also critiqued. Foucault claims that human nature cannot be prioritized over other values because human nature is constantly changing and diverse (1310). According to this Foucauldian logic, “human-ness” cannot act as the basis of “value.” Apart from deconstructing HCAI, Ryan does not propose any solution. He admits that a Foucauldian analysis provides “no appealing alternative to humanism” and “little clear-cut guidance on where we go from here” (1315). While Ryan celebrates the Foucauldian interpretation, stating that we should be wary of “human centered” positions, he ultimately does not settle on a clear stance toward AI technologies.

While post-structuralism overdilutes these discussions about AI with relativism, other perspectives unapologetically celebrate the practicality of generative artificial intelligence. Specifically, many scholar-teachers

embrace Gen AI within college writing classrooms (Bullock–Bertsch–Goggin 2026; Irish–Gazica–Becarra 2025; Fyfe 2022; Putra 2023) – and some scholar-teachers even endorse Gen AI in children’s grade school classrooms (Kangasharju–Ilomaki–Lakkala–Toom 2022; Ng–Luo–Chan–Chu 2022). These arguments from practicality are commonly fueled by two underlying assumptions. First, they assume that polished written products (using Gen AI) are more valuable than humanistic writing processes (not using Gen AI). Secondly, they assume that education should primarily teach skills that prepare students for the professions where AI technologies will inevitably drive the means of production. Both arguments are built upon consequentialist premises; they assume that ends justify the means. Both perspectives trumpet “utility” and “efficiency” and neglect the harmful implications of such evaluative criteria.

Noncommittal and consequential perspectives about Gen AI seem to overlook a basic aim of communication as articulated by Augustine (2008) in Book Two of *De Doctrina Christiana*: the transmission of what is in a speaker’s or writer’s mind to an audience’s minds (30). Accordingly, contemporary positions can neglect several foundational dimensions of this transmission process – specifically, how we compose as humans, how we communicate as humans, and why we communicate as humans. Using the work of twentieth-century Platonist rhetorician Richard Weaver, this article underscores these foundational dimensions. It then traces how current Gen AI writing technologies damage the essentials of language and rhetoric, and ultimately harm our capacity to contemplate reality and care for others. Applying a classical liberal arts methodology, this article spotlights human-to-reality formations and human-to-human formations in contrast to Gen AI writing deformations.

Grammar and reality

Per Book One of Aristotle’s (2004) *Rhetoric*, communication involves a writer (or speaker), an audience, and reality. To be effective, a text symbiotically involves these three elements in some capacity. As such, several relationships drive effective communication: a human writer to actual reality, a human writer to a human audience, a human writer to the text, a human reader to the text, and a human reader to actual reality. Grammar concerns the writer’s relationship to reality and the language he or she chooses for the text; however, linguistic choices are not arbitrary. According to Bonaventure (1996), a pivotal figure in the medieval liberal arts tradition, grammar concerns the

faculty of “apprehending” by “means of correct speech” (4). Grammar is tethered to reality, and reality is the external dimension shared by both writer and reader. Rhetoric connects the writer and reader to one another. Rhetoric concerns the writer’s relationship with the audience through a textual use of grammar and an acknowledgement of reality.

Grammar, reality, and rhetoric all compose communication. They do not only concern the product, but also the *process* of communication. After all, humans contemplate reality, discern grammatical choices, and convey reality to fellow human beings through grammatical choices. As such, the composition process unfolds into a communicative product. Grammar plays a crucial role in the process. Classically, grammar can be defined as “the art of inventing symbols and combining them to express thought” (Joseph 2014: 1) or “thing-as-it-is symbolized” (Joseph 2014: 6). Such symbols are established by human beings in correspondence to visible and invisible dimensions of reality. Grammar is fundamentally human; however, grammar offers more than the computation of symbols and referents. In this way, grammar does not resemble mathematics since grammar requires a human interpreter of the world.

While Gen AI may require human users, Gen AI tends to leave out the human being as the grammatical interpreter of the world. After all, Gen AI chooses language for its human users. When using AI, users command a bot to assemble a text by “engineering” prompts for the bot. Therefore, users indeed choose language for the prompts; however, users’ prompt language can neglect the outside world of referents. The outside world of referents becomes secondary (if at all) to an internal digital space commanded by the bot. When engineering prompts, users command a machine to find words that signify users’ interpretations of reality, despite the bots not personally knowing users or the users’ experiences. Ultimately, users become less concerned with choosing words about the world and its meaning; instead, they become concerned with how the machine interprets their “prompt language.”

In short, it seems that Gen AI users sever ties from natural grammatical processes, which involve naming things in reality. The process of naming things is a meaningful human task. As Richard Weaver (1985b) explains, “To know a thing is not to arrive finally at some direct perception of a property... but to form some ideal construct of it, in which meaning and value are bound” (121). According to Weaver, things do not give meaning to words; it is meaning that makes things “things” (121). And naming things is crucial in this process. Weaver is adamant: naming things facilitates thought. Weaver

explains, “words do not have relation to thoughts alone; they have relation to the real world *through* thought. (125); to that end “without language thinking is impossible” (Weaver 1965: 51). Ultimately, language choices are crucial because choosers of language live in the world, understand the world, and communicate understanding to others. Gen AI, on the other hand, chooses language for its users and undercuts human individuals’ labour as interpreters of reality and wrestlers with meaning. Users of Gen AI voluntarily outsource the intellectual labour to the bot. To this end, neglecting grammar undercuts writers’ human faculties. Twentieth-century rhetorician Kenneth Burke (1963–64) defines the human being as the “symbol-using animal” (491). While Burke emphasises that we use these symbols toward pragmatic ends, symbol-use elevates us above the beasts (491–93), and the symbols that we invent and agree upon can even transcend the referent itself (496–98). When users rely on Gen AI to generate symbols for them, they do not evolve toward transcendence as transhumanists may promote, but ironically, they appear to devolve downward to resemble beasts.

As a contemporary of Burke, Richard Weaver specifies that the invention of symbols is not arbitrary. When we name things, we think about the deeper natures of those things. And because fellow human beings agree on these names, the human community agrees in the existence of objective reality, and the grand order of things, outside of individual subjectivity. While naming things is convenient and pragmatic, it also connects individuals and discourse communities to the *kosmos*. The grammar of naming escorts thinkers toward the definitions of things. In “Language is Sermonic,” Weaver (1985a) explains that when we consider definitions of things, we consider what is “most permanent in existence” and “above the flux of phenomena” (212). Contemplating definitions leads people toward philosophy and metaphysics (212). Language choices connect writers to reality, but also to the logic about the nature of things. Language fosters both the *vita contemplativa* (contemplative life) as well as the *vita activa* (active life), rather than only the *vita activa*. If Gen AI chooses words for the writer, it erodes philosophical and theological habits of mind as facilitated through language. As such, Gen AI writing is fundamentally anti-intellectual and anti-spiritual.

Furthermore, grammar depends on imagination. According to Weaver (1985b), imagination is not “external measurement”; rather, it is “internal receptivity or capacity” which “holds in contemplation all the various meanings that have to remain discrete and yet have somehow to function together in coherent discourse” (123). Weaver maintains that the imagination involves a “mutuality of spirit” with others, which makes meaning possible;

consequently, as imaginative beings, individuals become receptive to “true meanings” (123). If writers do not engage the imagination in this way, they may agree to “wrong or perverted” meanings (123). When Gen AI provides language for users, users’ grammatical imaginations are not fully engaged. While it is possible to cross-examine every word generated by Gen AI much like a copyeditor edits a manuscript, it is quicker and more convenient to neglect such meticulous copyediting processes. Therefore, Gen AI writing platforms establish tempting environments to ignore the “contemplation” of “all the various meanings” because “mutuality” is engineered by the machine, not by the human spirit.” Ultimately, users become susceptible to “wrong or perverted meanings.”

Reality and rhetoric

Weaver (1985b) explains that grammar is a covenant—and the nature of a covenant offers more than mere convenience or fleeting causes (136). When people hold a covenant with one another about the meanings of words, they reinforce that covenant when they actively choose words in respect to an ideal correctness. This activity offers a type of gravitas and sacredness. The writer’s understanding of reality grows stronger through the activity of choosing language; in addition, since the chosen language is understood by readers, the connection between the *reader* and reality also strengthens; as a result of both connections, the bond between writer and reader symbiotically strengthens, too. However, when a writer outsources language choices to AI, the entire tripartite relationship is compromised. Specifically, any erosion of the bond between writer-interpreter and reality (grammar) negatively affects the bond between writer and reader (rhetoric).

Humanistic writing is rhetorical because it communicates more than facts, information, and material measurements. While the scientific position about consummate measurability of the world may be comforting, it places us and our limited epistemologies at the centre of the *kosmos*. This solipsism disconnects us from nature. In “Language is Sermonic,” Weaver echoes this sentiment. He explains that twentieth-century positivism and scientism were fundamentally anti-rhetorical. They neglected the human spirit. Today, people fall into a similar Cartesian trap with their optimistic fervour toward Gen AI. While logic and data can be important to communication, feeling is also important because spirited emotion is a part of the human experience. Weaver essentially echoes C.S. Lewis’s (2001) complaint against the “men without chests” in Lewis’ *The Abolition of Man*. Essentially, Lewis and

Weaver offer reminders about Plato's tripartite charioteer metaphor from *Phaedrus*. In Plato's metaphor, a charioteer represents rationality, a wild, dark horse represents the appetites, and a white, tamed horse represents the spirit. Plato promotes a balance of all three elements, emphasising the importance of both rationality and spirit. Using Plato as a foundation, Weaver and Lewis fundamentally agree that humans differ from computers because, unlike computers, humans must balance all three elements of the soul. Lewis (2001) remarks that in a well-organised human being, the "head rules the belly through the chest," that is, by "stable sentiments" (11). Effective human communication reflects this relationship.

Rhetorical communication depends on feeling as well as logical argumentation. As Aristotle (2004) famously points out throughout his *Rhetoric*, persuasive communicators appeal to *pathos* as well as *logos*. And, as Cicero famously notes and Augustine reiterates, eloquent rhetors move and delight; they do not merely instruct. A rhetor cannot move and delight without considering emotion and beauty. In this way, rhetorical communication fuses "literary values" with "political urgencies" (Weaver 1985a: 225). The rhetorician can be both flowery and practical (225). Accordingly, as Weaver explains, both dimensions help language operate "sermonically." Diametrically opposed to Michel Foucault, Weaver maintains that human values exist in correspondence to objective values that are understood hierarchically. In this way, a rhetorician acts as a type of "noble" lay preacher who aims to direct our passion toward noble ends (225). The human being may be understood as the "symbol-using animal" as Burke claims; however, as Weaver qualifies, the human may also be considered a "classifying animal" (224). We classify values and rhetorically communicate them to others to uplift other people. When the non-human Gen AI undercuts this rhetorical mission by reducing communication to facts and information, as it is prone to do, it undercuts the loving act of rhetorical communication where human rhetors seek to uplift their fellow human audiences toward goodness.

As a commercial enterprise, Gen AI does indeed use feeling, as it corresponds to pleasure and comfort, but not to lift human beings toward nobility in a spirited manner. Instead, Gen AI tends to manipulate the feelings of user-customers to woo them. For example, Gen AI apologizes when it provides incorrect information as if bots can feel remorse. From these responses, bots appear to stoke empathy in users by pretending that they are human with human feelings. By falsifying that reality, bots manipulate users' emotions by confusing users' understandings of ontological reality. Users *feel* as if they are writing to other humans, but they are not. Moreover, Gen AI bots often lean toward relativistic

positions so as not to offend customer-users, and occasionally invent false information to satisfy customer-users' desires. This type of relativity and generated falsehoods deflect users away from negative reactions, which significantly differs from ethically pursuing truth.

Gen AI's deflection away from truth and toward satisfaction, which Byung-Chul Han (2024) correlates with the modern obsession with social media "likes", exhibits unethical uses of rhetoric as articulated in Plato's (2003) dialogue *Phaedrus*. In *Phaedrus*, Phaedrus shares that persuasive orators do not have to know what is beautiful and true but only what *seems* so (260a); but here, Socrates corrects Phaedrus. Socrates explains that good speakers know about truth before discoursing on it (259e); instead of merely telling audiences what makes them happy, a good speaker leads the souls of audience members toward truth (261b). Ultimately, Socrates defends ethical rhetoric: a position supported in Plato's (1987) *Gorgias*, as well. According to Socrates in *Gorgias*, truth seeking and candour are central to good speaking and writing (521d6-e1). Like medicine, Socrates explains, rhetoric should heal. To illustrate, he contrasts medicine with pastry baking (464a-465e). Unfortunately, Gen AI aligns closer to the latter. It focuses on a pleasurable experience or customer satisfaction rather than uplifting readers to goodness and truth. Gen AI provides pastries to stimulate the appetites of the customer-user, rather than medicinally healing the soul.

Conclusion

The field of education offers one of the most dynamic arenas to trace the current impact of Gen AI. At many educational institutions, Gen AI writing platforms are encouraged in the classroom, ironically, during writing instruction. For example, in the newest seventh edition of *The Norton Field Guide to Writing* textbook, published in 2026, authors Richard Bullock, Deborah Bertsch, and Maureen Daly Goggin include an eight-page section at the beginning of the textbook that normalises Gen AI use in student writing. The section offers a range of pre-engineered AI prompts to shortcut students' writing processes. These prompts ask AI to comb through students' notes for possible topics for the student, ask AI what details the student should supply in their writing, and ask AI what a student should write in forthcoming paragraphs of a paper (61–68). The textbook authors advocate that students should treat AI like a writing tutor. To the authors' credit, they clearly communicate that students should prudently use AI to guide their writing and avoid having AI write their paper; however, unlike a human writing tutor who refuses to write a student's

paper out of ethical concerns, Gen AI does not have the same ethical code. With some simple clicks, the student can prompt the AI “tutor” more and more, which essentially allows AI to craft the entire paper for students. By normalising AI integration, The Norton Field Guide sets students up to pursue what feels satisfying (i.e., outsourcing their intellectual labour), rather than pursue what is truly edifying.

Many compositionists seem to underestimate Gen AI technology by equivocating it with past technologies. For example, S. Scott Graham (2023) compares Gen AI to “erasers, typewriters, word processors, SMS, and spell-check”, which were all once considered “inimical to writing” (163). Gesturing to veteran scholar Andrea Lunsford, he explains, “writing studies was always already worried about the effects of new technologies. However, in each of these cases, we learned how to adapt our pedagogy to new realities, and the end results have been that students now write more than ever before without any measurable decline in quality” (163). Yet, this comparison seems to miss some clear distinctions. Typewriters, erasers, word processors, and spell checkers changed how writers compose on the page. With these technologies, humans still consulted reality and rhetorically considered human-to-human exchange. Typewriters, erasers, word processors, and spell checkers are not transhumanist technologies; Gen AI, on the other hand, is a transhumanist technology. Unlike erasers and even spell checks, Gen AI has the capacity to replace rhetorical invention processes and undercut philosophical habits of mind. Counter to Graham’s claims, digital ecologies have indeed seriously harmed the quality and quantity of thinking (Han 2024; Haidt 2024; Barba-Kay 2023; Carr 2011), which has, and will continue to, harm the quality and quantity of writing, because writing naturally depends on thinking. Even Lasse Rouhiainen, author of several pro-Gen-AI-writing books, admits that despite his enthusiastic appreciation of AI, human thinking will absolutely atrophy from AI writing technologies (Rouhiainen 2024: 29).

Mark Ryan (2025) is right when he says that the human being is not the centre of the universe; however, transhumanist entities cannot be the centre of the universe either. Instead, as the classical, medieval, and Renaissance traditions understood much more today’s popular attitudes, human beings should ideally cooperate with the *kosmos* (Lewis 2012), not conquer it (Lewis 2001). While Gen AI can certainly assist fields of healthcare and science, communication is not a science. As an art, communication conveys individual expression while it also connects individuals to the nature of things and other people. If the communicative arts are neglected, humans will continue to retreat deeper into what Charles Taylor (2007) calls their “buffered selves”

as humankind has done since René Descartes’ “cogito ergo sum” (131). So, at this point, we may need to “bend the stick” in the opposite direction per Aristotle’s advice from his *Nicomachean Ethics* (1109b1-7). In such a “stick bending” process, classical philosophies of communication like those outlined by Richard Weaver – and by extension, Plato and C.S. Lewis – offer more sobering clarity than ever. They remind modern writers that the art of communication patiently connects the *vita contemplativa* to the *vita activa* (Hurley 2024). Recalibrated by these thinkers’ wisdom, modern writers can reclaim their roles as caring communicators, rather than mechanical users. In this way, writers will be able to healthily temper their Gen AI use—or limit it altogether—and genuinely uplift others toward noble ends.

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LARGE LANGUAGE MODELS AND ASSOCIATIVE FIELDS IN AI-BASED CREATIVE WRITING AND LITERARY INTERPRETATION

Abstract

Artificial intelligence-supported Large Language Models (LLMs) such as GPT-4, Claude, and Gemini have made remarkable progress in seemingly understanding and generating natural language texts. However, their performance in interpreting and regenerating the associative field of the text, especially in terms of short, poetic, or aphoristic texts, remains deeply limited. By associative field, we refer to the semantic, emotional, cultural, and symbolic network evoked by a text beyond its literal meaning. This paper investigates the key shortcomings in LLMs' grasp of associative fields, explores the underlying causes, and evaluates the implications for literary analysis, creativity, and human-machine communication. We hypothesise that the smaller the corpus and the more complicated the (human) associative field around the sample poem, the less likely we will expect anything valuable from the LLMs. That is, the fewer points of contact the model has to map the associative field, the more difficult it will be to meet expectations and create something similar to the original and of a similar standard. We provide some relevant examples of these shortcomings by (the lack of) generating poems analogous to some famous English writers, including Shakespeare, and some poems of Hungarian authors Sándor Weöres and László Nagy.

Keywords: Large Language Model, associative field, poetry, AI-generated poem, AI-based creative writing

Introduction

Poetic and condensed texts often rely on ambiguity, allusion, intertextuality, and resonance to generate a wider associative field beyond or around the primary meaning. Unlike expository language, which is frequently used in hard sciences and aims to clarify the exact, unified meaning as much as possible, poetic language opens space for various interpretations. Understanding a poem often involves tracing a network of associations – historical, emotional, symbolic, or personal – rarely made explicit.

Large Language Models (LLMs) have shown impressive capabilities in syntax, coherence, and even stylistic mimicry of a longer text corpus. Yet, when faced with short, dense texts, they often flatten meaning, literalise

metaphor, or misattribute intent. This survey attempts to map the scope and nature of these failures and clarify what „understanding” in associative meaning would require.

Shen et al. (2024) conducted a comprehensive examination of several state-of-the-art LLMs in the context of cultural commonsense tasks. Their findings revealed that LLMs exhibit significant discrepancies in performance when tested on culture-specific commonsense knowledge, highlighting an inherent bias in their cultural understanding. This suggests that LLMs may not fully grasp the cultural nuances embedded in poetic language. Using several general and cultural commonsense benchmarks, they found that LLMs have a significant discrepancy in performance when tested on culture-specific knowledge for different cultures. LLMs’ general capability is deeply affected by cultural context.

Cuskley et al. (2024) argue that the capabilities of LLMs provide limited insights into human language and cognition. They emphasise that LLMs’ understanding is primarily functional and lacks the depth of human linguistic behaviour, which is broader and more complex. This limitation is particularly evident in tasks requiring the interpretation of associative meanings in short, dense texts.

Weigang and Brom (2025) explored LLMs’ challenges in preserving poetic intent during translation. Their study found that LLMs often struggle with cultural and literary retention, exemplifying the „paradox of poetic intent”. This indicates that LLMs may not effectively capture the associative fields of poetic texts, mainly when translating between languages with distinct cultural contexts. Contrary to this, Ichien et al. (2024) suggest that LLMs like GPT-4 have acquired an emergent ability to interpret novel literary metaphors. However, this ability is still developing, and LLMs may not consistently grasp the full range of associative meanings in poetic language.

This issue is interconnected and gains a broader horizon through the debate over AI’s „understanding”. Mitchell and Krakauer (2022) provide an outstanding survey of the discussion of whether LLMs can be said to „understand” language in any meaningful sense. They highlight that while LLMs can generate linguistically coherent text, their understanding is limited and does not encompass the depth of human cognition, particularly in interpreting the associative fields of poetic texts.

These studies underscore that while various LLMs have significantly enhanced natural language processing, they still face considerable challenges in interpreting and generating the associative fields of short, poetic, or aphoristic texts. Their performance in these areas is often limited by cultural

bias, lack of deep understanding, and challenges in preserving poetic intent. These limitations have essential implications for literary analysis, creativity, and human-machine communication applications.

The relationship between poetry and Large Language Models can be examined from two perspectives. The first direction is when we try to involve the LLM in writing poetry by giving it a prose prompt („Please, write a poem about...”). This aspect was examined in detail – primarily from a methodological point of view – first by Kangasharju et al (2022) and Cahkrabarty et al (2022), and later by Tsao and Nogues (2024). The LLM shows quite remarkable abilities in this direction. The enormous size of the corpus used for its training enables it to use words and expressions in a kind of semantic proximity to each other, linguistically and grammatically correct. Words that suggest or imply others (e.g., „rose” might evoke „love”, „thorns”, „fragility”) appear in many places in the teaching corpus, so the LLM uses these direct associations well and in the right places. Also, the technical aspects of poetry are well embedded in this system. LLMs seem proficient in various verse forms, from Sapphic stanza to modern rhythmic structures, and respond well to prompts to create output using these forms.

The other direction is when we provide sample(s), a poem or a set of poems, and LLM is asked to create „something similar”. This requires understanding the poem and mapping its semantic associative field before the (re)creative action. Whatever „understanding” means in this context (the study of this question is beyond the scope of this paper), LLM is facing a much more complex challenge in this latter case. We hypothesise that the smaller the corpus and the more complicated the (human) associative field around the sample poem, the less likely we will expect anything valuable from the LLMs. This hypothesis is studied through some experiments described in the following sections.

The Role of the Associative Field and Related Issues

To define clearly our central notion, by the associative field of a text we mean the web of meanings it activates in a reader’s mind, including semantic proximity, that is words that suggest or imply others; emotional tonality, that is the mood and feeling emerged by the choice and arrangement of those specific words; symbolic networks, that is cultural or archetypic meanings attached to objects or images; intertextual references, that is echoes of other texts, styles, or genres; and finally contextual resonance, that is the sociohistorical or biographical implications suggested indirectly by the text.

Understanding poetry and short literary texts often means navigating these layered, sometimes contradictory fields. The challenge for LLMs is that this kind of interpretive work resists clear-cut representation or formalisation.

Key Problems in LLM interpretation or creation of associative fields are manifold. One of the most common errors is the „flattening of metaphorical language” into literal paraphrases. For instance, in interpreting „Hope is the thing with feathers” (title of the poem by Emily Dickinson), a model may emphasise ornithological or biological aspects of birds rather than understanding the emotional resilience Dickinson encodes in the metaphor (c.f. Freeman 1995).

Due to the very nature of the training methodology of LLMs, another issue is the underlying cause: LLMs often rely on statistical patterns over semantic depth, making them poor at mapping metaphor to affect or symbolic register. Tracking polysemy and ambiguity is also challenging for LLMs. Short poems often play on multiple meanings of the same word or overlapping words (see our experiment in the next section with the poem of Sándor Weöres), and LLMs may resolve ambiguity prematurely, choosing a dominant sense without recognising the deliberate ambiguity or double-entendre.

An example can be a haiku, Autumn moonlight by Matsuo Bashō (translated by Robert Hass)

Autumn moonlight –
A worm digs silently
into the chestnut.

The associative tension between natural imagery and implied mortality is often lost on models, who may observe only the primary, biological meaning.

Neglecting cultural, socio-historical and symbolic resonance is another problem for LLMs. This especially holds for languages with smaller training corpora (practically every language except English). In poetry, cultural resonance often carries a crucial message or meaning. For example, the word „cross” in a short poem may evoke Christian theology, burden, sacrifice, or betrayal, but also a crossroad in the countryside, depending on context. LLMs may list possible meanings but rarely weigh them appropriately or recognise the dominant symbolic field a poet is invoking. Instead, they may provide generic or statistically common interpretations.

LLMs also struggle with inadequate handling of intertextuality. Poems and aphorisms often refer to or gesture toward other texts. LLMs may miss

these allusions entirely or fail to appreciate their significance in the inner interpretation of meaning. For example, a line like „April is the cruellest month” (from *The Waste Land* by T.S. Eliot) carries profound intertextual weight. Still, an LLM might interpret it simply as a meteorological observation without the whole literary and cultural context. In our experiment, we used a similar poem to prove our hypothesis.

Disregard for the affective economy of minimal texts may also appear in the contextualisation and interpretation of poems in LLMs. Short literary forms may highly depend on the „density of affect”, the concentration of emotional or existential weights in a small space. LLMs, lacking actual affective experience or embodiment, tend to underplay/overplay or misread this economy. For example, when interpreting a poem like „This Is the Dark Time, My Love” by Martin Carter, LLMs may correctly observe the political or historical aspects, but miss the tenderness, intimacy, or tone of lament the poet highlighted in the phrase „my love.” Specifically, GPT-4 interprets it as follows:

„The full poem is a powerful and haunting reflection on colonial oppression, where the 'dark time', 'festival of guns' and 'man of death' conjure an atmosphere of dread and militarisation. Meaning: Carter is warning about the presence of oppressive forces (literal or symbolic) during political upheaval.”

As one can observe, this interpretation almost completely ignores the intimacy aspects of the poem.

Of course, LLMs have their evident cognitive and architectural limitations. LLMs do not „understand” writings in the human sense. Their limitations stem from the lack of embodiment, that is, the impossibility of mimicking human interpretation grounded in physical, emotional, and lived experience. It also stems from statistical inference. LLMs generate text based on likelihoods, not meaning or intention. Context limitations come from the fact that models operate on token windows, and even if long context windows are applied, they lack persistent memory and situated context. In (interpreting) poetry, the absence of personal or historical self is crucial. Poems often evoke subjective memory or biographical nuance, which AI cannot emulate.

Some important aspects are beyond this paper. For example, we do not consider ethical and educational contexts in terms of misleading interpretation or co-creation. When LLMs offer confident but shallow readings of poems, they may mislead students or casual readers into reductive understandings.

At the same time, in co-creative experiments, there is a risk of hiding cultural and societal biases with implications for representation, inclusivity, and marginalisation, while leading to a tendency towards simplistic literalism (Tsao and Nogues 2024). Generative poetry or analysis by LLMs can flatten poetic difference, privileging mainstream or statistically dominant modes over the eccentric, obscure, or culturally specific. However, combining LLM suggestions with curated (and supervised) human interpretive guidance may yield richer, more responsible literary tools. These aspects can also be included in the training session. Fine-tuning LLMs on annotated poetic corpora – where metaphor, ambiguity, and associative fields are marked – could improve sensitivity to these features.

Experiment and Discussion

Based on the above, our experiment instructed one of the significant language models, GPT-4, to compose two different poem types requiring very different associative abilities.

In the first experiment, we chose a well-defined and richly trained poem form and topic: the AI had to write a Shakespearean sonnet. In this experiment, we used ChatGPT, and the topic was introduced by the following, very brief and direct conversation:

Me: Do you know Shakespeare's sonnets?

ChatGPT: Yes, I know William Shakespeare's sonnets. He wrote 154 sonnets, which were published in one volume in 1609. These poems are mainly about love, time, beauty, transience, and the immortality of poetry. The sonnets are often addressed to a mysterious Fair Youth, a Dark Lady, or a Rival Poet, and are the subject of much debate today.

Is there a specific sonnet you would like to discuss, or would you like me to quote one in Hungarian or English?

Me: Please write a new, non-existent Shakespearean sonnet, the theme of which is the transience of love.

ChatGPT:

Upon the Fading Flame of Love

When first thy glance did set my soul on fire,

I dreamed that Time would bow to passion's reign;

But seasons turn, and pale that first desire,
And bloom decays beneath the gentle rain.
The rose that once did blush upon thy cheek
Now yields to shadows Time doth softly cast;
No vow can stay what years in silence seek,
Nor bind the breeze that sings of moments past.
Though lips may swear that love shall never fade,
The stars still fall, the tide still leaves the shore;
What once was gold grows dim in twilight's shade,
And hearts forget the names they whispered o'er.
Yet in this verse, our love shall linger on —
A ghost in rhyme, though flesh and fire be gone.

Still ChatGPT: I'd be happy to write more of these, even on other topics, if you'd like. Would you be interested in a sonnet about immortal poetry or the beauty of transience?

Me: Yes, please write one about this.

ChatGPT: Gladly! Here is a new, original Shakespearean-style sonnet about the beauty of passing away and the immortality of poetry:

On Beauty Lost, and Verse That Never Dies

The fairest bloom must bend beneath decay,
Though morning gilds it with the light of grace;
No hand can bid the golden hour stay,
Nor time retreat from beauty's fading face.
Yet in the grave where all things else must lie,
Verse walks unburied through the dust of years;
It holds the shade of those too soon passed by,
And paints with ink what we have lost in tears.
The rose will fall, but not the rose in rhyme,
Whose scent endures though petals turn to air;
The voice is hushed, yet echoes still through time,
When soul finds shape in syllables laid bare.
So let what dies be gathered into song,
And there, in art, forever still belong.

As we can see, LLM understood the prompt request very clearly and performed well in both syntactic, verse-form and semantic terms. A Shakespearean sonnet, as it is well-known, is a 14-line poem written in iambic pentameter with a specific rhyme scheme: ABAB CDCD EFEF GG. It's structured into three quatrains (four-line stanzas) followed by a concluding couplet (two-line stanza). The GPT training set contains all of Shakespeare's sonnets, so the more than 150 poems also provide the AI with a well-defined thematic spectrum. Shakespeare's sonnets obviously represent an outstanding part of the literary heritage for all of us, but from the point of view of our current study, we must state that the associative field of lines and phrases he used is not particularly broad or complex – they mainly encourage the reader to make clear, primary associations.

In our second test, we asked the GPT-4 model to write a poem similar to two poems from different times and approaches. Our hypothesis can be technically reformulated as the fewer points of contact the model has to map the association space, the more difficult it will be to meet expectations, and the more difficult it will be to create something similar to the original and of a similar standard. We chose two Hungarian poems for this. The first was a poem by Sándor Weöres consisting of just one single word, *Tojáséj*. This almost untranslatable poem immediately drew anyone who understood Hungarian into the rich field of associations. The poem „*Tojáséj*” is a playful combination of the words „*tojás*” (egg) and „*éj*” (night), which at the same time is separated by a single letter from the ordinary everyday expression of „*tojáshéj*” (eggshell). The outcome is similar in style to „*Egghell*”, in English. It is full of emotions and free associations, thanks to the intersecting and overlapping of the three intersecting and overlapping words. As János Lackfi, a contemporary poet, aptly described the poem's atmosphere: it is a special round-trip to the womb.

GPT-4 was asked to write a poem similar to this one-word poem. Perhaps not surprisingly, the AI was far from creating anything close to this poem. After many turns and plenty of explanations, the best approximations on its part were these: *Csendhíd* (Bridge of Silence); *Ébrenlét* (Hours of Waking); *Reményfény* (Light of Hope); *Szélcsend* (Dead Calm); *Holdfű* (Moongrass). Nothing similar to the power of the original poem. There were a few attempts to be somewhat closer to the Weöres-poem, for example „*Szóhaj*” (*szó* = word, *haj* = hair, *sóhaj* = sigh). But when asked, ChatGPT could not interpret or repeat it. Anyway, besides the syntactic similarity (insertion of an extra letter), this word-poem cannot build the same semantic richness and multidimensional association space as the original one.

The other poem we chose was, again, a brief poem by László Nagy, containing one straightforward sentence: „Itt nyugszik a Hármas Honvéd Gyalogezred” (Here rests the 3rd Home Defence Infantry Regiment). The difficulty in this poem from the GPT perspective is that this sentence could be a simple, everyday epitaph, or even a declarative sentence like a newspaper headline. Thus, GPT would need extensive socio-historical background knowledge and strong association skills to interpret and copy this poem.

And the GPT fails to jump to this level. GPT-4 was asked again to create poems similar to this one. The outcome was not only way below the level of the original poem (this is somewhat evident), but did not touch the simultaneously present sensitivity and brutality of the original work, and created simple sentences like „Itt állt egykor a gesztenyefa” (Here once stood the chestnut tree), or „Itt sétált, aki már nincs” (Here walked the one who is no longer there).

With these two experiments, we tried to prove that in terms of sample-based artistic texts generated by AI, in the case of works with a large corpus and mainly requiring an understanding of the primary associative space, there is a chance for a creative (re)generation. However, in cases where this associative space is challenging to create due to the scarcity of the corpus, while the associative space itself is vibrant and multidimensional for our human mind, LLMs cannot get even close to the text.

Conclusion

LLMs represent a leap forward in linguistic fluency but fall short in interpreting texts whose meaning is not denotative but associative. In poetry, where suggestion, resonance, and ambiguity are key aspects, their interpretations are often superficial or misguided. This gap is not simply technical but philosophical: meaning in art is not reducible to statistical frequency or token-level prediction. Until LLMs are grounded in deeper models of context, affect, and culture, their grasp of poetic language will remain partial at best. This also yields poor or misleading performance in terms of (re)creating poems by samples where the associative field of the original poems is rich, while the corpus itself is limited. Poetry writing must therefore remain a fundamentally human endeavour, even if new forms, notably AI-based co-creation or co-poesis, are promising alternatives for the next generation of writers. Our education system must start teaching its technical, ethical and intellectual aspects promptly.

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ZSOLT ANTAL

**THE NATIONAL PATTERS OF LANGUAGE CULTIVATION AND PLAIN
LANGUAGE IN PUBLIC SERVICE**

Abstract

This study analyses public service media's (radio and television) language cultivation practices and the plain communication of public service institutions with the citizens based on Hungarian and international examples. In response to digitalisation, online surfaces have developed new patterns of transmitting and receiving information: the boundaries between the traditionally distinct genres of radio and television have become blurred. At the same time, the previously valid linguistic normative system has become marginalised, and the regulation of the online media space is also increasingly complex. Public service media must also adapt to differentiated user needs on online platforms. The study chronologically presents the development of public service language use, using the practices developed in the second half of the 20th century. Its methodology is formed by analysing the relevant Hungarian and international academic literature, comparative case studies and the materials of interviews and conference debates. As a linguistic compass, public service media and institutions remain indispensable for 21st-century society. They must preserve normative speech, while also integrating the foreign and technical terms created during globalisation and information technological progress into everyday communication in an accessible manner.

Keywords: public service media; language cultivation; linguistic norm; intelligibility; online consumer habits; digitalisation; institutional language politics; globalisation

Introduction

Hungarian language users have always paid special attention to the media's language use. Standard language use by the language norms was defined as one of the most important objectives at the founding of the first Hungarian radio and later television. Two competing opinions have come into conflict in the past few decades in professional circles. According to one camp, exemplary, varied, "faultless" Hungarian should be spoken on the radio and television. At the same time, the other holds that the key is plain language, i.e., the radio and television must not become detached from everyday language use (Balázs 1996: 1). These differences of opinion developed around the competing definitions of language norms and their interpretation. Considering

that the current task is to provide an overview, in a historical context, of the possibilities of preserving one's native language, from the perspective of public service—and, further, to examine the impact of technological change and digitalisation on the native language, the current work will approach public service broadcasting's language preservation role in a normative, i.e., prescriptive way.

During the emergence of the Hungarian dual media system, commercial media distinguished themselves from public service media, precisely regarding questions of language use, promising conversational, entertaining programmes (Balázs 2000: 10). In contrast—according to the reasoning of László Nemesi Attila (2014: 315), the mission of PSM leads it to prefer standard language usage and to consider it the form to be followed, since “as a result of historical progress, this represents the national cohesion of language users with differing dialects and sociocultural backgrounds.” Strengthening national cohesion requires nurturing the native language, and PSM has considered this communal task its own from the outset.

The Role of Public Service Radio and Television in Language Cultivation

Social scientists consider it self-evident that whenever a new medium appears, social publicity changes of necessity as well (Habermas 1962; Castells 2005; see: Bajomi-Lázár 2009). This was the case with the appearance of radio as well. Like most European countries, radio programmes can also be dated to Hungary's first half of the 1920s and the birth of regular broadcasts. Hungarian radio could keep pace with international mechanical and technical progress (Gergely 1975: 11–13). Radio became a mass medium after the Second World War, and by the 1960s and 1970s, it was considered at its height of popularity. H. Varga Gyula (2015: 391) mentions that this makes it all the more surprising that Hungarian radio had yet to reach its 10th birthday before its audience had already encountered language cultivation broadcasts. The cultivation of the Hungarian language was closely connected to the birth of Hungarian national consciousness. The print media played the leading role in this process, but the Hungarian radio, with technological progress, also actively joined this process. What is certain is that the first two decades of radio in Hungary were a huge success. Miklós Kozma, the director of Telefon Hírmondó és Rádió Rt. – this company included the *Telefonhírmondó* [“Telephone Herald”] – set out an ambitious goal for the radio employees in his much-quoted speech on the official opening on 1 December 1925: “Forcing

all business considerations into the background, we will use this weapon solely with the consideration of Hungarian culture in mind” (Boros 2019: 37). The strong interwar culture and language preservation climate favoured the dedicated appearance of language cultivation on Hungarian radio (cf. H. Varga 2015: 392). The radio sought to support the strategy of popularising Hungarian culture by involving external advisors. A prime example is the study conducted by writer and polymath László Németh, *A magyar rádió feladatai* [The Tasks of Hungarian Radio] (1934), which devoted a special section to the radio’s role and importance in language cultivation.¹

Gyula Halász – a polymath geographer, writer, translator, and language cultivator – was a Reader of the Hungarian Radio’s Literary Editorial Board when he launched the programme *Édes anyanyelvünk* [Our Sweet Mother Tongue] in 1934. It became popular decades later, when linguist Lajos Lőrincze – a well-known public figure throughout the 1960s, 1970s, and 1980s – took it over at the encouragement of Zoltán Kodály (H. Varga 2015: 393). Lőrincze’s extant statements reveal that the first broadcast of the language cultivation programme he led took place on 15 October 1952, with the five-minute programme being broadcast three times a week from 1961. Decades have passed since then, but the success of *Édes anyanyelvünk* remained unbroken and the programme formed generations’ view of language in Hungary (Romsics 2010, as cited in H. Varga 2015: 394).

The Mass Media Research Institute began operations on 1 July 1969 with a conference titled *Nyelv és Kommunikáció* [Language and Communication], in its newly opened building on Mihály Pollack Square. As communication director Tamás Terestyéni reflected in his speech on the institution’s 40th anniversary in 2009, the Hungarian radio had already included a department dedicated to analysing the audience since 1963. The Mass Media Research Institute thus operated first as a directorate of Hungarian Radio and Television, then, after the separation of the two institutes, as one of the directorates of Hungarian Radio.² The research centre was separated from the Hungarian Radio’s organisation on 1 January 1985 and continued its operation independently. From 1 July 1988, it continued as the Hungarian Public Research Institute (MKI). According to Terestyéni, the name change amounted to a refounding, for although the legal successor continued communication research tasks, it turned its attention more towards public opinion research.

¹ <https://www.mek.oszk.hu/01000/01013/01013.htm#4>

² <http://communicatio.hu/mktt/dokumentumok/konferenciak/2009/tk40/nyitoeloadas.htm>

The leadership of the Hungarian Radio also recognised its responsibility to spread the accurate use and correct pronunciation of the Hungarian language. They formed the Hungarian Radio's Language Committee³ in 1976. A separate Microphone Committee was established in 1986, making it clear that "the radio's level of language, diction and communicative conduct is crucial from the perspective of its effectiveness but also regarding the impact it has on general speech and behavioural culture" (Bencédy 2006: 40). According to linguists László Grétsy and István Szathmári, the leadership of the Radio attempted to abide by the Decree of the 1965 Eger Conference on Pronunciation, the sixth point of which stated that "the Conference turns to the leadership of the Hungarian Radio and Television with the request that they continue to ensure the language technical training of their newsreaders and reporters and if possible to prevent anyone with speech impediments from having access to a microphone as a writer, interviewee or in any other way" (Grétsy–Szathmári 1967: 20).

By the early 1990s, the two committees had developed a list of criteria for determining the "microphone right" of those who regularly appear on the radio. Géza Balázs, member of the Language Committee from 1992 until it ceased operations in 2011 and its director in its last ten years, said in a recent interview on the operation of the Microphone Committee that while the Language Committee primarily played a conceptual consulting role, the Microphone Committee "assisted the work of those who appeared on the radio with scientifically developed training and exam requirements."⁴ Géza Balázs' reflections also reveal that these committees played the role of "gatekeepers" in determining who could address the audience on the public service channel: "Those who met the strictest criteria received a reader's or news anchor's microphone permit. This was followed by the reporter's or specialised reporter's permit. This indicates that everyone could find their role in the system. To provide examples for the first two positions: a radio reader could not have a speech impediment, but this did not rule someone out for the position of specialised reporter. Hungarian Television had a similar committee in the 1980s. The MTVA's so-called Montágh Committee took

³ The Hungarian Radio's Language Committee was formed in 1976. This body conducted theoretical, conceptual and practical analytical work regarding the language used by the radio. (The microphone permits required for speaking were issued by the Microphone Committee.) The Committee initially performed its tasks based on orders from the director and on the public service broadcast regulations. It reported on the state of the language on the radio every three years.

⁴ <https://urania.szfe.hu/2024/03/tudatossag-onfigyelem-egyeni-szinek>

over the role of the former language committees, but it did not adopt the system of microphone permits.”

As observed by Gyula H. Varga (2015: 395), the positions of language cultivation and disseminating linguistic knowledge were significantly weakened after the regime change, to which the decline of the Society for the Dissemination of Public Knowledge, attacks on language cultivators and Lajos Lőrincze’s death in 1993 all contributed. Although *Édes anyanyelvünk* survived as a periodical (*Édes anyanyelvünk*), the Hungarian Radio’s language office was closed, and the famous marble chamber language cultivation conferences ceased with it. The Montágh Committee mentioned by Géza Balázs⁵ bears the name of renowned logopedist and speech therapist Imre Montágh, former director of Hungarian Television’s once-famous language cultivation programmes and professor of phonetics and speech training at the University of Theatre and Film Arts between 1968 and 1986. The Committee, established in July 2011, first bore the name of the Native Language Screen and Microphone Committee, before receiving Imre Montágh’s name on 1 January 2012.⁶

The radio’s language use was seen as the model and guardian of the Hungarian language, the transmitter of language norms. With the appearance of digitalisation and the multiplication of broadcasters and online platforms, the professional actors who guarded the correct use of the language according to linguistic standards have been forced into the background. Although the stated goal of the Montágh Committee is still nurturing the Hungarian language’s culture, its influence has undoubtedly declined compared to its predecessor organisations.

Meanwhile, the appearance and widespread use of the internet have further weakened attempts at language cultivation and the preservation of the quality of language use. The spread of the written language in online communication has not only brought a decline in the quality of everyday language use. But also But also but also But also, the new information and communication technologies have created new language norms and, more, have done so at the expense of the near total exclusion of linguistic standards based on traditional literary literacy, by translating the living spoken language and slang into writing. Furthermore, public service radio and television have

⁵ The creation of cultural value and simultaneously the preservation of existing value, while placing special emphasis on nurturing the culture of native language and behavioural culture, is the express task of public service broadcasters. The MTVA created the Montágh Committee as the successor of the Microphone Committee.

⁶ <https://media-akademia.hu/montagh-testulet/a-testulet-mukodese>

also lost the elevated role they previously held through consumers' access to a near-limitless number of radio and television channels from the early 2000s, not to mention the range of social media on offer (Szűts–Szűts–Novák 2023). The explosive growth of globalisation and communication technologies has presented a nigh-impossible challenge to public service channels, which could continue to play a crucial role in nurturing the native language in the age of digital content production through undertaking the tasks of preserving, creating and transmitting values (see Antal 2022).

Nurturing the Native Language in the New Media Age

“Our native language plays a crucial role not only in the preservation of national identity but also in the formation and nurturing of Hungarian culture as well, and public media is an important mediating channel for it”, according to Dániel Papp, Director of the Médiaszolgáltatás-támogató és Vagyonkezelő Alap (Media Services and Support Trust Fund, hereafter MTVA) at the first Montágh Conference held in the autumn of 2023.

As emphasised by Nemesi (2014: 297), there is no question of unity in the language used in the media, since PSM usually follow different norms from those of commercial media, which are generally of higher quality. Moreover, one must not forget the regional or local press and the national media. Furthermore, widespread internet access and social media networks are also exercising an increasing influence on the language used in the national press, including integrating words of Anglophone origin into everyday language use.

Denis McQuail (2003: 141–42) shows that the notion of public service places citizens' collective, social needs ahead of individual rights, consumer freedom or market interests and assigns great importance to national culture, including the nurturing and preservation of the national language and identity. This attitude, which can be considered traditional in a historical sense in Hungary, appears in Act CLXXXV of 2010 on Media Services and the Mass Media. Its second point already includes among the goals of public service the nurturing and enriching of national, communal and European culture and the Hungarian language. A few points later, it lists the preservation of the native tongue of the Hungarians living outside the country's borders as a goal.

The cornerstones of nurturing the native language are contained in the *Public Service Code* (§ 96).⁷ One of the things it makes it clear is that the public service broadcaster “is aware that through its services which

⁷ https://nmhh.hu/dokumentum/168366/kozszolgalati_kodex_final.pdf

reach the broader public, it has a decisive effect on the language used in the national press and the media and therefore on the development of the vernacular; nurturing the Hungarian language is therefore one of its critical goals.” Its new shows “aim to use the Hungarian language correctly and to avoid expressions which damage and weaken the native language and unjustified abbreviations” and “to avoid the use of foreign expressions where possible and to use the vernacular Hungarian equivalents instead. Therefore, according to this guidance, public service channels aim not just to avoid errors, non-Hungarian expressions and sentence structures, but also to produce programmes that use the richness and elegance of the Hungarian language, with correct emphasis and intonation.”

However, the Information Revolution, digitalisation and the spread of social media networks, and the diminished importance of public service broadcasters at the same time, have significantly increased the difficulty of language cultivation content, such as Lajos Lőrincze’s and Imre Montágh’s programmes in the 1980s, reaching a large part of the population. While the state aims to play a visibly important role in preserving linguistic norms and establishing plain language, taking an active part in forming society and quality, the mass communication channels whose availability it could once take for granted, such as Hungarian Radio and Hungarian Television, which long enjoyed a monopoly, they have lost much of their effectiveness to the advance first of commercial television and then online content delivery and their audience has decreased with it. As Petra Aczél observed, the impact of the computer’s mediating effect has been studied since the 1970s, reaching either pessimistic or optimistic assumptions. While the research conducted at the end of the 20th century focuses on the losses, current studies and media theories prefer to discuss change when discussing communicative behaviour characteristics and norms (Aczél 2009; Arató–Balázs 2024). However, this change has significantly diluted the previously accepted language standard due to tabloidisation. Since the appearance of commercial media, the language of the tabloids has become dominant in the content, contextual characteristics and components of media coverage (see Antal 2011: 131). Regarding the differences between quality and tabloid media content, Mónika Andok (2009: 19) emphasises that although “the two forms do not rule each other out and have an overlap”, this goes in one direction. More educated media consumers are open to receiving popular media content. Still, the less educated do not possess either the requisite range of vocabulary or the interpretive framework necessary for quality media content (2009: 19).

By the early 2000s, it was already clear to experts that a thorough simplification of the news and framework was taking place in the tabloid

media's editorial boards. They increasingly featured simplified reports. The use of simple sentences became a common practice, for instance. The messages placed on tabloid media surfaces understandably aimed at being as intelligible for a mass audience as possible (see Antal 2011: 137), and the same process characterises digital social media surfaces as well. However, state PSM's scope was steadily shrinking in the ever more decentralised mass communication, with the multiplication of media channels. The culturally strongly heterogeneous range of media, now expanded with streaming services, is becoming less and less capable of cooperating in nurturing the native language and preserving quality linguistic standards.

However, not even a heterogeneous society can fall outside the remit of public service broadcasting. The values traditionally represented by public service must be harmonised with the appropriate needs of network society (cf. Castells 2005). Society still essentially informs itself about occurrences through the media. It is therefore essential for the media to cooperate in maintaining the social legitimacy necessary for the operation of the state. The Scandinavian states, notably Norway, are outstanding examples of this. It is worth mentioning here the role played by the Language Council of Norway (Språkrådet, the successor of the Norwegian Language Council, Norsk språkråd, which operated between 1974 and 2005) in cultivating the native language. The organisation's openly stated goal is to preserve the importance of the Norwegian language and linguistic diversity. This makes it one of the institutions, alongside the Norwegian Academy, which bear the brunt in the standardisation of the Norwegian language. The Language Council of Norway also cooperates with state and economic actors regarding language policy measures to make language use as understandable for the population as possible. The Norwegians' situation is made more difficult by the existence of two official forms of their language, bokmål and nynorsk, which differ significantly in numerous respects. An important stated goal of the Council, formed in 2005, is to preserve the use of linguistic variants of bokmål and nynorsk by government agencies and the quality of Norwegian language technology. It therefore ensures that language education is based on accepted language policy. It also oversees compliance with the Language Act. It carefully follows the development and spelling of the language and the maintenance of its intelligibility, which it aims to support with online dictionaries, courses, seminars and academic publications. This organisation also approves Norwegian dictionaries and glossaries published in schools.⁸

⁸ <https://sprakradet.no/Vi-og-vart/Om-oss/English-and-other-languages/English/>

A large body of academic literature is devoted to language comprehension, not just in Scandinavia. This is because the language used by public institutions, authorities, and service providers generally plays a significant role in mediating between the state and its citizens.⁹ Institutional language must, or at least should, be easily interpretable and intelligible by the general public, while conforming to legal requirements. A case in point is the clear communication of healthcare regulations during the coronavirus pandemic. Plain language is a crucial trust requirement between citizens and public institutions. The quality of communication and the intelligibility of the language play a central role in the development of citizens' attitudes towards regulations and public institutions. This topic is being assigned an increasingly important role globally, and more and more national governments are operating special programmes and systems of incentives for the continuous development of plain language (see Antal 2017).

Already in 1999, Ferenc Pusztai drew attention to the fact that the native language can only be maintained in a “working” state according to the needs of our time if it is modernised. Its range of expressions is adapted to the requirements of the present age (1999: 93). Otherwise, people who speak no foreign languages and who therefore possess only the range of expressions provided by their native language may eventually be excluded from communication on the new phenomena and situations regarding the processes of technological progress, which are primarily transmitted via the English language (cf. Michelberger 1999: 21). Native languages must therefore be capable of fully describing all areas of life, absorbing the new knowledge and concepts that appear with expressions in foreign languages and replacing them with expressions created from the native language, even in today's changed media environment. Numerous circumstances must be considered in this regard, including, for instance, that people consume online content differently from printed media and programmes on the radio and television.

Media consumers do not read with the same techniques on computer screens or smartphones as they would if they held a book or newspaper (Szűts 2012). Studies show that the average reader reads only approximately 20% of the words of a text that appear on a given website.¹⁰

The readership habits of online surfaces have therefore appeared as a new model. The lines between the content presentation forms of the radio and television, kept strictly separate for decades, have become blurred, and

⁹ <https://mki.gov.hu/en/hirek-en/minden-hir-en/lehet-e-kozertheto-a-hivatali-nyelv>

¹⁰ Source: <https://www.seattleu.edu/web/content/writing> (last downloaded on 19 February 2024).

the previously established system of quality norms has been forced into the background, all the while, regulation in the online media space has become an arduous task. However, society needs PSM to function as a reference point for language use, in a manner intelligible to the public, even amid the 21st century's remarkably rapid technological changes. The task of public service broadcasters is therefore not merely to preserve and maintain language norms but to develop intelligible communication with the citizenry, considering that in globalised society, foreign language words and expressions, as well as technical terminology—as a consequence of progress in the area of information technology—are appearing in everyday language use.

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GÉZA BALÁZS – OTTÓ BEKE – ZOLTÁN SZÚTS

CONTACT LANGUAGE AND CHATGPT
HOW DOES ARTIFICIAL INTELLIGENCE INTERPRET THE USE
OF HUNGARIAN IN VOJVODINA?

Abstract

For decades, Hungarian linguists have researched the phenomena of Hungarian language use in Serbia (Vojvodina). However, with the spread of artificial intelligence, a knowledge gap has emerged, which was identified and possibly addressed by the online linguistic case study assessing the current possibilities of interpreting Hungarian language use in *Vojvodina* by ChatGPT (Balázs –Beke–Szűts, 2025), published in the July issue of Magyar Nyelvőr. This research report is an edited and condensed English version of the cited paper. The English language of the main text enables a generalised, objective presentation of the conducted empirical study and the drawing of scientific conclusions. For the sake of followability, the present English text presents the user prompts, which constitute the corpus of the empirical research, containing lexical elements and other characteristics from the Serbian language, in an unedited form, and then their colloquial interpretation by artificial intelligence.

Keywords: Vojvodina Hungarian language use, contact language, prompt, ChatGPT

Introduction: Mediatised and Digital Language

In the mediatised and digital world, language becomes mediatised *and* digital, technically fragmented, successive and segmental. It adapts to the characteristics and architecture of the medium. Its deep structure, which comprises successive discrete elements, makes this possible. This forms its structural and functional basis (Saussure 1966). “[T]he segmental (discrete) elements of language”, i.e. the speech sounds, “more precisely the »functional fictions« created from them – above all by the practice of writing that strives for economy, the phonemes, and the words built up from them” (Benczik 2001: 24; see also Benczik 2006: 12–16; Derrida 1976; Orbán 1994) are now genuinely digital in a (computational) technical sense. They are freed from their distinctive, meaning-bearing “corporeal” character (Benczik 2001: 24), and only segmentation, articulation, and articulation in a broader sense remain decisive. That is, they become disembodied. Digitalisation and, with it, virtualisation feed on the logic and abstraction potential of the linguistic code (Chomsky 2015).

The volatility of mediated *and* digital, or digitally recorded and transmitted language, even in its written form, evokes the semblance of live speech. Its fixation is more computational, graphematic, and digital than orthographic and grammatical. Literature refers to it with several names: secondary literacy, spontaneous literacy, and tertiary, even machine-like literacy (summary: Balázs G. 2024a; Arató–Balázs G. 2024b).

Verbal communication is developing and evolving on mushrooming online platforms. This speech in fluid writing (Assmann 2009: 156), “scriptorality” (Orbán 1998: 87), and creolisation, the infiltration of spoken language into writing, is a new kind of linguistic quality or way of being: “Today we still write, but on new devices we often write as if we were speaking (letter writing, internet chat), and SMS with the conciseness of telegraphs also characterises many spoken language manifestations. New linguistic effects and changes have begun, which create a new linguistic and thinking quality” (Balázs G. 2003: 18; see also Balázs G. 2023: 85, 102, 129; Ong 2010; Ferraris 2014). The mediatisation of the lifeworld (Berger 2023) also absorbs language. Linguistics must necessarily reflect on the changes. This task and challenge of netlinguistics has been taking shape in Hungary since the late 1990s (Veszelszki 2017). The initial questions of Hungarian netlinguistics were still linguistic (language usage) (e.g. digital language innovation, then secondary literacy), but the research soon took on a cultural, anthropological character. It has now become clear that not only are communication-linguistic changes taking place, but signs of a new evolutionary “leap”, “runaway” are unfolding (Balázs G. 2023: 297–305).

Contact language and ChatGPT

The immediacy and contingency that characterise live speech manifest themselves in various ways online. These include the appearance and proliferation of written and oral, i.e. voice messages formulated in contact languages, and sometimes specifically in mixed languages, on online platforms (Balázs L. 2023). A contact language or contact code is a language variant created as the interaction of two or more languages (Ladányi-Hrenek 2019: 78–79); in our case, the appearance of lexical and structural (inflectional structure) variables of the majority (Serbian) language in a minority language (the Hungarian language variant of the Serbian Vojvodina). A mixed language (or mixed language) is a contact language that develops as a result of intensive and isolated contact between groups of bilingual or multilingual speakers, and does not serve as an intermediary language, and is also characterised by the blending of lexical and grammatical features of the languages in

contact (Ladányi–Hrenek 2019: 71). It is important to note that in both cases, which are otherwise interconnected and even challenging to separate, the adopted linguistic phenomena usually remain outside the colloquial norm system. Their products and written representations were less observable and studyable before the spread of the internet, especially web 2.0 and social media (Szűts 2018: 305–421); analyses have so far only covered living and press language material. Information and linguistic gatekeepers stood in the way of their appearance and widespread use. They also played the role of a kind of linguistic censor. What did not meet the requirements of the standard language version only occasionally appeared in the press language, and it was also challenging to find it in everyday language.

Traditional gatekeepers have disappeared on the web, especially in social media (Szekfü 2007: 125–126). As a result, every user speaks, formulates and writes as they wish or know how. The space and possibilities for expression and publication are potentially endless. The pressure for normalisation is indeed decreasing – if not disappearing – and is manifesting in (micro)communities and small worlds (Kovács 2010, 2011; Barabási 2011; Balázs G. 2014, 2017b, 2023). Our previous important issues regarding normative press and media language are often questioned (Balázs 1997, 2000ab; 2017a). Linguistic, and sometimes stylistic, bubbles and echo chambers develop (Szűts 2018: 206; Harari 2018: 194; Pariser 2012), and their formation and consolidation are facilitated, among other things, by the algorithmic functioning of artificial intelligence (Kőkuti et. al. 2023). Contact and mixed language messages find their place and *raison d'être* online. This applies to both auditory and written content.

The ChatGPT generative artificial intelligence (AI), which has been available to a wide range of people for free since November 2022, and the use of the large language model has a significant impact on the communication processes and patterns between human-human and human-machine (Harari 2024: 179–268). The application's conversational capabilities contribute to this, effectively interpreting and generating linguistic messages and texts. This gives the user the impression of a conversation. The development of the indicated perceptual effect is also greatly facilitated by 'reating a machine response following a prompt, which, apart from solving complex and time-consuming tasks, only takes seconds. Still, its display in writing is done character by character, letter by letter. The application always tries to provide the experience of a live dialogue. Accordingly, the user feels the response is generated in real time, improving the communication experience (Csíkszentmihályi 1990; Szűts 2018: 339–342).

A diverse scientific discourse deals with various aspects of the phenomenon of AIS and, within them, large language models. However, the question of whether ChatGPT is capable, and if so, to what level and efficiency, of interpreting communications determined by the characteristics of individual language varieties, especially contact and mixed language features, has not yet been raised and then systematically discussed in the international literature. The online linguistic study assesses the current potential of artificial intelligence to interpret the Hungarian language use in Serbia (Vojvodina). Regarding the language variety in question, answering this question is of key importance since the language use of the given community beyond the political borders of Hungary is not left untouched by the contact and proximity to Serbian as the state language.¹ The most obvious and well-known examples of this are word borrowings, but other grammatical effects, such as syntactic and pragmatic, also occur. (For the Serbian and Vojvodina Hungarian language variants, see: Vukov Raffai 2019; Hódi 2021; Verbi Nyelvi Kutatóműhely 2025.)

Decoding and interpreting messages formulated in the contact language pose a challenge for the chatbot due to the “foreign” lexical elements and other grammatical features that occur in them, since the training data may be incomplete or limited. Of course, it is not the interpretation of the components originating from the Serbian language themselves that may pose a difficulty for the artificial intelligence, but their Hungarian context, i.e. their embeddedness. The prominent position of ChatGPT in the study is justified by its widespread use. (Our study continues similar previous research: Balázs, G.–Beke–Szűts 2024.)

The research treats contact language elements and other linguistic characteristics descriptively, i.e. it uses a value-neutral sociolinguistic approach.

Contact language prompts and their machine interpretation

We publish the prompts included in the empirical research, formulated in the Hungarian contact language of Vojvodina, without any changes.² Our invited

¹ Of course, in the case of the Hungarian language, similar phenomena and tendencies can be observed in all cross-border, minority language and diaspora communities. However, this study focuses on various Serbian (Vojvodina) Hungarian languages.

² The example texts formulated by Benjámín Dudás, Emese Molnár, the Teacher Training Faculty of University of Újvidék is Szabadka, based on the Hungarian Language of Instruction, Teacher training, for the faculty quarterly communication major students. Our work also helped Lazar Slezák, the City of Sombor Administrative Office, a Serbian-Hungarian translator.

experimental subjects were not allowed to use the services of ChatGPT or other large language models when compiling them. They could only rely on their own linguistic and text-creation competence. They honestly acted like human agents, that is, they were not allowed to organise their complex cognitive functions into technical apparatuses. They were not given any information about the research question to avoid influencing their style. They had to meet only one criterion: to formulate their communication using lexical elements and features derived from the Serbian language, that is, in the Hungarian contact language of Vojvodina. Any content constraints did not limit them. The prompts created in this way paint an authentic picture of the characteristics of the given contact language. They do not represent the wide range of borrowed lexical and other elements used in the given language variant, but convey the characteristics. For the sake of authenticity, we did not correct the phonetic spelling or the use of suffixes in the transcription of words originating from the Serbian language occurring in the messages, and we also left the (conscious) reflection of dialectal elements intact. We did the same in the case of spelling errors and typos.

Following the user messages, we also present their interpretation by ChatGPT without any changes, then draw the scientific consequences. It is important to emphasise that the operation of the chatbot, especially during text generation, is partly probabilistic. Therefore, chance always plays a role in the process, the basis of which is provided by the random number generator algorithms used in the program. It is a directed randomness regulated by the model's parameters.

Nr 1. prompt

Értelmezd az alábbi szöveget: Képzeld voltam egy bazenos buliban múlt szombaton. A piát magunknak kellett vinni, és nem tudtam eldönteni, hogy limenkás sört vagy pelinkovácot vigyek, ezért az utóbbinál döntöttem, hogy jól teljen a zsurka. És nem hiszed el, de az eladónő elkérte tőlem a licsnámat, pedig szerintem olyan fiatalnak nem is nézek ki. Le voltam döbbenve, mondom ajde nézze meg, hogy hány éves vagyok. Aztán rájött, hogy nem kiskorúval van dolga. Végül megvettük a piát, aztán a buliban nagyon jól éreztük magunkat.

Interpretation by AI

Képzeld, múlt szombaton voltam egy medencés buliban. A piát magunknak kellett vinni, és nem tudtam eldönteni, hogy limonádés sört vagy pelinkovácot vigyek, végül az utóbbit választottam, hogy jól induljon a buli. És el se

hiszed, de az eladónő elkérte a személyimet, pedig szerintem nem nézek ki olyan fiatalnak. Teljesen ledöbbsentem, mondtam is neki, hogy nyugodtan nézze meg, hány éves vagyok. Aztán rájött, hogy nem vagyok kiskorú. Végül megvettük a piát, és a buliban nagyon jól éreztük magunkat.

Nr. 2. prompt

Értelmezd az alábbi szöveget: Szia, képzel ma elmentem patikát venni, és nem volt nálam a kárticám ezért nem tudtam fizetni. Mivel készpénz sem igazán volt nálam ezért elmentem a bankba. Ott nyilván kellett a licsnám meg valami potvrdát alá írni, hogy tudják pénzt kapni. Szóval már ez a cirkusz után nem csak patikát vettem, hanem hozzá egy trénerkát is meg egy majicát. Aztán mentem haza közben voltam boltban, vettem egy limenkás szokot meg kajának a péknél burekot. Kajáltam majd mentem edzeni, de ott meg lejárt a csanirám. Azt meg nem tudtam már ki fizetni mert apámnak vettem vettem szülinapjára egy slagot. Szóval tiszta káosz ez a mai nap, még majdnem fel buktam egy banknába, de estére zsurka remélem jössz te is. Veled mizu?

Interpretation by AI

Szia, képzel el, ma elmentem gyógyszert venni, de nem volt nálam a bankkártyám, úgyhogy nem tudtam fizetni. Készpénzem se nagyon volt, ezért elmentem a bankba. Ott persze kellett a személyim, meg alá kellett írnom valami papírt, hogy tudjak pénzt felvenni. Na, miután ezen túl voltam, nem csak gyógyszert vettem, hanem egy melegítőnadrágot meg egy pólót is. Aztán hazafelé még beugrottam a boltba, vettem egy citromos üdítőt meg kajának a péknél bureket. Otthon ettem, utána mentem edzeni, de ott meg kiderült, hogy lejárt a bérletem. Azt már nem tudtam befizetni, mert apámnak vettem szülinapjára egy locsolócsövet. Szóval teljes káosz volt a mai nap, még majdnem elestem egy padkában is. De estére buli lesz, remélem te is jössz! Veled mi újság?

Nr. 3. prompt

Értelmezd az alábbi szöveget: Lejárt a licsnám, és be kellett mennem az opstinára, hogy meghosszabbítsák, meg ha már ott voltam, úgy gondoltam zsalizok a salteron, mer kaptam azt a papírt az odvodnjavanjeről, meg azt írja valami adósságom is van. Bemegyek a pizsárnicába, ott a goszpogya aszongya nekem, menjek a 62-es szobába. Kérdezi, kaptam e termint, mer ha nem, fognom kell a sort, mer sokan várnak a licsnára. Kérdezem tőle, hol kell termint foglalni, azt mondja az eupraván. Akkor elmentem az adósalterra,

hogy miért kell az odvodnjavanjet befizetnem, erre kiderült, hogy tartozok is vastagon, mert azt írja nekik, hogy csak a glavnicát fizettem be multkor, de a kamatot nem, amire ők aztán még tettek kamatot.

Interpretation by AI

Lejárt a személyim, és be kellett mennem az önkormányzathoz, hogy meghosszabbítsák. Ha már ott voltam, gondoltam, utánanézek a pénzügyeknek is, mert kaptam egy papírt a vízelvezetési díjról, és azt is írták, hogy van valamilyen tartozásom. Bementem az ügyfélszolgálatra, ott a hölgy azt mondta, menjek a 62-es szobába. Megkérdezte, hogy van-e időpontom, mert ha nincs, akkor ki kell várnom a sort, mivel sokan várnak a személyi igazolványra. Megkérdeztem tőle, hol lehet időpontot kérni, azt mondta, az adminisztráción. Ezután elmentem a pénzügyi ügyintézőhöz, hogy megtudjam, miért kell befizetnem a vízelvezetési díjat. Kiderült, hogy tényleg van tartozásom, mert szerintük legutóbb csak a tökerészt fizettem be, a kamatot nem, és arra még további kamatot is rászámoltak.

Evaluation of AI-generated colloquial versions

Differences can be observed mainly at the lexical level between the participants' (language users') texts in the experiment and the machine texts that interpret them. The prompts were written with the linguistic characteristics of the Hungarian language used in Vojvodina in mind. They are Hungarian language announcements, but they include numerous loanwords, phrases, hybrid forms and occasionally characteristic grammatical structures originating from Serbian. As a result, they do not meet all the expectations of the colloquial language. They are not standard, but Serbian (Vojvodina) contact language texts. The AI interpretation of the texts of the requested language users draws mainly from the vocabulary of the colloquial language and respects its rules. As mentioned above, ChatGPT's interpretation (translation) affected the lexical level to a decisive extent. ChatGPT translated the texts formulated in the Hungarian contact language of Vojvodina into the colloquial language; with significant lexical mistranslation (error) in some places.

The evaluation of colloquial messages can be implemented by considering the complex semantic horizon of the prompts formulated in the original, i.e. contact language. Suppose the chatbot managed to replace the hybrid source language loanword or other element with a target language with the same or at least similar meaning, together with contextual aspects, as far as possible. In that case, the transformation is considered authentic and precise. In other

cases, the result of the “colloquialisation” can be criticised. The decisive factor is therefore the examination and assessment of the equivalence in meaning.

A detailed evaluation of the colloquial versions generated by AI can be found in the original Hungarian study (Balázs, G.–Beke–Szűts 2025). Here, we present the results, i.e. the loanwords from Serbian and their interpretation by AI, in the form of a table. We show each element in its original grammatical form and spelling for authenticity. Authentic and accurate “colloquialisation” is marked with a check mark (✓), incorrect ones with a cross (✕). Both symbols are indicated when AI’s interpretation of a loanword from Serbian is only partially or approximately precise.

Evaluating AI’s interpretation of prompt #1

Loanword from Serbian	Interpretation by AI
bazenos	medencés ✓
limenkás	limonádés ✕
zsurka	buli ✓
licsnámat	személyimet ✓
ajde	mondtam is neki ✓

Evaluating AI’s interpretation of prompt #2

Loanword from Serbian	Interpretation by AI
patikát	gyógyszert ✕
kárticám	bankkártyám ✓
potvrdat	papírt ✓ ✕
trénerkát	melegítőnadrágot ✓
majicát	pólót ✓

Evaluation of AI’s interpretation of prompt number 3

Loanword, expression, and hybrid formulation from the Serbian language	Interpretation by AI
licsnám, licsnára	személyim, személyi igazolványra ✓
opstinára	önkormányzathoz ✓
zsalizok a salteron	utánanézek a pénzügyeknek ✕

odvodnjavanjeről, odvodnjavanjet	vízvezetési díjról, vízvezetési díjat ✓
azt írja	azt is írták ✓
piszarnicába	ügyfélszolgálatra ✓ ✗
goszpogya	hölgy ✓
termint	időpontom, időpontot ✓
eupraván	adminisztráción ✓ ✗
licsnám, licsnára	személyim, személyi igazolványra ✓
opstinára	önkormányzathoz ✓

In the case of the three prompts formulated in the Serbian (Vojvodina) Hungarian contact languages, the main challenge for ChatGPT was the interpretation of those components originating from the Serbian language that are arranged in an analogical network or are of an administrative or state administration nature, i.e., country-specific. The authentic translation of lexical elements of this latter type requires serious care and consideration, and also presupposes knowledge of local conditions.

Summary and outlook

The corpus of our online linguistic case study was composed of prompts formulated in three Vojvodina Hungarian contact languages. Despite their limited number and length, the user messages reflect the main characteristics of the loanwords and other elements used in the given language variety. The research results are not representative, but somewhat indicative of the current interpretive potential of ChatGPT in Vojvodina Hungarian language use. However, the study factors and circumstances meet the scientific requirements of verifiability and repeatability.

In the coming years, various generative artificial intelligence applications and large language models will inevitably become part of work, entertainment and learning (Mollick 2024). The results of the abstracted online linguistic case study and its research report not only contribute to at least an approximate assessment of the current possibilities of interpreting Hungarian language use in Vojvodina by ChatGPT, but can also serve as a basis for developing and fine-tuning prompting techniques (Bognár 2023). The methodological framework applied in the case study also enables the continuation of research, focusing on other large language models, as well as contact or even mixed languages, and at the same time, performing comparative operations.

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GEOFF VAUGHAN – RITA SZŰTS-NOVÁK

DISTANT NOISES: EXPERT VOICES

Abstract

Human writing has been, arguably, man's supreme creative achievement. It has given humanity a world of books; an infinite galaxy of language and thought. By investigating the thoughts of expert writers on the craft and purpose of writing from an "analogue" perspective, we may make some progress in our thinking about the role and importance of writing in the digital age. Including some thoughts about the role and importance of books and writing by the founder of OpenAI may also begin to make more interesting connections about writing and communication in the age of AI. This paper looks at contributions to the act and process of writing by a range of acclaimed fiction writers of the 20th century taken primarily from interviews in the first and second 'Writers at Work' series (1959 and 1963 respectively) published by the Paris Review and is an initial investigation as part of a longer-term research project to identify writers' expertise and how that may prove beneficial to writers of all levels of ability in this digital age.

Keywords: writers, expertise, writing process, language, creativity

Introduction

Words are tools, learned late and laboriously and easily forgotten, with which we try to give some part of our experience a more or less permanent shape outside ourselves. (Ted Hughes 1967:119)

Here's Sam Altman, OpenAI founder, in a 2024 interview:

So, when you say it's essential that people learn to write, what does that mean?

It means that I've figured out how to use this tool to think more clearly. Now, if there's a better way to think more clearly, great, I would switch to that. Not found that yet (Perell 2025).

This is an incredibly revealing statement from the founder of the world's largest AI company, primarily responsible for the AI age we are now firmly in. It is a digital world thoroughly dominated by text; our daily lives are saturated

with a barrage of digital communication forms, both receptive and productive. In the age of artificial intelligence, this has multiplied by factors beyond comprehension. We seem to be at a cognitive saturation point in keeping up with the flood of text-based information that constantly bombards our brains daily, hourly (Turós et al 2024). Often at what seems like warp speed.

There seems to be hardly any time to take a step back and reflect on the language we are using, or the communicative acts we are engaged in. The very act, process and meaning of writing seems to be a lost art that, at most, may come to the fore when there is a demand for a more complete written product, such as a student essay or an academic paper. There are two powerful effects of this increasingly rapid communication digitisation. Firstly, we may be losing the art of more profound, creative thought and secondly, by losing this very ability to think we may lose the act of thoughtful, imaginative human written expression; an act that has been, arguably, the most precious contribution to humanity since humans first developed the ability to write (Dominek 2022).

Books and words

The imagery of the stacked bookshelf is still a powerful visual metaphor for many of the qualities we still hold as indicators of human intelligence, even today. If we take a moment to reflect on the hundreds, if not thousands, of online talks, meetings, presentations and even examinations we have participated in, one of the most obvious ways that expertise is visually demonstrated is with a stacked bookshelf in the background – a powerful visual metaphor for learning, intelligence, thought and experience.

In a 2024 interview with OpenAI founder, Sam Altman, there was an incredibly revealing insight into this metaphor for intelligence – the private library at the heart of his organisation: Built at Altman's request and stocked with titles suggested by his staff, the OpenAI library is an apt metaphor for the world's hottest tech company, whose success was fuelled by language – lots and lots of language. (Star 2024: 1).

Here we have the founder of OpenAI placing knowledge, in the form of physical books, right at the heart of his company. Yes, books provide a distinct visual metaphor for intelligence, but far more importantly, what is contained inside those books is of essential value. Therefore, with genuine interest, I open up to the words of expert writers and look at what they have to say about the craft and purpose of writing. By investigating what they say about the writing process, we may start to pick up some valuable advice to help us with our own productive, written world.

The skills of professional writers

When summarising expert writers' features, Kellogg says: "Much has been discovered about the skills of professional writers that can benefit those aspiring to the role" (Ericsson et al. 2018: 1147). This central section looks at some of those skills from the perspective of expert writers in five main areas: note taking, getting started, rewriting, techniques, and purpose.

Note Taking

I'm a huge notetaker (Perell 2025)

Writing often starts with ideas. An idea may "pop into" one's head, or "float into" one's mind. It can come any time, any place. A wonderful anecdote by a truly great writer is recounted by Robert Graves in his autobiography, when he was visiting Thomas Hardy at his home. Hardy related the story of when he was pruning his trees and a story came to his mind, but as he had no pencil and paper to hand, when he had finished the gardening, "all was utterly gone" (Graves 2014: 381). Note-taking is something that many expert writers do. Here is Angus Wilson on whether he takes notes: "Books of them. The gustatory period before I start to write is very important to me" (Paris Review 1959: 256).

However, other writers do not always share this advice, although some recognise its value. When asked whether he takes notes, Alberto Moravia replied: "Never. I never work from notes. No, I have never taken notes or even possessed a notebook. My work is not prepared beforehand in any way" (Paris Review 1959: 218). William Styron is of a similar opinion: "No, I don't feel the need for it. I've tried, but it does no good, since I've never used what I've written down. I think the use of a notebook depends upon the individual" (Paris Review 1959: 271). An opinion shared by Aldous Huxley: "No, I don't keep notebooks. I have occasionally kept diaries for short periods, but I'm sluggish, I mostly don't. One should keep notebooks, I think, but I haven't" (Paris Review 1963: 164).

Getting started

Getting started is often the most challenging part for everyone who writes, whether professional or amateur. Expert writers have much to say about getting words down on the page, usually revealing what happens once the process is in motion.

Dorothy Parker upon being asked how she writes a story says: "It takes six months to do a story. I think it out and then write it sentence by sentence – no first draft" (Paris Review 1959: 79). Robert Penn Warren provides an insight into what happens once the words start to be put on a page: "When you start any book you don't know what, ultimately, your issues are. You try to write to find them. You're fiddling with the stuff, hoping to make sense, whatever kind of sense you can make" (Paris Review 1959: 190). Alberto Moravia also illuminates this: "When I sit at my table to write, I never know what it will be till I'm underway. I trust in inspiration, which sometimes comes and sometimes doesn't. But I don't sit back waiting for it, I work every day" (Paris Review 1959: 218).

Many expert writers express the importance of a writing habit and even a specified time for writing, often in the mornings. William Styron says this about this aspect of his writing process: "When I'm writing steadily... I average two-and-a-half or three pages a day, longhand on yellow sheets. I spend about five hours at it, of which very little is spent writing." (Paris Review 1959: 271). Truman Capote takes a different approach: "I am a horizontal author. I can't think unless I'm lying in bed or stretched on a couch with a cigarette and coffee handy. I've got to be puffing and sipping. As the afternoon wears on, I shift from coffee to mint tea to sherry to martinis" (Paris Review 1959: 294). Henry Miller remarks that the best time for writing is: "I generally go to work right after breakfast. I sit right down at the machine. If I cannot write, I quit" (Paris Review 1963: 142). Aldous Huxley also finds the morning time the most productive: "I work regularly. I always work in the mornings, and then again a little bit before dinner" (Paris Review 1963: 164) a sentiment shared by Lawrence Durrell: "In fact I think the best regime is to get up early, insult yourself a bit in the shaving mirror, and then pretend you're cutting wood, which is just all about the hell you are doing – if you see what I mean" (Paris Review 1963: 229). Finally, Ernest Hemingway clearly captures the importance of morning writing: "When I am working on a book or a story, I write every morning as soon after first light as possible. There is no one to disturb you; it is cool or cold, and you come to your work and warm as you write" (Paris Review 1963: 186).

Francoise Sagan says about the beginnings of the creative act: "...I started with the idea of a character, the girl, but nothing came of it until my pen was in hand. I have to start to write to have ideas" (Paris Review 1959: 304). This act of creation is echoed by Marianne Moore when explaining how a poem starts for her: "A felicitous phrase springs to mind – a word or two, say – simultaneously with some thought or object of equal attraction" (Paris Review 1963: 64). Henry Green has similar thoughts about the construction

of a longer, narrative work: “As to plotting or thinking ahead, I don’t in a novel. I let it come page by page, one a day, and carry it in my head.” (Paris Review 1963: 210). Robert Penn Warren explains how this is a process that is hard to pin down: “When you start any book you don’t know what, ultimately, your issues are. You try to write to find them. You’re fiddling with the stuff, hoping to make sense, whatever kind of sense you can make” (Paris Review 1959: 190).

Rewriting

One of the most essential elements of the writing process that nearly all expert writers seem to share is the act of revision or rewriting. Kellogg terms this process of expert rewriting “knowledge crafting” and says: “Knowledge crafting entails shaping a text so that the reader finds it comprehensible and convincing; it demands that the author see her words from the third-person perspective of the reader” (Ericsson et al. 2018: 1138).

Robert Lowell says that he rewrites “Endlessly” (Paris Review 1963: 277) as does Frank O’Connor “, Endlessly, endlessly, endlessly” (Paris Review 1963: 168). For James Thurber rewriting is essential: “For me it’s mostly a question of rewriting. It’s part of a constant attempt on my part to make the finished version smooth, to make it seem effortless.” (Paris Review 1959: 88) while Thornton Wilder provides a fascinating metaphor for the importance of the act of rewriting: “there are passages in every novel whose first writing is pretty much the last. But it’s the joint and cement, between those spontaneous passages, that take a great deal of rewriting” (Paris Review 1959: 105). Alberto Moravia compares the act of rewriting to that of an artist: “Each book is worked over several times. I like to compare my method with that of painters centuries ago, as it were, from layer to layer (Paris Review 1959: 220) and Truman Capote, that of an obsessive stylist: “Essentially I think of myself as a stylist, and stylists can become notoriously obsessed with the placing of a comma, the weight of a semicolon” (Paris Review 1959: 294).

Henry Green shows how the process of rewriting alters the written product: “Yes, because I copy everything out afresh. I make alterations in the manuscript and then copy them out. And in copying out, I make further alterations” (Paris Review 1963: 209). Henry Miller shares this approach: “When I’m revising I use pen and ink to make changes, to cross out, insert. Then I retype, and in the process of retyping I make more changes” (Paris Review 1963: 143) while Lawrence Durrell also emphasises the importance of rewriting: “I do go over a good deal” (Paris Review 1959: 224) as does

Aldous Huxley: “Generally, I write everything many times over. All my thoughts are second thoughts. And I correct each page a great deal, or rewrite it several times as I go along” (Paris Review 1963: 164). Incredibly, Ernest Hemingway, in his Paris interview, gives an even more detailed account of the reason for rewriting, alerting us to the fact that he rewrote one page (the ending to *A Farewell to Arms*) 39 times (Paris Review 1963: 186). So much can be learned from these expert insights about the value of rewriting. Indeed, in Hemingway’s words, rewriting sums up the reason for revising one’s work: “Getting the words right.” (Paris Review 1963: 187).

Technique

A human writer has their style, stamps their own identity on their writing. As Raymond Carver succinctly expresses, “Every great or even every excellent writer makes the world over according to his specifications” (Carver 1985: 46). This is the fundamental and crucial difference between human writing and machine writing. Carl Hendrick states the machine writing problem clearly “The problem is not simply that machines are generating content. It’s that humans are beginning to read, and worse, write, as if they were machines” (Hendrick 2025: 1). Expert writers, when explaining about technique, show us the incredible importance of our human creative process.

E.M. Forster demonstrates the trickiness of human expression “We keep coming back to that. People will not realise how little conscious one is of these things; how one flounders about. They want us to be so much better informed than we are” (Paris Review 1959: 34) and Francois Mauriac reveals the instinctive nature of writing when he says: “I simply resorted to the techniques that my instinct suggested to me” (Paris Review 1959: 41). Thornton Wilder focuses on the inner pleasure that writing brings: “Once you catch the idea for an extended narration – drama or novel - and if the idea is firmly within you, then the writing brings you perhaps not so much pleasure as a deep absorption (Paris Review 1959: 105) while William Faulkner hammers home the hard, personal task a writer faces: “Let the writer take up surgery or bricklaying if he is interested in technique. There is no mechanical way to get the writing done, no shortcut. The young writer would be a fool to follow a theory. Teach yourself by your mistakes; people learn only by error” (Paris Review 1959: 129).

A writer’s style is something that many of the experts wrestle with. Nelson Algren explains: “Well, I haven’t consciously tried to develop it. The only thing I’ve consciously tried to do was put myself in a position to hear the people I wanted to hear talk talk” (Paris Review 1959: 244). William Styron

says, “Style comes only after long, hard practice and writing” (Paris Review 1959: 271). For Françoise Sagan, it is more of a search for musicality: “For me, writing is a question of finding a certain rhythm. I compare it to jazz” (Paris Review 1959: 305). Marianne Moore seeks a more analytic approach: “Do the poet and the scientist not work analogously? Both are willing to waste effort. Being hard on oneself is one of the main strengths of each. Each is attentive to clues, each must narrow the choice, must strive for precision... The objective is a fertile procedure. Is it not?” (Paris Review 1963: 75–76).

Truman Capote reveals the importance of the individual personality in the written act: “No, I don’t think that style is consciously arrived at, any more than one arrives at the color of one’s eyes. After all, your style is you.” (Paris Review 1959: 296) which is a view shared by Henry Green: “He can’t do anything else. His style is himself, and we are all of us changing every day – developing, we hope! We leave our marks behind us like a snail” (Paris Review 1963: 211) as well as by Lawrence Durrell: “I don’t think anyone can, you know, develop a style consciously... Do you consciously dream? One doesn’t know very much about these processes at all.” (Paris Review 1963: 230).

Importantly, there is a warning about how writing can, or cannot, be learned or taught. For Hemingway, he learned some essential fundamentals while working as a news reporter: “On the Star (the Kansas City Star newspaper), you were forced to learn to write a simple declarative sentence. This is useful to anyone” (Paris Review 1963: 189). But beyond such essentials, it is difficult for writers to state that style and technique can be easily taught. Robert Lowell says, “I’m sure that writing isn’t a craft, that is, something for which you learn the skills and turn it out. It must come from some deep impulse, deep inspiration. That can’t be taught, it can’t be what you use in teaching” (Paris Review 1963: 268). Another great American poet, Robert Penn Warren, reveals the physical, embodied effort that it takes to write: “At some point, you know, you have to try to get one with God and then take a hard cold look at what you’re doing and work on it once more, trusting in your viscera and nervous system and your previous efforts as far as they’ve gone” (Paris Review 1959: 197).

Purpose

For me, writing is a tool for thinking, most importantly. (Sam Altman in Perell 2025: 2.05m)

We return to the view of OpenAI’s founder about the purpose of writing, which he states as a “tool for thinking”. Once again, it is an incredible

sentence to reflect upon. Writing as a tool for thinking. Most of the expert writers in this final section would undoubtedly agree.

William Faulkner provides a broad angle perspective of the purpose of writing and how, as new media have arrived (here, picture magazines and comic books – but it is no stretch to see that we could add any of today’s digital forms to this comparison) we may be in danger of losing our hard-fought struggle to read (and create) works of literature:

I imagine as long as people will continue to read novels, people will continue to write them, or vice versa; unless, of course, the pictorial magazines and comic strips finally atrophy man’s capacity to read, and literature is on its way back to the picture writing in the Neanderthal cave (Paris Review 1959: 137).

Robert Frost makes the point, repeatedly, in his interview that thoughts link to something else, what he calls “a feat of association” or, more simply “Putting this and that together. That click” (Paris Review 1963: 28). For Frank O’Connor the physicality of the creative act, even in a metaphorical sense, is what matters: “The moment you grab somebody by the lapels and you’ve got something to tell, that’s a real story” (Paris Review 1959: 181). Alberto Moravia reveals the personal pleasure that writing brings: “I write simply to amuse myself; I write to entertain others and – and, well, to express myself. One has one’s way of expressing oneself, and writing happens to be mine” (Paris Review 1959: 215). This is echoed in the words of Thornton Wilder looking towards the future authors and their purpose: “The future author discovers that language, the exploration and manipulation of the resources of language, will serve him in winning through to his way...Language for him is the instrument for digesting experience, for explaining himself to himself” (Paris Review 1959: 107).

It is this discovery of language, its exploration and manipulation that lies at the very heart of the matter of human written construction. Expert writers seem to understand the real difficulties that writing holds in trying to do something, as George Simenon articulates when trying to explain one of his main problems with writing being: “the problem of communication. I mean communication between two people. The fact that we are I don’t know how many millions of people, yet communication, complete communication, is completely impossible between two of these people, is to me one of the biggest tragic themes in the world” (Paris Review 1959: 153). Lawrence Durrell sees the role of a writer as “only someone unrolling and digging out and excavating the areas normally accessible to normal people everywhere, and exhibiting them as a sort of scarecrow to show people what can be done

with themselves” (Paris Review 1963: 231). These active verbs of exploration “unrolling”, “digging”, “excavating” are both fascinating and extremely helpful in capturing the factual purposes of human writing.

Conclusion

In the article that reported on the library that was built at the heart of OpenAI, the author makes a salient point:

OpenAI’s chatbot was not built like the average Internet app: ChatGPT learned its skills by analysing vast amounts of text written, edited and curated by humans, including encyclopaedia articles, news stories, poetry and, yes, books. (*The Old-Fashioned Library at the Heart of the AI Boom* | *The Star*, n.d.)

Our new relationship with digital tools in this age of AI has a fundamental irony; the tools many are using to communicate their human thoughts have been built on and trained on the words and the books of humans (Arató–Balázs 2024; Farkas et. al. 2024). One way of reclaiming that fundamental perspective may be by revisiting expert writers’ words, thoughts, and voices. They can model ways to express ourselves more clearly and thoughtfully, techniques that we could use to improve our ability to communicate to and with others. They may help guide us with the true purpose of human written expression (Szűts 2012). Ted Hughes makes the case for the possibilities of words:

Because it is occasionally possible, just for brief moments, to find the words that will unlock the doors of all these many mansions inside the head and express something – perhaps not much, just something – of the crush of information that presses in on us from the way a crow flies over and the way a man walks and the look of a street and from what we did one day a dozen years ago (Hughes 1967: 124).

That metaphor of unlocking the doors of the “many mansions inside the head” and then expressing “something” is what all of the writers investigated here have sought to convey. And there is hope for future generations as they discover new ways of expression, using possible new genres and forms, as Kazuo Ishiguro highlighted in his Nobel Prize Lecture: ‘The next generation will come with all sorts of new, sometimes bewildering ways to tell important and wonderful stories. We must keep our minds open to them, especially regarding genre and form, so that we can nurture and celebrate the best of them’ (Ishiguro 2017: 15) a view shared by Henry Green: “It is simply that the novelist is a communicator and must therefore be interested in any form of communication...Media change. We don’t have to paint chapels like Cocteau, but at the same time we must always be on the lookout for the new ways” (Paris Review 1959: 213).

Like Robert Frost, we may no longer write on the sole of our shoes, or, like Capote, lie flat on our backs typing, puffing and sipping Martinis. Still, we may find within the covers of the books, which are so fundamental to the physical and technological ecosystem of AI today, words of true experts to help us navigate and communicate our way better in this new world. Crucially and strangely, at the heart of human written creativity and, at the heart of our new artificial intelligence technologies, are words and as Carver so eloquently explains, it is our attention to words and meaning that is the very heart of the matter:

That's all we have, finally, the words, and they had better be the right ones, with the correct punctuation in the right places so that they can best say what they are meant to say. ...if the words are in any way blurred, the reader's eyes will slide right over them and nothing will be achieved (Carver 1985: 48).

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NÓRA KEPE

THE THERAPEUTIC NATURE OF SOCIAL MEDIA

Abstract

In social theory, the term “therapeutic culture” refers to a broader cultural phenomenon that goes together with a specific cultural climate, as well as a psychological mindset and therapeutic language. Since its invention, social media has become one of the main drivers of the therapeutic trend, because 1) social media sites are built on the individualisation of users, 2) they encourage self-reflection and the conscious management of self-representation, and 3) they normalise a globalized, uniformed, emotionally charged language and visual aesthetic. This paper aims to draw linguists’ attention to the language- and mind-forming phenomenon of the therapeutic trend by presenting the brief history of therapeutic culture from a social theoretical point of view and analysing the nature of social media.

Keywords: therapeutic turn, social media, psychologization, emotionalism

Theorising the therapeutic trend

The sociological analysis of the reality of everyday life is based on the assumption that the basis of human coexistence is a shared interpretation of the phenomena of the world around us, derived from and maintained by social interactions, mainly communication and language. The commonly shared personal realities then constitute institutions, which uphold their specific norms and serve as the basis for social expectations in the future (Hidas 2018; Arató–Balázs 2022). The three pillars of cultural knowledge are 1) the personal reality of the many, 2) the presence of relevant social institutions, and 3) their underlying norms and values (Berger–Luckmann 1966). In the following, the psychological type of cultural knowledge literature will also be organised into these three groups.

In *Towards a Sociological Understanding of Psychoanalysis*, Peter L. Berger wrote, “if Freud had not existed, he would have had to be invented” (Berger 1965: 38). And so, the social influence of the father of psychoanalysis, Sigmund Freud (1856–1939), exceeds his scientific impact when analysing contemporary culture and social relations. The overture of therapeutic culture dates back to 1909, when Freud lectured at Clark University in the United States. Because of the speaker’s charisma, his findings could easily be

intertwined and utilised by the dominant American protestant-utilitarian value system and the influential audience; the lectures had an unparalleled influence on society. Psychoanalysis gave a new impetus to the intellectual life of the U.S. and became an unavoidable social phenomenon by the late 50's (Lunbeck 2014). In 1957, *The Age of Psychology* was officially proclaimed by the psychologist-journalist Ernest Havemann. Havemann's book was the first attempt to trace the path of how psychological knowledge became part of American culture both on the surface (e.g. on the level of self-help literature and commonly used expressions) and deep down (e.g. on the structural levels of education, family, or corporate life, and in medicine). First of all, journalism could capture the personal reality of the masses and the extent of the newly-forming, consensual *social imagination* (Mills 1959) without theorising, because it grew together with popular trends and must have been a "sensational", groundbreaking novelty too. The therapeutic turn of the Fifties was accompanied by the trend that "everybody talked about their therapist"; 9 out of 10 daily newspapers carried at least one psychological column, and besides bestsellers, the monthly circulation of thematic magazines reached the tens of millions. In the entertainment world, the psychologist became a stock character, and storylines were often based on a psychiatric problem too (Havemann 1957: 8–9). Slang and jokes reflected the changing cultural climate, with words and phrases such as complex, ego, fixation, obsession, unconscious, etc. The "turn" occurred in the 1970s as psychoanalysis became part of medicine, and since then, psychology has been present in developed countries.

Although scientific literature still lacks a consensual definition of therapeutic culture, comprehensive studies investigate the phenomenon's main theoretical traditions (see also Illouz 2008, Wright 2011, Madsen 2014; Amouroux et al. 2023). Our non-exhaustive list of scholarly works focuses on the most far-reaching examples in each area. On the one hand, the overextending nature of psychotherapy is investigated, which is identical to the examination of institutionalisation from the sociology of knowledge perspective. In this case, studies investigate various social subsystems. The cultural success of psychological knowledge is mainly attributed to the quick institutionalisation of psychoanalysis, including national and international societies, conferences, and journals (Illouz 2008: 26–37). In addition, the role of psychoanalytic techniques has been detected in management practices and corporate culture (Whyte 2002 [1956]), while the Hungarian-born American psychiatrist Thomas Szasz investigated, among others, psychology's growing influence in the medical field (Szasz 1960). Furthermore, psychological

attitude is viewed as a consistent framework that has transformed legal and bureaucratic institutions (Foucault 2020), education and child-rearing (Storr 2017), and marriage and relationships (Illouz 2007). Rieff (1987 [1966]) and Vitz (1994 [1977]) noted that psychology as a worldview became a substitute for or a counterpart to a religion, and may be understood from the angle of “secular religions” (comp. Nyirkos 2025).

On the other hand, literature provides a cultural critique of therapeutic culture, investigating the changing norms and values, and thus the changing modes of subjectivation. It meant the transforming concepts of authority, obedience, and conformity, while on the individual level it went together with the tormenting question of autonomy, self-reliance, self-expression, and the quest for searching authenticity, admiration, and enjoyment at the same time (Cloud 1998.) The first group of scholars catches the change in norms and values from the communitarian point of view (Kepe 2022). It identifies the therapeutic trend as the cause and driving force of a shift in cultural values from a collective and traditionalist worldview toward an expressive individualistic, liberal, and neocapitalist way of thinking (Bellah 1985). “Other-directed man” (Riesman 1973 [1950]), “psychological man” (Rieff 1987 [1966]), “the fall of public man” (Sennett 1998 [1977]), “the culture of narcissism” (Lasch 1996 [1978]), or the emergence of a “therapeutic order” (Lears 1981) were milestones of a cultural change, that ultimately led to the decline of Western culture in the eye of leading social theorists. The emerging theoretical model became common knowledge in 1976, with the article entitled “*The ‘Me’ Decade.*” The author, Tom Wolfe, described and mentally framed the general phenomenon through his declaration in the media. Wolfe explained the rugged individualist, atomised, and anxious reality shared by many as the opposite of previously prevailing social values. It declared the third awakening, referring to the obsession with the self and the development of religion being replaced as a world-ordering principle by psychology (Wolfe 1976).

The other mode of criticism has drawn upon Michel Foucault’s theory of power and technologies of the self. According to Foucault, the socio-cultural order that emerged in the 18th century and the capitalist economic system that accompanied it included a social organising principle with its methods, procedures, and institutions, based on epistemological knowledge (Foucault 1996 [1976].) This “moment gave birth to the sciences of man”, and “human sciences” worked inside the individual’s soul and used the knowledge that emerged in the process in an organised manner. And thus psychology, psychiatry, and sociology became possible and desirable (Foucault 1990: 263 [1975].) Epistemological knowledge – equivalent to

therapeutic attitude – made individualisation a method of exercising power, which directed individuals toward themselves and developed a narcissistic relationship to the world (Kepe 2023). Foucault's Panopticon became the metaphor of modern surveillance through introspection (Haggerty 2006; Lyon 2008; Caluya 2010; Han 2017), and his legacy serves as the basis for the critique of neoliberal governmentality (Donzelot 1977; Castel et al. 1979; Rose 1999). The significance of the Foucauldian theoretical tradition is that it links identity formation to the technological apparatus and, more narrowly, to social media.

Social media as a driver of the therapeutic trend

Social media is a comprehensive term for online media platforms that rely on user interactivity and include interfaces created for various purposes. The popularity of social media can be explained by the idea that it fits the logic of the therapeutic trend and incorporates psychological norms and procedures into itself. In this sense, the invention of social media reflected on and grew out of a blooming therapeutic culture on the ground of communication technology.

According to the sociology of knowledge, the reality of the many is maintained, deconstructed, and recreated by communication. From the point of view of Illouz, in a therapeutic culture, the new model of sociability is most noticeably the model of communication (Illouz 2008: 58–61). Psychology has created a theoretical model that encourages confession and the verbalisation of feelings (comp. Balázs–Dede 2022; Kövecses et al 2024), contributing to the ongoing maintenance of therapeutic values and social reality. In the 21st century, this perpetual recognition is driven by social media (Richards–Brown 2011). Social media platforms are not just places where communication and permanent self-realisation happen, but algorithms are programmed to reward connections, shares, comments, and reactions. Accordingly, intellectual and technological incentives are in line with each other. Average screen time statistics show globally and in Hungary that users between the ages of 15 and 65 spend around 6 hours and 40 minutes per day on the screen, and around 80 per cent of this time is spent on social media (Duarte 2025). Indeed, sites are getting an even larger share of the permanently growing screen time year by year. So, social media is becoming increasingly the way people experience communication.

First, examining the therapeutic nature of social media is possible by understanding the nature of digitalisation. The idea of social media was

prefigured by the emergence of algorithmic thinking, which has been “the greatest intellectual shock of the 20th century” (Burckhardt–Höfer 2018:11 [2015]). Algorithmic thinking stems from the paradigm-shifting, enlightened premise that all phenomena of the world can be understood, through this equated, and practically transformed into a sequence of numbers consisting the digits 0 and 1. Digitalisation and psychology essentially have in common that they consider the subject of their study to be dissolvable and configurable. The therapeutic nature of social media sites can be captured in the quality that they contribute to the realisation of the self as a project. To this end, personal profiles divide the individual into measurable categories, along with utilitarian principles, for the sake of monetisation. As represented above, communitarian thinkers have criticised psychology mainly for its individualising tendency. This tendency occurs “programmed” in the digital space, as the sites’ ultimate goal is segmenting the target group. In this sense, individualisation is just a by-product of the capitalist market logic and consumer society, maximised by the technological apparatus. From a Foucauldian perspective, the fact that social sites 1) individualise, i.e. subjectify users, 2) encourage them to engage in continuous self-reflection and self-observation, 3) so that they generate as much knowledge about themselves as possible in the online space is instrumental because it generates epistemological knowledge and thereby ensures the new type of power to remain in motion (Foucault 1990: 263 [1975]), Foucault 2002: 83–85 [1973]).

Therapeutic culture’s individualising tendencies can be captured by giving personal answers to structural and social challenges. Understanding subjectivation from the technological apparatus perspective means necessary personalisation on the sites facilitated by algorithms to document, classify, and serve users. Compared to centrally edited content in newspapers or television, everyone receives personalised recommendations, rewards, and content on social media. Experienced uniqueness on the sites is just a part of mass consumption, fueled by psychological knowledge of man. Owing to Meta’s highly developed search methods, no two feeds are the same. The cost of personalisation may be the loss of shared meaning of the world. Without the same experiences and references, preserving a common understanding of standing norms and values becomes more difficult. However, psychological technology offers a conceptual, communicative, and self-oriented digital framework to navigate life smoothly without common ground.

The therapeutic nature of social media is also evident from the users’ perspective. Taking a step back, one of the central problems of modernity evolved around identity even before social media. For psychology, the self

is understood not as a given or eternal core of human beings, but as a project. Social media has become the sphere of identity creation, where the self-project is realised. Creating a profile requires, above all, self-awareness. The site's first direct attention inward: username, profile picture, relevant information in the "about me" or "what's on your mind" section must be provided during registration, and these milestones all require awareness of feelings and then their social media-compatible presentation. Every social site is psychological technology in that it presupposes a psychological understanding of the self. This is followed by the therapeutic verbalisation, or more precisely, the decisive textualisation of feelings. It should be noted that with the development of technology, self-expression is becoming increasingly multimedia: in addition to textual content, photos or images (even memes), music, and video content are gaining an increasing role. The steps of this are 1) defining the feelings, then 2) naming them condensed into psychological categories, 3) extracting them away from the speaker, and finally 4) performing all these feelings in the public sphere about the individual (Illouz 2007: 107). Therapeutic language has become a tool for re-creating the self, according to cultural norms in the digital sphere (Illouz 2008: 132–134).

Through identity formation, social media has exacerbated the long-lasting conflict between the self as a social performance and the self as an authentic expression of one's inner truth. From George Herbert Mead's discussion of the "I" and the 'me, to Erving Goffman's dramaturgical framework of self-presentation, many of the most influential theories of the self and identity have recognised the tension between the real and the pose. Now, social media sites transform the private self into public performance, allowing sociability to be experienced via psychological categories (Jurgenson 2019: 69–72). In 2023, *authenticity* became the word of the year according to Merriam-Webster, America's most trusted dictionary, which ranks popular terms based on the frequency of online searches and discussions, thanks to the increase of "stories and conversations about AI, celebrity culture, identity, and social media." Authenticity in social media means the quality of being genuine or real. The concept also derives from psychology and reflects the desire to be true to oneself. Even in their motto, YouTube (*Broadcast Yourself*), BeReal (*Your Friends For Real*), and X (*Blaze your glory!*) promise true self-expression and authentic connections. From this angle, *selfie*, also named word of the year in 2013, could be understood as a "technology of the self", the authentic expression of someone's inner essence. A self-portrait is not simply a photo, but the public product of self-realisation, on the level of communication, a visual representation of psychological thinking (Jurgenson 2019). In a psychological

sense, sites become where actual bodies, real personalities and honest opinions can be expressed and presented.

However, another consequence of individualisation is the growing need for reflexivity: the individual is continuously forced to reflect and be reflected on (Giddens 1991). On the one hand, without pre-given narratives, tradition cannot be called upon to help interpret the world. So, man has to devote more energy to individual meaning-making and is necessarily forced to relate the world's phenomena to himself and analyse them in relation to himself. In terms of language use, this may also explain why people are increasingly using adjectives that express emotions. Emoticons, GIFs, and customisable avatars encourage sharing emotions. Facebook even facilitates the expression of emotions by allowing users to specify their mood in each post. Although causality cannot be determined, the increasing use of the first-person singular, rather than the plural (including social sites too), and the increase in individualistic terms and phrases, may have changed everyday reality perceived by individuals (DeWall et al. 2011; Twenge et al. 2012, 2013). On the other hand, detraditionalisation also means that the individual becomes more dependent on external feedback. Social sites inevitably contribute to other-directedness (Riesman 1973 [1950]), or external locus of control, because they use numbers to make connections between things. Datafication brings about the quantification of thoughts and emotions. Users are necessarily dependent on the feedback of others, as their content spreads when it receives a lot of input from others, and acceptance derives from the number of viewers.

How to gain attention and acknowledgement? Therapeutic culture gave rise to a new self-definition narrative. It generates a narrative structure in which suffering and victimhood define the self. Life stories have a fixed form in every culture, and in the therapeutic one, "suffering becomes the central 'knot' of narrative" (Illouz 2008: 173). A difficult childhood, early disappointments, or previous bad relationships can explain present successes. The media have always been interested in the extraordinary, the unusual. On social media, content that deviates from the norm spreads more. Thus, content creators are happy to show their vulnerability and weaknesses in the spirit of the therapeutic approach. The sites romanticise suffering and surround it with "the glamour of misery" (Madsen 2014: 84). The psychological approach promotes retrospective storytelling, cyclical attitudes, and vulnerable identities. In social media, confessionalism of suffering gains increased attention. All this contributes to the "culture of victimhood", to quote Füredi's essay, since the human experience is consequently defined not by what people do but by what has happened to them (Füredi 1998). And

if vulnerability has become a key theoretical concept of our times, human beings' perceived reality also becomes vulnerable. Therapeutic persuasion has transformed moral problems into a disease, and thus profoundly transformed autobiographical discourse (Illouz 2008: 155). Thereby, various mental illnesses, such as madness (Foucault 2020), narcissism (Lunbeck 2014), depression (Ehrenberg 1998), or more recently burnout (Han 2015 [2010]) were discussed more in the context of changing norms and values, rather than as an actual increase in the number of cases. Since the therapeutic approach implies that people are not responsible for their situation, it also encourages them to seek external help (Madsen 2014: 127). Medicalisation refers to how everyday experiences become redefined as health problems. After the therapeutic turn, new forms of medicalisation emerged. These were largely independent from the psychological profession and have led to a broader cultural dynamic. There is now a growing tendency to normalise illness and seek therapeutic intervention as a means of defining and validating identity (Füredi 2008). Talking about therapy or motivational obstacles appeared as a way of improving reach on social sites. Content creators recognised the potential of this manner of speaking. Speaking about trauma is a source of capital, a cost-efficient commodity, because it requires low investment. Following telepsychology on television, in social media, trauma survivors and mental health influencers are rising stars (see also TikTok Therapy at Stein 2024). To bridge the gap, or close the circle, CreatorCare is a new telehealth therapy service launched in spring 2025, providing sliding-scale therapy specifically tailored to people working in the creator economy. The narrative framework and the algorithmic wiring of social media uphold the reality of many, based on the argument and value system of the therapeutic theoretical model.

Conclusion

As presented above, in a given society, cultural knowledge is born in the constantly evolving, dialectical relationship between individual reality, social institutions, and theoretical models, and the framework in which these dialectics work is communication. Thus, cultural knowledge is communicative, and understanding the nature of communication is essential to comprehend the present cultural framework – or, in other words, social imagination. According to our hypothesis, the leading communication technology, social media, is organised based on psychological attitude. Social media was conceptualised parallel to the features of the therapeutic trend,

namely understanding the self as a project, individualisation, subjectivation, self-expression, reflexivity, and the narrative of suffering. It is interpreted as an expression of a therapeutic attitude that supports therapeutic institutions and social imagination, consistent with the theoretical model. Along with this, this paper aimed to draw linguists' attention to significant linguistic markers (e.g. changing pronoun use or the popularisation of psychological terms), and the emergence of new genres (*TherapyTok*) in social media which could be the subjects of further investigation to understand better the reality of individuals and competing theoretical frameworks of our therapeutic times.

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**VIRTUALITY AND COMMUNICATION: EXAMINING REDDIT TEXTS IN TERMS
OF THE TRANSFORMATION OF DIGITAL COMMUNICATION NORMS AND
LINGUISTIC BEHAVIOUR PATTERNS**

Abstract

This study explores the transformation of digital communication norms and linguistic behaviour patterns through the lens of Reddit. This platform enables anonymous and semi-anonymous interactions within a multitude of subcultures. The research highlights how digital platforms shape politeness strategies, debate structures, and linguistic registers, particularly within the r/AskReddit community. By analysing the dynamics of disagreement, irony, personal attacks, and humour, the paper demonstrates how online discourse diverges from traditional face-to-face communication and reflects new norms of interaction. The study relies on theoretical frameworks in pragmatics and sociolinguistics, integrating recent empirical findings and qualitative discourse analysis. It concludes that Reddit's structure, anonymity, and feedback mechanisms contribute to both the erosion and creation of norms, resulting in a hybrid culture of democratic expression, performative identity, and community regulation. The findings are relevant for understanding digital pragmatics, teaching online communication, and framing future linguistic research in virtual spaces.

Keywords: Reddit; digital communication; online disinhibition; politeness strategies; discussion norms; anonymity; linguistic behaviour; sarcasm; virtual identity; community moderation

Introduction

The development of digital technology and the networking of everyday communication have fundamentally reshaped patterns of linguistic behaviour. Social media platforms, especially those allowing anonymous or semi-anonymous interactions like Reddit, have led to new communication norms. These norms can differ significantly from the rules typical of face-to-face interactions and present challenges and opportunities for linguistics, especially pragmatics and sociolinguistics (Chandrasekharan et al. 2018; Suler 2004).

Reddit is an exciting research area because it offers a unique opportunity to observe different communication norms as a platform. Reddit contains thematically organised forums, so-called subreddits, which have different

communication styles, politeness strategies, and language patterns. The uniqueness of this platform is that it provides opportunities for public interactions. Still, simultaneously, due to the possibility of anonymity, the so-called online disinhibition effect may be more pronounced, according to which users communicate more efficiently and openly than during face-to-face interactions (Suler 2004).

This study explores how norms and linguistic interpersonal communication patterns are changing among Reddit users. This research contributes to developing digital linguistics and pragmatics by helping us understand how virtual space reshapes human communication and what new language strategies emerge in the digital environment. The study's results may also be relevant for teaching digital communication and understanding future directions of social communication. This cross-context relevance is further reflected in the authors' recent studies. Rajcsányi-Molnár, Balázs, and András (2024) demonstrated that practical online leadership training in higher education demands adaptation to these evolving digital norms. Such insights bridge digital discourse with educational communication frameworks, showing that lessons from virtual interactions can inform pedagogical strategies in academia.

Digital communication norms and the Reddit platform

This chapter reviews the theoretical framework of general digital communication norms and then focuses on specific communication norms observed on the Reddit platform. In doing so, we discuss the characteristics of digital communication, the norm systems of different platforms, the transformation of politeness strategies, and the role of Reddit subcultures.

Digital, online communication has several unique characteristics that distinguish it from traditional, face-to-face interactions. First, non-verbal cues such as body language and tone of voice are often absent online, making it easier to misunderstand text-based messages alone. Communication is often asynchronous: the sender and receiver of a message are not present simultaneously, which allows for reflection on messages but also delays feedback. Furthermore, the Internet can provide a high degree of anonymity and distance: users often communicate anonymously, without revealing their real names, and speak to physically distant, even unknown, audiences. This psychological distance and anonymity greatly influence the norms of communication (Arató–Balázs 2023; Vaughan–Szűts–Novák 2024).

One of the essential psychological phenomena of digital communication is the so-called online disinhibition effect, or the release of inhibitions. Suler

(2004) calls the online disinhibition effect the phenomenon when Internet users express themselves more openly and do or say things in cyberspace that they would not do in physical reality, face to face. People “release” themselves online, feel less inhibited, and communicate more freely and honestly.

It is important to emphasise that online disinhibition can manifest in two ways, even opposite (Suler 2004). On the one hand, there is “benign” disinhibition, when users open up positively: sharing personal secrets, fears, desires, or showing unusual kindness and helpfulness towards others. On the other hand, we can talk about “toxic” disinhibition, during which harsh language, sharp criticism, anger or hatred appear, and even aggressive or deviant behaviours that the individual would not indulge in in real life. Anonymity, invisibility (hiding behind a monitor), asynchronous communication (no immediate consequences), the separation of personality from real identity, and the minimal presence of power authority are all factors that contribute to this effect (Suler 2004). Research has shown that, for example, people are more likely to use criticism or a more aggressive tone of voice in an online forum or email than they would in person (Kiesler et al. 1984). This phenomenon has been referred to as flaming since the 1980s: in the computer “subculture,” flaming referred initially to someone expressing their opinions more forcefully online, without any restraint, than they would in other communication situations. Early Internet communities reported that rudeness and personalisation were more likely to emerge in unmoderated online messaging, partly due to the lack of shared etiquette and partly to the anonymity and impersonal nature of the medium. All of this suggests that the digital environment can loosen social inhibitions, which, on the one hand, creates new opportunities for self-expression and poses challenges to maintaining norm-compliant, polite interactions.

Online communication norms are not uniform across the Internet; they can vary from platform to platform. As Virginia Shea said early on, “netiquette varies from platform to platform,” and what is acceptable in one online environment may be inappropriate in another (Shea 1994). Each digital platform and community develops its own set of norms, depending on the technical framework of the interface and the user culture. For example, a more formal tone and self-control are required on a business-oriented social network (e.g., LinkedIn). At the same time, a more direct or crude style is expected in an anonymous forum or gaming community. The given platform’s affordances also influence communication: in the world of 280-character Twitter messages, brevity and a sharp tone have become the norm, while in a professional Facebook group, polite, considerate speech is typical.

An example of differences between platforms is the change in politeness strategies in the online space. In many linguistic cultures, including Hungarian, it can be observed that traditional politeness norms are loosening in online communication. For example, on Hungarian-language online platforms, using a polite tone towards all strangers has become common, which in real life was previously only accepted in confidential relationships. While previously politeness was expected between strangers or official partners, today, politeness dominates with almost mandatory force in the public sphere of social media. This shows that communication in the digital environment has become more informal (Balázs 2018). Of course, this also depends on culture. According to some, the loosening of online linguistic etiquette reflects the democratisation of relationships, while others are concerned about the decline of traditional norms of respect (Balázs 2018). These changes do not necessarily mean the disappearance of politeness, but rather its transformation. Politeness strategies can also be observed in online communication – for example, positive feedback, emphasis with emoticons or smileys to indicate a friendly tone, and conflict-avoidant wording. However, it is common for users to express criticism or disagreement more openly than in person, which requires a new balance between politeness and honesty. Overall, the norms of online communication are evolving dynamically. The standards of politeness are adapting to the new medium: while some formalities are relaxed, new conventions emerge to maintain respectful and effective online communication (for example, previewing content in advance to avoid repeating previous questions, or understanding the flexibility of response times in a forum).

Reddit's communication norms and subcultures

Reddit is an excellent case study in the diversity of digital communication, as it creates countless distinct communities within a single platform. Reddit is structured into thematic forums called subreddits, each constituting a particular subculture. Accordingly, communication norms consist of general rules that are standard to Reddit as a whole and community-specific customs and expectations. Reddit also has a standard code of conduct, the so-called “Reddiquette”, an informal statement of values and behavioural guidelines written by Redditors for platform users. Reddit's core principles – such as “Remember that others are human too” or “Adhere to the same standards of behaviour online as you would in real life” – are applicable

across the platform, similar to other netiquette rules.¹ In addition, Reddit's official Content Policy prohibits certain behaviours, such as hate speech or harassment, and violations of which can result in a ban from the entire platform. These macro-level norms provide the core values of the community and the framework for safe communication.

The absolute uniqueness of Reddit lies in the fact that each subreddit has its own culture of norms. Each community formulates its own rules (usually published in the subreddit description or its targeted posts), and an implicit system of behavioural norms is also developed that members follow. According to research, three norms prevail on Reddit: macro-level norms are present almost everywhere (these are values and rules that apply to the entire Reddit), meso-level norms are standard among certain subreddit groups. In contrast, micro-level norms are characteristic only of a single community. For example, Chandrasekharan et al. (2018) showed in an empirical study covering 100 large subreddits that, in addition to the standard value system of Reddit users, many different, community-specific rules and expectations have developed: certain norms only exist in a given thematic circle (for example, in some humorous or professional subreddits), while other norms are shared in many communities, but are not necessarily universal. In other words, common courtesy or expected behaviour in one subreddit may be unusual or undesirable in another. Similarly, different digital environments cultivate communication standards and etiquette outside of Reddit. For instance, in a business communication course augmented by AI tools, instructors must establish explicit norms for human–AI interaction and professional discourse (Balázs et al. 2023). This reinforces that norms must be tailored to each community's context and purpose, whether engaging on a social platform or within an online educational setting.

Reddit's subcultures, therefore, play a vital role in shaping communication. Each community has its own "tone" and internal culture: for example, a scientific knowledge subreddit (e.g. r/ askscience) requires moderated, objective, and polite conversation, severely punishing condescending or off-topic comments, while a subreddit steeped in satirical humor (e.g. r/ memes) allows for crude language and teasing. The community feedback system, primarily the upvote/downvote mechanism, also reinforces adherence to norms: community members reward norm-compliant, valuable comments with positive votes, while norm-violating or inappropriate content is downvoted, making it less visible (Chandrasekharan et al. 2018). Reddit's decentralised moderation model – in which volunteer moderators oversee the order of each subreddit –

¹ support.reddithelp.comsupport.reddithelp.com.

allows different communities to develop their norms autonomously, but also challenges users to navigate the platform's diverse norms.

To participate effectively on Reddit (and other online communities), it is common practice for newcomers to first observe the community's operations – called “lurking” – before actively contributing. Reddit recommends that new members read the rules of a given subreddit and study previous conversations to familiarise themselves with the community's style before posting or commenting. This can help them avoid unintentional norm violations and learn the implicit communication norms of the subculture. Reddit users also often refer to the platform's unwritten rules, such as “Remember the human,” which warn about the importance of a polite, humane tone. All this shows that platform and subcultural norms shape communication on Reddit: global digital norms acquire local interpretations in individual communities.

Communication norms and social expectations

/r/AskReddit serves as a general question-and-answer forum, where the norms of communication are relatively open. Still, unwritten rules typical of Reddit and the subreddit's moderation principles also apply. The platform's pseudo-anonymity (using usernames instead of real names) creates a unique atmosphere: participants share their opinions more freely. However, anonymity sometimes allows for more crude expressions through the so-called online disinhibition effect (Suler 2004). Nevertheless, a civil, polite tone is generally expected in the *r/r/AskReddit* community – according to the moderators' rules, “users should behave civilly; personal attacks, insults will be removed, and in serious cases, a ban will follow” (Reddit n.d.). This official norm provides a framework for discussions, although enforcement may vary depending on the discourse dynamics.

Another critical community norm is that AskReddit focuses on answering questions and sharing personal stories and opinions. Commenters often draw on their own experiences and perspectives, as evidenced by the high use of first-person pronouns in AskReddit's longer comments (Messerli et al. 2025). In other words, communication often has a personal tone, which also influences the style of discussions: discourse is not just an abstract exchange of ideas, but frequently a clash of individual experiences. The norm in this environment is that users tolerate different life experiences. Still, if someone questions the authenticity of other people's accounts or generalises from their own experience, it can quickly generate a debate.

The rating system (upvote/downvote karma) is also part of the communication norms. The collective votes of the community indicate

which comments are considered valuable or incorrect. This can result in a “herd effect”: an opinion upvoted early on gains greater visibility, thus attracting further agreeing reactions (Muchnik et al. 2013). However, early downvoting does not necessarily lead to a “total fire” – research suggests that an unjustified downvote can have the opposite effect, and others may upvote the content to balance it out (Muchnik et al. 2013). This means that the AskReddit audience self-regulates discussions to a certain extent: comments with a style or content that the majority finds unacceptable receive negative feedback. In contrast, constructive or entertaining comments are rewarded with positive feedback. This mechanism incentivises users to conform to community expectations – for example, to avoid harsh attacks or to think through their comments first if they do not want to be scolded by the “famous” Reddit hivemind.

The AskReddit norm system encourages open, informal conversation, but implicitly expects a sober tone and respect for the experiences of others. In the following, we examine how participants handle disagreements in practice in this environment and what discussion styles can be observed.

In sizeable public forum discussions, disagreements are inevitable. What’s unique about r/r/AskReddit is that the questions that start the conversation aren’t necessarily meant to be discussion-provoking—they’re often more about sharing personal experiences or gathering opinions. However, when a response or opinion sparks controversy, the discourse unfolds in a characteristic pattern:

Disjointed threads: Because Reddit’s structure allows for tree-like comment threads, each disagreement often occurs in a separate thread, separate from the discussion of the other replies. For example, if a user makes a bold claim responding to a question, dozens of replies may erupt into heated debates below it. At the same time, other top-level comments remain peacefully engaged in light storytelling. The discourse is thus fragmented: parallel mini-discussions occur about different aspects of the main topic. This discourse structure allows users who are not interested in the conflict to ignore the threads of contention, while those interested can delve deeper into them.

Expressing a dissenting opinion: When someone disagrees with a statement, there are typically two approaches. One is a polite, constructive rebuttal, where the responder acknowledges the other person’s point of view before stating their own. It’s common for such a comment to start with something like, “I understand what you’re saying, however, I think...” or “It’s true that X, but Y...” This strategy helps soften the disagreement’s edge and maintain a civil tone. The other approach is direct, unvarnished rebuttal, where the

commenter states their disagreement straight away: e.g., “You’re completely wrong, that’s stupid.” These two approaches initiate different discourse dynamics: the former often results in rational dialogue, while the latter can quickly escalate into personal attacks or insults.

Reactions and escalation or resolution: If the parties continue the discussion, it is possible to observe how they handle the further development of the disagreement. In many cases, the discussion escalates: the parties defend their position more and more strongly, provide additional arguments and evidence (links, sources). On Reddit, it is common for someone to refer to or link to an external source (e.g. an article, Wikipedia) to support their truth, especially in factual disputes. However, it is common for the discussion to be resolved with humour or a punchline: a third party may insert a witty remark that everyone laughs at, thus closing the fruitless debate. Sometimes, the disputing party himself will back down from the confrontational tone with a joking or self-ironic remark, indicating that he does not want the conflict to turn into personal hostility. Other times, however, the discussion stops without consensus: one party does not respond further. Due to the asynchronous nature of Reddit, discourse often becomes stale – parties do not return to the thread days later, leaving the discussion unresolved but archived as a lesson for the community.

Community intervention: It is noteworthy that outside observers often intervene during disagreements. For example, when the tone between two users becomes heated, a third person usually calls on them to calm down or get back on topic: “Guys, keep it civil”, or “Let’s not get personal, let’s stay on topic.” Such intervenors act as guardians of community norms, reminding debaters of Reddiquette (Reddit’s unwritten code of conduct) and the rules of the subreddit. This kind of norm control helps to prevent conflicts from escalating. If the discussion does take an offensive turn, moderators can also intervene: warnings and comment removals signal to the parties that the boundary has been crossed. For example, a moderator message (“ Removed: Personal attack ”) may appear in place of a deleted post, which is a clear indication that the discourse has crossed the line of permissible style.

Overall, the handling of r/r/AskReddit discussions suggests that although the community is not a thematically narrow discussion forum (like ar/ar/ChangeMyView, where they specifically focus on debate and persuasion), a culture of discussion has nevertheless developed, where conflicts are mostly contained. In the following subsection, we will examine the linguistic strategies used in discussions, focusing on politeness, irony, personal attacks and humour, and illustrate their operation in AskReddit discourse with specific examples.

Discussion styles and language strategies in AskReddit posts

/r/AskReddit, various linguistic strategies are observed, with which participants assert their positions or manage their relationship with the other party. These strategies often influence the tone and outcome of the discussion. Below, we discuss the most typical ones – politeness, irony/sarcasm, personal attacks, and humour – each presented with a brief example and analysis.

While the online anonymous environment can often be a hotbed of impoliteness, AskReddit is surprisingly rich in examples of polite debate. By politeness, we mean primarily when commenters pay attention to the other person's "face" and avoid attacking the other person's position crudely or offensively. Based on Brown and Levinson's (1987) classic politeness theory, this can manifest as negative politeness (when the debater avoids offending the other party, e.g., by using careful phrasing, apologising) or positive politeness (when they seek common ground, emphasising points of agreement).

Research shows that in specific debate-centric communities on Reddit (e.g. *r/ ChangeMyView*), disagreements are predominantly expressed through negative politeness strategies – meaning users use indirect, mitigating phrases like "I see your point, but ..." or "With stand due respect, I have lake disagree ...", thus minimising the threat to the other party (Lukonas 2024). Similar examples can be found on *r/r/AskReddit*. Here is an anonymised quote from the corpus that demonstrates a polite disagreement:

User A: "I think parents should always financially support their kids through college."

User B: "I understand where you're coming from, and I agree it's great when they can. However, I respectfully disagree that they always should – some can't afford it, and it might teach independence."

In this short excerpt, User B first indicates his understanding ("I understand where you're coming from"), also expresses a little agreement ("I agree it's great when ..." – this is a sign of positive politeness, looking for a common denominator), and then after "however" he politely expresses his disagreement. He explicitly uses "I respectfully disagree", a clear example of conventional politeness. This strategy allows the disagreement not to become offensive: B does not say "you are wrong", but emphasises his perspective ("I [...] disagree that they always should – some simply can't ..."), supported by arguments. Such linguistic solutions contribute to keeping the discussion constructive.

Polite phrasing also has practical benefits in online debates: research has shown that politely phrased disagreements can be more effective in persuasion

and debate outcomes. Chiu et al. (2022) found that in an experimental online debate environment, “polite dissenters” more often won over their audience and partners than rude debaters. In other words, politeness is not just a moral or normative issue, but also has pragmatic benefits: the audience remains more open, and the debate is less likely to run into dead ends.

Of course, on AskReddit, it also happens that someone does not use these politeness tools. Such bald-on-record (Brown–Levinson 1987) expressions – e.g. “No, you’re wrong. That’s a terrible idea.” – tend to receive less positive feedback, often receiving downvotes or criticism from other users. Overall, however, the community values respectful discussion, and many users consciously strive for this when engaging in disagreement.

In online discourses, including Reddit, irony and sarcasm are widespread strategies. These linguistic devices can serve humorous purposes and critical expressions in the discussion. Through irony, the user expresses his opinion indirectly and implicitly, often saying the opposite of his thoughts, drawing attention to the perceived absurdity or flaw of the other party’s position.

We regularly encounter sarcastic replies in AskReddit posts, especially when a user has made a highly controversial or provocative claim. Here’s an example of a typical sarcastic response:

User C: “Everyone” who struggles financially is fair lazy, they should work harder.”

User D: “Oh, absolutely, because no hard-working person ever faces money problems. 🙄/s”

Here, User D intentionally feigns exaggerated agreement (“Oh absolutely, because no hard work person ever faces money problems”), then emphasises that it is sarcasm with an eye-rolling emoji and the “/s” symbol. “/s” is a standard meta tag on Reddit and many online platforms, which explicitly indicates to readers that the previous statement is meant to be taken ironically (Hew et al 2024). This is often necessary because irony can be easily misunderstood in purely written communication due to the lack of emphasis and facial expressions. Hew et al. (2024) found in their study of AskReddit comments that users consciously use the “/s” notation mainly in sensitive, socio-moral topics – for example, it is seen more often in political, racial or other divisive issues, since in these contexts it is imperative to avoid misunderstanding and social condemnation. The above example also deals with a socially sensitive topic (causes of poverty), so D will surely get the sarcastic emphasis across.

Sarcasm has a dual function: on the one hand, it acts as a striking retort – D thereby ridicules C’s simplistic opinion in one fell swoop, without engaging

in a lengthy argument; on the other hand, it also acts as a stress-relieving humor for outside readers, as a good sarcastic comment can generate many upvotes and cheers. However, it is essential to note that sarcasm can also be considered a negative irony, because it often carries a kind of hidden aggression: D is mocking C's view. The argument can become even more heated if C does not take it well. So sarcasm is a risky strategy: it can have high rewards (entertaining the audience, strikingly destroying the opponent's argument), but it comes at the cost of humiliating the target, which can incite further conflict.

In any case, sarcasm is such an established element on AskReddit that the community treats its recognition as an expectation. Those who do not understand obvious irony are sometimes jokingly called "Reddit-intolerant". It also happens that sarcasm is not even marked with "/ s", trusting that the context is clear. Irony and sarcasm are integral to AskReddit's discussion culture, which maintains the community experience (humour, entertainment) and serves discussion strategy goals (indirect criticism, position defence).

All good intentions and moderation, personal attacks and rude, even aggressive, expressions sometimes occur in online discussions, including on AskReddit. These messages, classified as flaming, attempt to discredit or anger the other party by insulting, belittling, or denigrating them. They often appear when the discussion becomes highly polarised or one party's frustration reaches its limit.

A typical example of a personal remark is when the debater does not criticise the argument but attacks the other person. For instance, in an angry reaction, someone might write: "Only an idiot would say something like that." (Only an idiot would say that.) Such *ad hominem* attacks immediately turn the tone sour. The attacked party can ignore it, retaliate, or try to correct the attack calmly. However, it is common for the offended party to get personal, creating a real "flame" war, in which the original topic is pushed into the background and the parties focus on insulting each other.

It is worth noting that the AskReddit community and its moderators do not tolerate personal attacks well. As mentioned earlier, the rules prohibit this, and according to community norms, anyone who does so is considered a "bad debater." Accordingly, users often quickly downvote personal comments, which moderators can remove. We found examples of this in our corpus. In a more extended discussion thread, where one party finally lost patience and resorted to insults, their comment was replaced within minutes with a moderation flag ("[comment removed: rule violation]"). In discourse, this typically results in a break – the discussion stalls, or more cultured debaters try to get the conversation back on track.

However, there are interesting borderline cases: sometimes the community perceives an offensive comment as humorous or justified indignation, and even rates it as such. For example, if someone makes a highly insensitive statement, an irritated response like “You have no idea what you’re talking about, this is extremely ignorant” (You have no idea what you’re talking about, that’s an incredibly ignorant statement), although harsh, may be justified according to some in the community. Cases like this show that context matters a lot: the audience weighs in on who “deserved” the harsh response. However, persistently aggressive or baseless personal attacks are a turn-off for most AskReddit members.

From a communication theory perspective, personal attacks highlight the downside of anonymity: some users are much less inhibited by the lack of consequences (Suler 2004) and may even describe things they would not do face to face. At the same time, Reddit’s structural and community control mechanisms – the rating system, moderation, and peer feedback – generally ensure that flame doesn’t dominate the forum. This way, AskReddit maintains its friendly, if occasionally outspoken, discussion culture, and genuinely destructive communication remains the exception rather than the norm.

AskReddit discourse cannot be overemphasised. This subreddit is famous because even serious questions are always accompanied by funny, witty, meme-like answers, and the community values entertaining content. Humour is not only a goal (entertaining others, collecting upvotes), but also a tool in communication, including discussions.

Humour often functions as a de-escalation mechanism in arguments. When the heat rises between two or more users, one may respond with a joke instead of further fueling the conflict. For example, in an argument where A and B are already taking very different positions in heated tones, User A suddenly says, “Alright, I think we’ve both made our points. Let’s agree that pineapple on pizza is a topic we’ll never settle 😊.” This instantly elevates the conversation to a new level, using a famous internet debate (pineapple on pizza) metaphor to make a joke out of the disagreement. If User B is receptive to humour, they may laugh or respond with a joke, ending the angry exchange. Humour thus allows for avoiding “loss of face”: the parties can close the argument without openly apologising or declaring a winner – laughter essentially nullifies the conflict.

In other cases, humour remains an integral part of the discussion: it does not resolve the disagreement but makes the tone more friendly. Common strategies: self-irony (when someone mocks their previous position or vehemence afterwards), overgeneration (hyperbole – e.g. “If you’re serious

about that, I bet you're Thanos incognito and you'd wipe out half the universe, right? ☹️" to an overly harsh opinion), or the inclusion of light-hearted memes (e.g. turning a well-known movie quote upside down on the subject of the discussion). These solutions also provide enjoyment to the audience – according to Baym (1995), humour is critical in creating social meaning in online communities, i.e. it is a strong community-building force. A humorous post can receive many positive reactions, indicating that the community values humorous treatment even on serious topics.

Of course, humour can also be a distraction: not everyone agrees on what is funny. Some people think that a humorous response trivialises the problem, for example, under posts labelled [Serious] (where the questioner indicates explicitly a serious, personal topic and asks that people not joke), humorous off-topic comments are strictly prohibited and are quickly removed. This is also part of the discussion culture: recognising when humour is appropriate and when it is not. The AskReddit audience guides in this by what they respond positively to. In general, humour works well when the discussion is about to turn into a dead end or too sombre - in such cases, a shared laugh brings the conversation back to a more human, friendly level. However, if humour arrives prematurely, instead of an honest exchange of ideas (e.g. someone only responds to an essential point with jokes instead of serious arguments), many people may find it frustrating.

Humour is a lubricant in AskReddit discussions: it reduces friction and helps maintain community cohesion even amid disagreements. If you use it skillfully – for example, by using self-irony to indicate that you are aware of the absurdity of the discussion – you can quickly become the “winner of the debate” in the eyes of the audience without defeating the other side on the level of arguments.

Consequences for language use and social interactions

The communicative norms and strategies observed on Reddit show how digitalisation shapes language use and social interaction. Regarding language use, Reddit discourse has a unique written and spoken language mix. The language of the comments is generally informal and colloquial – often resembling orality – but is also written, thus preserving the permanence and plannability of the written text. This mix has led to a new linguistic register, full of Internet slang, emojis, GIFs and formatting tricks (e.g. to indicate irony, italics for emphasis, etc.). Language has become more flexible: users creatively shape linguistic norms, and new forms spread quickly in

the community. This kind of virtual linguistic evolution has created a new arena of social interactions, where traditional grammar and stylistics are partly rewritten based on norms consensually accepted by the community. At the same time, Reddit discourse also has a norm-forming power: since many, especially young, users interact on this platform daily, the modes of expression developed on Reddit can filter into other communication spaces and even into everyday speech. For example, it is not uncommon for a popular Reddit joke or meme to become part of the Internet vernacular as a phrase.

Social interactions and community: In the case of Reddit, communication does not occur solely between two individuals, but is part of a broader community interaction. Users communicate with the crowd and the individual simultaneously: their answer to an AskReddit question can be a personal story for the community. At the same time, someone can respond to them specifically in a thread. This multi-layered interaction results in a specific discussion culture. On the one hand, a public discussion can encourage participants to express themselves more coherently and clearly (since many “ears” are listening), and to try to prove their claims, for example, with links and sources, if it is a serious topic. On the other hand, the mass presence can also make it challenging to have a meaningful dialogue: popular comments often have hundreds of sub-discussions, making it difficult to keep track of who is responding to what. The discussion culture is thus fragmented: instead of being a single discussion thread, comments appear in a file-like branching structure. As a result, instead of a collaborative search for truth, discussions on Reddit often appear as parallel monologues. Everyone throws their own opinion or joke, without reaching a common conclusion. At the same time, it is essential to highlight that Reddit’s community mechanisms (rating, moderation) still force the discourse to self-correct to a certain extent: answers containing misleading information are often corrected or downvoted by others, and the community values relevant additions. We saw countless examples of “teaching each other” and informal knowledge dissemination on AskReddit, which suggests a collective normative expectation in the community for meaningful dialogue, even if this is often implemented in a humorous or informal style.

Identity and social relationships: Changes in language use and interaction patterns also affect social relationships. On Reddit, the role of personal identity is minimised, paradoxically increasing honesty and reducing responsibility. The previous chapters have drawn attention to the fact that Reddit is a testing ground for identity for many users: they can show different faces on different forums without affecting their offline personality. This provides opportunities

for positive self-expression – for example, sharing desires and opinions they would suppress in their everyday environment – and hostile behaviour, since actions rarely have personal consequences. Therefore, in Reddit’s discussion culture, community approval (in the form of upvotes) has become one of the main regulating factors instead of individual responsibility. However, this dynamic also awakens a sense of responsibility at the community level: users learn that they are responsible for the quality of the community, since they shape the direction of the discourse with their votes and reactions. Thus, Reddit is a space for individualistic and collectivist communication. It is individualistic because every voice has an equal chance of being anonymous, but collectivist in the sense that the community decides which voices to elevate and which to suppress.

Conclusion

The example of Reddit clearly shows that online platforms are rewriting the rulebook of social interaction. The transformation of communication norms – the duality of freedom and irresponsibility due to anonymity, the new dynamics of debate arising from asynchrony, humour and sarcasm as a mediating language, and community feedback as a value regulator – all contribute to the emergence of a new linguistic culture. This culture is once more democratic (since anyone can contribute and the best ideas or jokes emerge), but also more fragmented and unpredictable than the world of traditional dialogue. Our social interactions are increasingly supplemented by this virtual layer, where language is not just a means of communicating information. Still, also a source of social play, identity laboratory, and collective experience. This notion of a virtual “identity laboratory” resonates beyond social media. For instance, in higher education environments, the authors’ AVATAR project (Balázs et al. 2024) similarly leverages a digital persona to monitor student engagement and success, reducing dropout rates through proactive feedback. Such parallels suggest that managing identity in virtual spaces, be it on Reddit or in an online classroom, can significantly influence community outcomes and norms. Reddit’s culture of debate suggests that new norms are needed in digital communication, norms that retain the benefits of open discourse and creative self-expression while addressing the challenges of misunderstanding, anonymity, and mass interaction. The challenge lies in that community members collaboratively developed and maintained these norms, continually reflecting on how language and social interaction are changing in the virtual world.

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SHARED WOUNDS, SHARED WORDS: THE ROLE OF METAPHOR IN
BUILDING ONLINE GROUP NARRATIVES OF INFERTILITY

Abstract

In this study, the authors investigate how metaphor use in online infertility forums can influence personal disclosure and the group's illness identity. Infertility is a growing public health concern in Hungary, where, according to the latest statistics, the reproduction rate has plummeted to an all-time low. This, in turn, elevates the role of online forums as unique spaces that provide anonymity, community support, and an opportunity to renegotiate and normalise one's identity within the context of illness. However, little is known about how a specific linguistic feature – namely metaphor – can impact user engagement and emotional openness in these online spaces. The findings reveal that forums with metaphor-rich opening posts prompt greater subsequent metaphor use and personal sharing among participants, fostering greater openness. The metaphors used in the analysed forums helped create a shared narrative that can enhance trust and emotional expression within the community, suggesting that metaphors, beyond their meaning-making function, also serve as a cohesive force in online forums.

Keywords: infertility metaphors, peer-to-peer online forums, collective narrative, infertility discourse, metaphor density, metaphor distribution

Introduction

“A woman is willing to do anything for two things: to have a child, and not to have a child.” This well-known saying exemplifies the strong emotional and social significance attached to decisions and experiences related to reproduction. Although there is considerable public discourse on how to avoid having children, the conversation tends to get quieter regarding how to *have* children, especially when problems arise.

Infertility can be defined as the inability to conceive, or in other words, not being able to achieve a clinical pregnancy after one year of regular unprotected intercourse (Zegers-Hochschild et al. 2009). It can come unexpectedly, and the diagnosis itself can have such a devastating impact on an individual's mental state that it can be likened to a chronic illness or even grief (Leiblum–Greenfield 1997). According to the World Health Organization (WHO), one in six people is affected by infertility (WHO 2024). In Hungary, infertility

is becoming an increasingly pressing public health concern, due to very low birth rates and an ageing population,¹ thus prompting government support for childbearing. While starting a family features prominently in both the public and political discourse (Szabó–Sipos 2022), infertility itself remains largely unaddressed.

Couples facing infertility often experience intense emotional distress (Greil et al. 2011), not only because of their unmet desire for a child but also due to the significant social pressure surrounding them. They may feel they are falling short of expectations – those of their families, partners, and even their own. As Greil et al. (2011) argue, in cultures where a childfree lifestyle is socially accepted, women often experience infertility as a “secret stigma.” In those societies, however, where the idea of being childfree is not recognised, infertility is even more difficult to conceal. It tends to carry even greater stigma, especially in countries where expectations around parenthood are firm. The taboo surrounding infertility and the dominant cultural view that sexual and reproductive health is a private matter often make it difficult for people to discuss infertility in socially acceptable ways (MacGeorge–Wilkum 2012). If discussing infertility is difficult in traditional social settings, where else can people turn to share their stories and find support? In this study, we focus on exactly this question: the role of online forums as spaces where individuals affected by infertility can find peer support and shared understanding. For many, these online communities offer a sense of community belonging and social support; what is more, online forums also allow for anonymity when discussing very personal and intimate experiences that might otherwise be difficult to share in person (Malik–Coulson 2010; O’Connell et al. 2021). Yet, online peer support groups about infertility can also foster misinformation and negative collective emotions (Lin–Shorey 2023), further perpetuating the hardships of coming to terms with infertility. Given that online discussions can thus also “go wrong,” our central question is the following: What features of online posts concerning infertility promote personal disclosure?

The structure of the paper is as follows: in the next section we clarify what is meant by metaphors and we examine their role in articulating the lived experience of illness. We then investigate the unique features and relevance of online forums as spaces for illness-related discourse, which is followed by a description of the methodology we used for analysing the forum discussions and identifying the metaphors. We present and discuss the findings from the selected forum material and finally offer a couple of concluding reflections.

¹ According to the latest statistics, Hungary’s population has plummeted to an all-time low, with a reproduction rate of 1.28 children per woman (KSH 2025).

Metaphors and Meaning-Making in the Experience of Illness

The concepts of health and illness are primarily shaped by social and cultural factors (Davison et al. 2000), and their meanings can be understood through the analysis of the metaphorical language that we use to talk about them (Benczes–Burridge 2018). Conceptual Metaphor Theory was originally introduced by Lakoff and Johnson (1980), who argued that metaphor is not merely a rhetorical ornament but a fundamental cognitive process through which we make sense of the world (Lakoff–Johnson 1980). Metaphors serve as tools that help us understand one domain of experience in terms of another through a “[...] systematic set of correspondences between two domains of experience” (Kövecses 2017: 14).

In the context of health, conceptual metaphors play a central role in how individuals make sense of illness, offering insight into underlying knowledge structures such as schemas, mental models, and lay theories (Demjén–Semino 2017; Sopory 2005). Both patients and healthcare professionals use metaphors when discussing illness, as shown by studies that have explored this phenomenon from various perspectives. For example, researchers have compared the use of VIOLENCE and JOURNEY metaphors in online texts written by people living with cancer and their use by health professionals (Semino et al. 2017), examined metaphor use in Spanish-language blogs of individuals with severe mental illnesses alongside those of mental health professionals (Coll-Florit et al. 2021), and analysed a large corpus of texts from patients, family carers, and professionals to explore the varied use of VIOLENCE metaphors in the context of cancer and end-of-life care (Demmen et al. 2015). Lipowski (1970) identified different ways people interpret illness, such as a challenge, enemy, or punishment, and argued that these meanings shape coping strategies that can impact recovery (Hendricks et al. 2018). Similarly, Gibbs (2023) argues that metaphorical descriptions of the body and illness reveal how individuals uniquely understand and experience their conditions and recovery; therefore, listening to patients’ own metaphors helps therapists better grasp patients’ perspectives and respond to their needs.

Based on these insights, metaphor analysis might offer a meaningful way to explore how women experience and understand infertility. Online forums where this topic is discussed can serve as a rich resource for observing how women use metaphorical language to express their emotions and challenges, how they collectively make sense of infertility, and how metaphors can support mutual understanding and connections between forum users. This is supported by the fact that fertility patients often turn to peer mentoring and support through

these online platforms to fulfil their needs for shared experience and guidance throughout the treatment process (O’Connell et al. 2021). Consequently, these forums facilitate the exchange of valuable knowledge grounded in real-life experiences (Lin-Shorey 2023) and provide mutual emotional and social support, which can be empowering not only on a personal level but also in practical, social, and collective terms (Kingod et al. 2017).

Narrating Illness Together: The Role of Online Forums

Davison et al. (2000), in their study of illness support groups, draw on Festinger’s (1954) social comparison theory to explain why individuals often turn to others during times of illness. According to this theory, people have a basic need to evaluate their thoughts, feelings, and behaviours, especially in moments of uncertainty or distress (McCarthy–Morina 2020). People naturally compare themselves to others in healthcare situations. When facing a health challenge, they look to others not just for information, but also for guidance on how they should be thinking or feeling about their situation. This drive to compare oneself with others becomes a way to reduce anxiety and feel more grounded. In this way, these communities become more than just information hubs; they function as emotional anchors where users make sense of their experiences in dialogue with others who truly understand.

Yet, when confronted with an illness, why do people turn to complete strangers in the online space, rather than searching for in-person sources of support? When facing health challenges, individuals often seek more than just clinical facts; they also look for understanding, empathy, and the reassurance that comes from connecting with others who share similar experiences, which online communities can uniquely provide (Coulson 2019; Kingod et al. 2017; Naslund et al. 2016). Web 2.0 represents a major shift in the creation and consumption of online content; Szűts (2012) argues that this transformation is not merely technological but also rooted in communication, media, and art theories. With the rise of Web 2.0, peer-to-peer forums have gained global popularity, particularly among individuals with chronic illnesses, offering socially acceptable spaces where users can openly discuss their health concerns without the fear of burdening those around them (Kingod et al. 2017). Online forum communities function in many ways like real-life social groups, whose characteristics have been examined, for example, in the context of cancer support groups (Allison et al. 2021), long COVID (Day 2022), chronic illness (Lehardy–Fowers 2020), substance addiction (Rettie et al. 2021), eating disorder (Waller et al. 2021) or mental illness (Smit et al.

2023). While there are many similarities between real-life and online support groups, a key difference stands out: anonymity.

At the heart of choosing these online forums is the anonymity they provide, which allows individuals to share sensitive health experiences without fear of judgment (Hanna–Gough 2016). In this context, anonymity refers to the freedom to interact under a chosen nickname, keeping one's real identity hidden (Hirvonen 2022). Such features become especially important when the medical diagnosis, such as infertility, discourages self-disclosure due to the taboo nature of the condition and heightened concerns about privacy (Lee 2017; Zou et al. 2024). When it comes to stigmatised illnesses, forums can play a role in reducing or even challenging stigma by offering a space where users can connect with others in similar situations and openly discuss their concerns (Moore et al. 2020; Tseng et al. 2022).

Besides offering anonymity, these platforms also serve as a coping strategy, enabling users to connect and interact with others navigating similar circumstances (Hanley et al. 2019; Smith–Merry et al. 2019; Steiner–Farmer 2024; Wang et al. 2021). Building on this idea, this way of coping can be seen as a form of self-help, based on the belief that people facing similar challenges can support each other by coming together and drawing strength from the shared understanding that comes through their collective experience (Davison 2000; Tseng et al. 2022). Joining these groups can strengthen a sense of shared identity, and as people connect with others dealing with comparable issues, they often adopt common ways of thinking and acting around health (Harwood–Sparks 2003; McNamara–Parsons 2016; Upshaw 2019). Internet-based conversations of this nature tend to form intricate networks, structured around patterns of interaction and group dynamics (Laczkó 2021). Through the sharing of “autobiographical” stories – rooted in their personal experiences with illness, the healthcare system, treatments, and daily challenges, users engage in a form of collaborative identity work (Kingod et al. 2017). While a group identity is being formed, these forums also offer individuals the opportunity to rethink and reshape their personal identity. These personal narratives, while contributing to a broader group narrative shaped by shared difficulties and mutual understanding, also serve as tools for self-reflection and emotional support (Davison et al. 2000; Wang et al. 2021). In this way, online forums provide a unique space not only for social belonging but also for renegotiating and normalising one's individual identity within the context of illness (Kingod et al. 2017).

While some members of online forum communities actively contribute by sharing their personal experiences, others remain silent observers who

never comment, commonly referred to as “lurkers” (Badreddine–Blount 2021). What these individuals have in common is a drive for information-seeking and the validation of their personal experiences (Josefsson 2005; O’Connell et al., 2021). Information-seeking is another key coping strategy for patients, as it helps them gain a better understanding of their condition (Mason et al., 2020; Petersen et al., 2021). They seek practical advice on how to manage their daily lives and deal with their illness. Online peer-to-peer support offers several advantages over traditional offline support, such as the ability to exchange information instantly, unhindered access at any time, interaction at a comfortable pace, and asynchronous engagement, allowing participants to contribute without the need for real-time interaction (Lin-Shorey 2023; Steiner–Farmer 2024). These forums also overcome the limitations of location, connecting people from different geographical areas, including those they might not encounter in their everyday lives (Smith-Merry et al. 2019; Steiner–Farmer, 2024). This flexibility allows patients to access experience-based insights that they may not easily find on general medical websites (Josefsson 2005; Tseng et al. 2022). What makes these online communities further distinctive is the combination of both lay and professional knowledge. The internet enables those seeking health information not only to learn from others but also to contribute their own insights, making them active producers of medical knowledge (Campbell 2021; Rueger et al. 2021), often referred to as “patient knowledge” (Dumez–L’Espérance 2024; Pols 2014).

In sum, when facing illness, individuals often turn to online communities not just for information, but for connection. In the case of infertility, which is a condition that is often surrounded by silence and stigma, anonymous online forums offer a safe space for sharing experiences that may otherwise remain unspoken. While metaphors play a key role in meaning-making, can they also serve as a cohesive force that brings the community together?

This study explores which metaphors forum members use to describe and interpret infertility, what kind of reality these metaphors depict, and how shared, repeated metaphors shape the ways users relate to each other and exchange personal experiences on infertility forums. We expect that a metaphor-rich opening article will result in higher metaphor density and higher metaphor distribution in the subsequent forum discussion, thus contributing to increased group coherence and sharing of personal experiences.

Methodology

Data Collection

To address the research question, it was essential to identify Hungarian online forums where the topic of infertility is openly discussed. The website Hoxa.hu, which specifically targets a female audience, hosts several such forums. Hoxa.hu's forum interface allows users to filter discussions by topic. The corpus for this study was compiled using the site's internal search engine by typing in the Hungarian term for infertility (*meddőség*). From the filtered results, we filtered down those forums that began with a confessional forum starter article (n=6). These initial posts serve the same function as any other forum entry, but are typically longer and more narrative in style, often detailing the poster personal story. Some forum starters use rich metaphorical language, while others do not resort much to explicit metaphorical language. Other registered users then respond to these starter articles with comments, creating a chain of interaction. We then searched for two forums that contained a similar number of posts and a similar number of contributors, but essentially they differed in the metaphoricity of their opening article (i.e., there were explicit metaphors about the infertility experience versus there were no explicit metaphors about the infertility experience), to allow for a meaningful comparison. This distinction was particularly important from a research perspective, as the presence or absence of explicit metaphors about the infertility experience in the opening article could influence how subsequent contributors engaged with the discussion. If the initial post contained explicit metaphors about infertility, other users could potentially adopt these to build and shape their own illness narratives. In contrast, if the opening article did not contain metaphors about the infertility experience, then there were no established figurative frames for participants to draw upon in their own contributions. This contrast allowed us to explore whether the metaphoricity of the initial post had an observable effect on the quantity of metaphors used in later contributions, and whether it influenced the level of emotional openness in the overall discussion.

In the end, we managed to find two forums that fulfilled all these conditions. Forum 1's starter article contained several conceptual metaphors that conveyed deep emotional and physical struggles related to infertility, such as INFERTILE FEMALE BODY IS A STUMP, manifested explicitly in the following example sentence: "I felt/feel like a piece of stump."² Meanwhile,

² Although recent psycholinguistic evidence suggests that simile and metaphor is processed differently (see Roncaro et al. 2021), both are nevertheless conceptually similar in the

the opening article of Forum 2, despite its title “Infertility?”, set a non-tragic, conversational tone. It began with a retrospective narrative, recounting a seven-year relationship that led to marriage, followed by the couple’s relaxed and hopeful approach to conception. Despite the emotionally rich and detailed personal narrative presented in Forum 2’s opening article, no explicit metaphors were used in the text itself concerning infertility.³ Despite meeting our selection criteria, Forum 1 and Forum 2 were, however, rather different with respect to their length (see *Table 1*). This aspect in itself is noteworthy, which we will return to later on in the paper.

The comments of the two forums were collected into separate Word documents and later analysed using NVivo 14 software. To further protect participants’ privacy, nicknames were not included in the analysis; instead, each user was assigned a numerical code. This approach maintained anonymity while allowing for the tracking of metaphor use by individual contributors. The software’s coding stripes made it possible to observe how specific metaphors were repeated, how they evolved, or faded away across comments and users.

Table 1. Major Attributes of the Analysed Forums

	Forum 1	Forum 2
First Activity	02. 09. 2012	01. 08. 2011
Last Activity	26. 09. 2018	18. 03. 2015
Number of Posts	92	70
Number of Contributors	57	53
Forum’s Length	8,210 words	2,231 words

Method of Analysis

To identify metaphorical expressions about infertility used by forum participants, we employed the Metaphor Identification Procedure (MIP), developed by the Pragglejaz Group (2007). First, all comments from the two selected forums were thoroughly read to gain a full understanding. Next, each comment was broken down into individual lexical units, and their meanings were analysed within context. The basic, more general meanings of these units were determined using the online version of *Magyar Értelmező*

sense that similes also make language users aware that the source domain is operating as a different domain of reference. See Benczes et al. (2024: 8) for further details.

³ The text of the opening posts of Forum 1 and Forum 2 can be found in the Appendix.

Kéziszótár (The Explanatory Dictionary of the Hungarian Language 2021). When a unit's contextual meaning differed from, but was related to, its basic meaning, it was identified as metaphorical. In addition to applying the MIP, the principles of Metaphor-led Discourse Analysis (MDA) were also employed. MDA offers a particularly valuable lens for exploring forum interactions, as it foregrounds the temporal and interactive nature of metaphor use in discourse. Rooted in complexity and dynamic systems theories (Cameron et al. 2009), this approach treats metaphors not as static conceptual mappings but as emergent, evolving connections within social and cognitive systems (Cameron–Deignan 2006; Gibbs–Cameron 2008). This theoretical flexibility makes MDA especially well-suited for analysing discourse in social science contexts where interaction, adaptation, and meaning-making unfold dynamically over time.

While MIP provided a structured and reliable tool for the systematic identification of metaphorical expressions, it did not account for the broader discursive patterns or the interpersonal work metaphors perform in a conversation. MDA complemented this by enabling the tracing of framing metaphors and observing how participants adopted metaphorical framings introduced by others. Through this, it was possible to better understand not only what metaphors appeared in the forums, but also how they shaped the conversation. Eventually, we identified 68 metaphorical linguistic expressions representing 13 conceptual metaphors in Forum 1 and 14 metaphorical linguistic expressions representing 4 conceptual metaphors in Forum 2 (see *Table 2*).

Methodological Approach to Metaphor Coding and Metrics

Both the metaphorical linguistic expressions and the identified source domains were coded in NVivo 14. This allowed for a systematic categorisation of metaphor types, while also making it possible to track how certain source domains were activated and reused across the forum conversation. By organizing the data in this way, it became possible to observe not only the frequency of specific metaphor types but also their contextual function and interaction within the discourse. To better illustrate these patterns, the coded data were transferred into a vertical scatter plot chart, informed by NVivo 14's coding stripes. This method of representation offers a vastly different picture as compared to a simple frequency count, as it is able to illustrate how metaphor use appears, recurs, and fades throughout the posts. In this way, the charts serve as a visual imprint of the forum conversation's progression, which we will discuss in the next section.

To address the central research question of this study, we relied on three key concepts: *frequency*, *density*, and *distribution*. The notion of *frequency* refers to a metric that, in the context of this study, indicates the number of metaphorical linguistic expressions and conceptual metaphors relative to the overall length of the forum texts, measured in word count. Specifically, we calculated the ratio of metaphorical linguistic expressions to the total number of words, and likewise, the ratio of conceptual metaphors to the total number of words. This allowed us to determine how many instances of each occur per word, offering a normalized measure of metaphor use across the corpus. In Forum 1, the frequency of metaphorical linguistic expressions, calculated based on the total word count, is 121, meaning that one metaphorical linguistic expression occurs approximately every 121 words, while in Forum 2, the corresponding value is 159, indicating that one metaphorical linguistic expression occurs approximately every 159 words. Meanwhile, the *frequency* of conceptual metaphors in Forum 1 is 632, meaning that one conceptual metaphor occurs approximately every 632 words, whereas in Forum 2 it is 558, meaning that one conceptual metaphor occurs approximately every 558 words (see *Table 2*).

Table 2. The Frequency of Metaphorical Linguistic Expressions and Conceptual Metaphors in the Analysed Forums

	Forum 1	Forum 2
Number of Metaphorical Linguistic Expressions	68	14
Number of Conceptual Metaphors	13	4
Frequency of Metaphorical Linguistic Expressions	121	159
Frequency Conceptual Metaphors	632	558

Based on these results, it is not possible to determine definitively which forum is metaphorically more prominent. In fact, if we rely solely on the frequency of conceptual metaphors, one might even argue that Forum 2 is more impactful in this regard, as conceptual metaphors appear more frequently there (i.e., one every 558 words, compared to one every 632 words in Forum 1). However, if we look at the number of *posts* in the forums and divide this by the number of metaphorical linguistic expressions on the one hand and the number of conceptual metaphors on the other hand, a very different picture emerges, highlighting the differences between the two forums more clearly. For this reason, we introduced two additional measures: *metaphor density* and *metaphor distribution*. Metaphor density refers to the average number

of posts per metaphorical linguistic expression, while metaphor distribution refers to the average number of posts per conceptual metaphor. We turn to the discussion of the results in the next section.

Results and Discussion

Metaphor Density and Metaphor Distribution

Both selected forums began with a so-called “confessional” opening article, inviting responses from other users. The opening post of Forum 1 received 91 comments, while Forum 2’s opening post received 69 responses (see *Table 1*). Both forums are still open for commenting.

The metaphor density in Forum 1 is 1.4, meaning that there is one metaphorical linguistic expression occurring every 1.4 posts, while in Forum 2 the density value is 5, indicating one metaphorical linguistic expression every 5 posts. As for metaphor distribution, this value is 7 in Forum 1, meaning that there is one conceptual metaphor every 7 posts, whereas in Forum 2, the distribution value is 18, indicating one conceptual metaphor every 18 posts. Therefore, these two indicators highlight the difference between the two forums in terms of their metaphorical richness and usage patterns, indicating that Forum 1 has both higher metaphorical density and distribution than Forum 2.

It is essential to highlight that although the two forums are similar in the number of posts and contributors, the length of their content differs significantly. Forum 1 has 8,210 words, while Forum 2 contains 2,231 (see *Table 1*). This means that posts and discussions in Forum 1 resulted in longer contributions from commenters, whereas those in Forum 2 were shorter. This difference was also reflected in the use of metaphors. Metaphor usage was more prominent in Forum 1 than Forum 2, based on our calculations of the density and distribution indicators, which corresponded with a more detailed exploration of personal stories.

The vertical plot chart in *Figure 1* visualises the distribution and recurrence of metaphorical source domains across Forum 1’s comments and the initial forum-starter article. Each conceptual metaphor is represented along the horizontal axis (e.g., FIGHT, JOURNEY, CALVARY, etc.), while the vertical axis indicates the post number, tracing the metaphor’s appearance over time. The size of each data point signifies frequency – larger points indicate metaphors that occurred repeatedly in the same post.

Several metaphors, such as INFERTILITY IS A FIGHT, INFERTILITY IS A JOURNEY, and CONCEPTION IS A MIRACLE, display broad temporal distribution,

appearing in both early and later posts. This suggests they function as dominant or anchoring metaphors that structure ongoing discussions and are frequently picked up or echoed by multiple participants. For example, the FIGHT and JOURNEY metaphors show large data points dispersed across the timeline, indicating both recurrence and uptake by several users, characteristic features of framing metaphors in MDA. The CALVARY and ANGEL metaphors seem to appear intermittently and fade toward the later parts of the conversation. The religious and moral undertones of these metaphors (CALVARY evoking suffering and redemption, ANGEL suggesting purity or transcendence) might

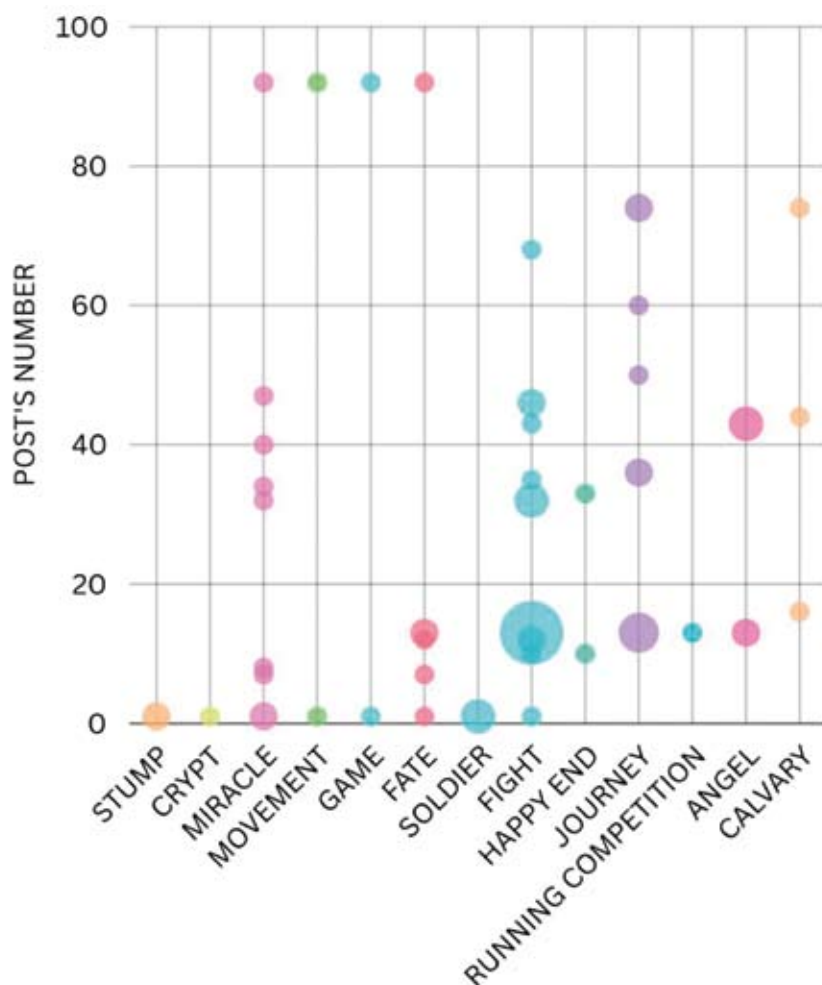


Figure 1. Temporal Distribution of Source Domains in Forum 1.

offer emotional resonance but are perhaps less interactionally flexible than the FIGHT or JOURNEY metaphors. Their disappearance may also reflect a shift in tone over time, from initial emotional framing to more pragmatic or solidarity-driven discourse. The visualization also hints at co-occurrence: certain metaphors, such as FIGHT, and JOURNEY tend to appear in proximity within the same or sequential posts. This points to metaphor clusters – multiple metaphors reinforcing each other’s framing, possibly shaping a collective emotional or interpretive stance toward infertility. Another point worth mentioning is that two metaphors found in Forum 1’s opening article, INFERTILE FEMALE BODY IS A STUMP and INFERTILE FEMALE BODY IS A CRYPT, did not reappear in any of the subsequent comments. The STUMP metaphor objectifies the female body, evoking an image of lost vitality, while the CRYPT metaphor associates infertility with death and silence. Their absence in later contributions may be due to their highly personal, emotionally intense, and potentially unsettling nature. This observation aligns with Turner and Littlemore’s (2023) discussion of creative metaphors, which often emerge in personal narratives to express deeply subjective experiences, particularly when individuals seek to convey their emotions. In this case, the metaphors in question may have served a unique expressive function for the original poster, but were not taken up by others, possibly because they did not resonate as shared expressions of experience or were too emotionally charged to invite further use.

In contrast to Forum 1, Forum 2’s discussion displayed a noticeably lower distribution of metaphor use and less narrative intimacy. As *Figure 2* indicates, the dominant conceptual metaphors identified in the comments were CONCEPTION IS A MIRACLE and INFERTILITY IS A JOURNEY. While these metaphors were present, the distribution of conceptual metaphors was more limited compared to the richer metaphorical landscape of Forum 1. Notably, the conversational tone in this forum appeared more restrained; fewer personal, emotionally detailed stories were shared by participants. The absence of metaphorical framing in the opening post might have shaped the interactional norms of the discussion, reducing emotional engagement and metaphorical elaboration. This supports the idea that forum-starter narratives play a critical role in cueing metaphorical and affective dimensions of discourse, influencing not only what is said but *how* participants express and frame their experiences.

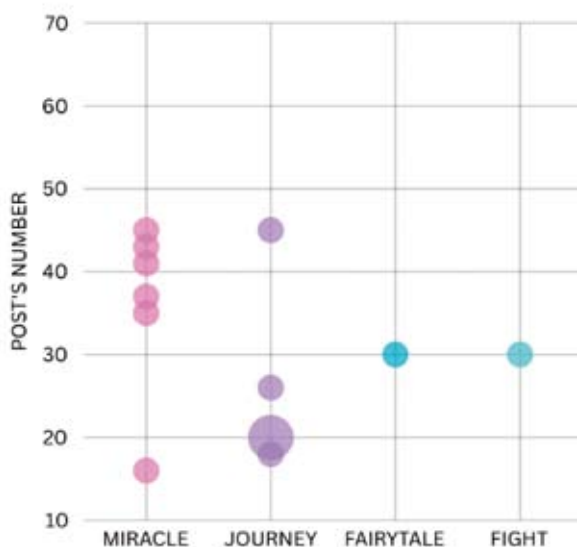


Figure 2. Temporal Distribution of Source Domains in Forum 2.

Discussion of Metaphor Types

Turning to an overview of the most prominent metaphors in the forums, it is intriguing to examine what kind of reality these metaphors portray. The INFERTILITY IS A FIGHT metaphor (Examples 1-2) is based on the source domain of WAR, reflecting the struggle individuals feel they must endure while facing infertility. It evokes imagery of conflict, highlighting the emotional and physical toll of the experience.

- (1) “My husband has been a great source of emotional support for me, and he still is to this day. With his love and support, we face the difficult moments of everyday life together, truly **fighting side by side in our fights for a child.**” – Forum 1
- (2) “I know how hard and superhuman this **fight** is, this **battle** for the long-awaited CHILD.” – Forum 1

The SPERM IS A SOLDIER metaphor (Examples 3-4), which appeared in the opening article, portrays the sperm as active, determined, and purposeful entities engaged in a mission or battle. This framing emphasizes the struggle,

competition, and effort associated with conception, attributing a sense of agency and urgency to the process.

- (3) “They also started examining the father, and it turned out there are **soldiers**, they **move** well, but there aren’t many of them.” – Forum 1
- (4) “They didn’t do another ultrasound. I was a bit surprised by this, that there’s no ultrasound, just pushing the **soldiers** into me, ‘and that’s it’?” – Forum 1

The WAR metaphor, in the context of cancer, is considered an overused metaphor. Its perception in the literature is predominantly negative (Guité-Verret-Vachon 2021). For cancer patients, the metaphor frames the illness as a battle and the patient as a warrior. If the patient’s health worsens or they cannot meet the societal expectation to fight hard enough, they may feel judged, inadequate, or even blamed for the progression of their illness. This dynamic evokes stigma by suggesting failure is due to a lack of effort or willpower, rather than the uncontrollable nature of the disease. Similarly, when the WAR metaphor is applied to infertility, it can stigmatise women who are unable to conceive despite undergoing treatments or making significant efforts. This expectation can be internalized, leading to self-blame, feelings of inadequacy, and the perception of infertility as a personal failing. Furthermore, this metaphor often ignores the complex and uncontrollable biological, medical, and social factors that influence infertility, oversimplifying the experience and reducing it to a question of effort.

The INFERTILITY IS A JOURNEY metaphor (Examples 5-6) frames the experience of infertility as a long, often unpredictable path filled with challenges, decisions, and emotional milestones. This metaphor highlights the process-oriented nature of infertility, bringing to the surface its complexities and the different stages one goes through.

- (5) “But what could someone who is already a mother, who has children, and has not **walked this path**, truly understand of our feelings?” – Forum 1
- (6) “You could have written my story as well, although we never **got as far as** insemination or IVF. I **got stuck at the point** where I believed I had PCOS.” – Forum 2

The INFERTILITY IS A CALVARY metaphor (Examples 7-8) likens the experience of infertility to a journey of immense suffering and sacrifice. In Christian

tradition, Calvary refers to the hill where Jesus was crucified, symbolizing ultimate suffering and the willingness to endure for a greater cause. When applied to infertility, this metaphor conveys the emotional, physical, and psychological hardships that individuals endure as they navigate the challenges of trying to conceive.

- (7) “I wanted a baby, and the **Calvary** began, from one gynaecologist to another, Clostyl, Metformin, all kinds of stimulants.” – Forum 1
- (8) “I was 22 when I saw that it wasn’t happening on its own, so my husband and I started the **Calvary**, but without it, my son and daughter wouldn’t have been born!” – Forum 2

Metaphors linked to religious beliefs can be explained by findings from Koenig et al. (2001), which show that religious commitment is positively correlated with better adaptation to illness and stress reduction. Religious beliefs and practices can alleviate feelings of loss of control and helplessness associated with physical illness, and they provide a cognitive framework that can lessen suffering and enhance an individual’s sense of purpose and meaning when other sources of self-esteem are lost (Koenig et al. 2001). The religious motif also appears in the EMBRYO IS AN ANGEL metaphor (Example 9), which suggests that the embryo is perceived with great reverence, as a symbol of hope, purity, and potential. This metaphor may be used in the context of infertility to express the deep desire for a child and the emotional significance attached to conception, viewing the embryo as a precious and almost divine being. It reflects the intense emotional connection that individuals or couples have with the idea of starting a family, where the embryo is seen as a miraculous or blessed being. This can be part of the broader narrative of the miracle of conception, where even the smallest possibility of pregnancy is cherished and revered as a profound event.

- (9) “But deep in my heart, I already felt that our little **angel sacrificed herself** for the survival of the chances! (...) It hurts endlessly that I lost it, but I understood that this is what **she wanted!!** And next time she has a better chance of going out into the world.” – Forum 1

The CONCEPTION IS A MIRACLE metaphor (10-11) conveys that achieving pregnancy is seen as an extraordinary, almost supernatural event, something rare, precious, and beyond full human control. However, in Example (11), the JOURNEY metaphor emphasizes taking control, highlighting the shift from passivity to active management of one’s situation.

- (10) The **miracle** can happen to anyone; you just have to believe in it and not stress too much about things. – Forum 2
- (11) We've also been trying for a year! The doctors suspected I have PCOS too, but none gave me a more precise diagnosis... I've been putting off changing my lifestyle for a long time, and I've tried all kinds of things, but reading what you wrote made me realize I need to **take a step** and not just wait for a **miracle**... I'm going to get started now..." – Forum 2

In the context of infertility discussions, the personification of FATE (Examples 12-14) is often used to attribute control or blame for infertility to an external force, such as destiny or chance. This metaphorical device allows individuals to externalize the complex emotions and frustrations associated with infertility, especially when they feel helpless or out of control. It helps convey a sense of surrender or acceptance, as if one is at the mercy of a higher power or fate.

- (12) "I keep thinking more and more, why is this happening to me, maybe **Fate wants** me not to have a child..." – Forum 1
- (13) "**Fate has a purpose** for this." – Forum 1
- (14) "This is just how **fate brought** it about." – Forum 1

As we are increasingly capable of enhancing or inhibiting fertility, individuals are more likely to be seen as responsible for their situation. According to Sandelowski (1986), there has been a shift in responsibility from God or fate to people, and couples struggling with infertility may feel greater guilt than before. However, by personifying FATE, women are able to place this responsibility back on fate or on an external force, indicating a shift in control.

Conclusion

This paper analysed two peer-to-peer online forums on infertility, which differed in the metaphoricity of the conversation starter post. A clear pattern emerged based on a metaphor-based analysis of the subsequent metaphorical language appearing in the forum discussions. When the initial post included multiple metaphors related to infertility, users were more likely to share their own personal experiences. They tended to use more metaphors themselves when writing about their illness experiences, in the form of higher metaphor

density and distribution. This reiteration of metaphorical language usage might have contributed to fostering a stronger connection among users, enabling them to better relate to each other. Based on the results of the study, we believe that metaphors function not only as devices of meaning-making but can also act as a cohesive force, contributing to the shaping of a group narrative (in the form of more prominent metaphorical language use).

In the case of Forum 1, the metaphors helped facilitate emotional openness and a greater willingness to disclose personal stories within the forum context. This finding is further supported by Kaufman and Whitehead's (2018) concept of reciprocal displays of empathy, developed in their study on how individuals with depression draw on shared experiences as a resource for generating support. Their analysis demonstrates that forum participants consistently relied on commonly shared experiences and emotions to express empathy, enabling them to move fluidly between the roles of support-seeker and support-provider, often both offering and receiving empathy within the same interaction. This emphasis on mutual recognition and shared emotional ground is echoed in Kingod et al.'s (2017) study, which suggests that people living with chronic illness often regain a sense of normalcy by mirroring each other's illness narratives.

This kind of mirroring at the semantic level can be seen as closely related to repetition, not only in terms of surface-level language use, but in its deeper function of reinforcing shared meanings. As Tannen (1987) observes, "Repetition functions in production, comprehension, connection, and interaction. The congruence of these levels provides a fourth, overarching function in *coherence*, which builds on and creates interpersonal involvement. [...] Repetition is a resource by which speakers create a discourse, a relationship, and a world" (Tannen 1987: 574, emphasis as in original). In the present study, such mirroring manifested through the repeated use of metaphors introduced by other users in the forum, reinforcing a sense of shared understanding and emotional resonance.

This insight could have practical implications for healthcare communication. Since patients already rely on certain metaphors to make sense of their condition, their conscious use in healthcare settings might help to promote trust-building and greater openness, and might also encourage more information sharing, ultimately contributing to more empathic care. This approach is in line with patient-centred models of the doctor-patient relationship. One such model is the so-called "consumer model", in which the patient takes an active role as a decision-maker, and the course of therapy is shaped around their preferences and expectations (Kuna 2020). Encouraging

the use of metaphors that come from the patient's own way of thinking fits well with this approach, as it helps express how they themselves understand and experience their condition.

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Appendix

Forum 1	
HU	Arra vágyom, hogy akinek a világon a legjobban szeretek, szülhessek végre gyereket, aki olyan, mint Ő, mint én, aki kettőnkből lesz. Borzasztóan érzem magam lelkiileg! Eddig magam hibáztattam! Mondván milyen ember vagyok, milyen NŐ vagyok, aki még gyereket sem bír szülni, nem tud megfoganni?! Egy darab tuskónak éreztem/érezem magam. „Testem sötét kripta Életnek nem hordozója, A fogamzás csodája Elkerüli méhem, Ezért oly bánatos, Szívem és lelkem!” Már fiatal korom óta tudom a betegségem, csak akkor még nem volt jelentősége. Akkor még nem tudtam, mit jelent az, hogy kicsit nehezebben lehet gyerekem! [...] éve jöttem össze a férjemmel, igaz, iskolába jártam még, de már akkor sem bántam volna, ha besikeredik a baba. Teltek az évek, nem jött, nem is menstruáltam, nem volt peteérésem. Két éve elkezdett foglalkoztatni a dolog, hogy akkor most miért nem sikerül. Ekkor kezdtem életem első munkahelyén (most is ugyanott dolgozom), akkor picit talonba tettem a dolgot. Eltelt fél év, egyre nagyobb vágyat éreztem a baba iránt. [...], ahol mindennapos a szülés, rengeteg kisbaba megfordult a kezemben. Kifigyeltem magamnak egy szimpatikus dokit, akinek később felvázoltam a betegségem, ő partner volt, még egyszer megvizsgált, UH, vérvétel. Újból igazolta a PCO-t. Kaptam [...], ami meghozta a vérzést, kaptam [...], amitől petesejt érik. Hát nekem nem érett. Ez ment 3-4 hónapig, mikor is meguntam a játékot és az asztalra csaptam, hogy engem műtsön meg! Ő is ezt látta okosabbnak, ezért tavaly augusztusban megcsinálták a petefészkeimet, grátiszba, ha már a műtőasztalon fekszek, megnézte, hogy átjárható vagyok-e és a méhem is megtükrözte, ezekkel minden rendben volt. Kaptam egy kis türelmi időt, de nem történt semmi, se menzesz, se peteérés, semmi. Ismét [...], ismét [...], UH figyelés, semmi.

Egyszer pont úgy hozta a sors, hogy nem volt a dokim és egy másik nődoki csinálta meg az UH-t, hiába stimuláltak nem volt érett tüsző. Neki jutott eszébe, hogy mi lenne, ha átmennék az [...] egy kivizsgálásra. Tudtam az [...], szedtem rá a metet. Endos néni nem volt valami szimpi, nem akart újból kivizsgálni ez irányban, mondván bizonyított a PCO is és az inzulinrezisztencia is. De nem mind-egy mennyi gyógyszert szedek 2-szer felet vagy 2-szer 1-et. Ő kért egy hormonális kivizsgálást, ami magas TSH-t igazolt, [...] kaptam rá. Ezzel most rendben van az eredmény. Újból nekiálltunk magam stimulálni, immár injekciókkal, erre reagáltam is, de nagyon hamar megnőtt tőle a tüsző, ciszta lett belőle. Gyorsan kaptam repesztő szurit, legyünk együtt, hátha... Hát nem. Közben apukát is elkezdtek vizsgálgatni, kiderült, hogy vannak katonák is, jól mozognak, csak kevesen vannak. 25millió, de ennyivel még lehet gyereket csinálni, szedjen E vitamint. Szedte, plusz a nődokim írt fel egy havi [...] neki is és neki feszültünk egy újabb injekciós stimulálásnak, ami szintén sikertelenséggel végződött.

Itt jött a vég. Elkezeredtem, padlóra kerültem.

Mondtam a dokimnak, hogy ideje felsőbb körökbe menni a problémámmal. Ő is így gondolta! Így hívtam fel a [...], ahová hamar kaptunk időpontot. [...] mentünk először. Már a kész eredményeket vittük, mert utánaolvastam, hogy ott mit kérnek és előre megcsináltattam mindent. Az egy 21. napi vérvételelem volt vissza, kérte a doki, hogy azt már ott csináltassam [...]. Megjött az eredmény és megszületett a döntés: inszemináció!

Kaptam egy csomó receptet, első körben [...] Forintot hagytam a gyógyszertárban, nagy nehezen megbetegedtem és elkezdhettem a szurikat, meg a gyógyszereket. napon UH. Eredmény semmi. Nem volt megfelelő nagyságú tüsző. Ez volt keddi napon, kaptam még 5 ampulla szurit, amit elég drasztikusan kellett adni, aznap hármát, következő nap kettőt, este a repesztőt és pénteken inszemináció. Többet nem néztek ultrahangon. Kicsit ezen meglepődtem, hogy semmi UH, csak tolják belém a katonákat, „azt’ annyi”?

Mindegy – gondoltam, csak tudja a doki, hogy mit csinál. Reggel odaértünk, apuka kapta a poharat és ment. 10 perc és jött, majd elküldtek minket sétálni, másfél óra míg előkészítik. Apuka mondta, hogy bizony elég keveset produkált, lehet nem lesz elég. Eltelt az idő visszamentünk és pont meglátott minket a biológus és közölte, hogy abban egy szál spermium nincs. Hát ütő megállt bennem! De kaptunk még egy poharat és újból ment, illetve már mentem én is vele. Akkor kicsit többet sikeredett, de nagyon kevés volt, alig 8 millió, abból is csak 3-at tudtak kiszedni. Felfeküdtem az asztalra, felhelyezték

felhelyezték a katonákat, fél óra fekvés és mehettem haza. Búcsúzóul a doki sok szexszel köszönt el, 2 hét múlva csináljak tesztet, bár kevés volt az „anyag”, de ennyivel is csináltak már csodát! Életem leghosszabb két hete volt, otthon voltam táppénzen, feküdtem, de a lelkem mélyén éreztem, hogy nem sikerült. Eljött a teszt napja: negatív. Hívtam [...] időpontért spermavizsgálatra, hamar kaptunk is, újból rossz lett az eredmény. Pedig annyira bíztam benne, hogy az csak egy átmeneti állapot volt, biztos meleg van, de nem... Itt is csak 8 millió volt. Ezzel nem mehettünk újabb inszemre. A doki urológus véleményét kért. Elmentünk oda is. Szervileg minden rendben van, nem tudni, mi a probléma, menjünk adrológushoz. Elmentünk, tegnap volt a napja [...]. Ő is megvizsgálta, minden rendben van, de csináltassunk még egy spermavizsgálatot. Ez [...] lesz, [...] a papírokkal menjünk vissza. És kaptunk egy 3. beutalót genetikára. Újabb orvos, újabb vizsgálat. Belefáradtam!!

Ma hívtam fel a kapott telefonszámot, [...] genetika. Felhívtam a meddőségi központot és megmondtam, hogy nekem elegendő van az orvostól-orvosig menésből, én csak egy gyereket szeretnék! Időpontot akarok mihamarabb és [...] a 8 milliós állományunkkal lombikba akarok kezdeni. Kicsit akaratoskodott a néni, de [...] megkaptuk az időpontot. Engem nem érdekel... nem megyek több orvoshoz, még erre a genetikára elmegyünk és annyi! Szeretném kérni a lombikhoz a recepteket és elkezdeni.

Sokan mondják, hogy mennyire fiatal vagyok, még ráérek. Oké fiatal vagyok, mert éppen most töltöttem a [...], ráérnék, de a betegségem nem lesz jobb! Ahogy idősödöm, úgy romlanak a dolgok, nem csak nálam, hanem a páromnál is. De folyamatosan azt hajtogatják, hogy ne görcsöljek, fiatalok vagyunk! De ezzel tele van a padlás, ha valaki gyereket szeretne, akkor nem ér rá! Nekem ez most kell, erre vágyom! Arra, hogy akit a világon a legjobban szeretek, annak szülhessek végre gyereket, aki olyan, mint Ő, mint én, aki kettőnkből lesz. Borzasztóan érzem magam lelkileg! Eddig magamat hibáztattam! Mondván milyen ember vagyok, milyen NŐ vagyok, aki még gyereket sem bír szülni, nem tud megfoganni?! Egy darab tuskónak éreztem/érezem magam. Csak cibálom a férjem ide-oda, őt kellemetlen helyzetbe hozom. Ezt az érzést! Öröl odabent. Onnan lett könnyebb mikor kiderült, hogy ő sincs rendben, már nem csak magam hibáztattam. Illetve őt sem, mert nem vagyunk hibásak, csak így hozta a sors! Nekünk ez jutott, de hiszem, hogy hozzánk is jön a gólya, mi is szülők leszünk! Remélem kibírja a kapcsolatunk. Addig is neveljük a [...] cicánkat ők segítenek át mindig a mélypontokon.

Bocsánat, ha hosszú voltam, de ki kellett írnom magamból a fájdalmat! Még az ellenségemnek sem kívánom!

EN	I long for the one I love most in the world to finally give birth to a child like Him, like me, who will be the two of us. I feel terrible emotionally! I've been blaming myself so far! What kind of person am I, what kind of WOMAN am I, who can't even have a baby, can't conceive?! I felt/feel like a piece of stump. “My body is a dark crypt It is not the bearer of life, The miracle of conception Escapes my womb, That's why it's so sad, My heart and soul!” I've known about my illness since I was young, it just didn't matter then. I didn't know then what it meant that it was a little harder to have children! My husband and I got married [...] years ago, I was still at school, but I wouldn't have minded if I had a baby. Years went by, it didn't come, I didn't have my period, I didn't ovulate. Two years ago, I started to wonder why it wasn't happening now. Then I started my first job (I still work at the same place), and I was a little bit worried. Half a year went by and I felt a growing desire to have a baby. [...], where births are common, and I've had a lot of babies. I found myself a sympathetic doctor, to whom I later outlined my illness, he was a partner, examined me once more, did an UH, took my blood. He confirmed PCO again. I was given [...], which brought the bleeding, I was given [...], which makes eggs mature. Well, it's not ripe for me. This went on for 3-4 months, when I got tired of the game and slammed the table to have surgery on me! He also saw it as the smarter thing to do, so last August he did my ovaries, in grafts, once I was on the operating table, he checked to see if I was permeable and also did a scan of my uterus, these were all fine. I was given a little grace period but nothing happened, no periods, no ovulation, nothing. [...] again, [...] again, ultrasound monitoring, nothing. Once it happened that I didn't have my doctor and another gynecologist did the ultrasound, and even though I was stimulated, there was no mature follicle. She thought of what if I went to [...] for a check-up. I knew about my [...], I took the meth. The endos lady was not very sympathetic, she didn't want to re-examine me in this direction, saying that I had proven PCO and insulin resistance. But it doesn't matter how much medicine I take 2 times half or 2 times 1.
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He asked for a hormonal test, which confirmed high TSH, I was given Letrox. Now the results are fine. We started to stimulate myself again, now with injections, and I responded to that, but very quickly the follicle grew and became a cyst. I was quickly given a bursting injection, let's be together, see if... Well, no. In the meantime, they also started examining the father, and it turned out there are soldiers, they move well, but there aren't many of them. 25million, but you can still make a baby on that, take vitamin E. He did, plus my gyno prescribed a monthly Clostis for him too and we started another injection stimulation, which also ended in failure.

This was the end. I was desperate, I was floored.

I told my doctor that it was time to take my problem to the top. He thought so too! So I called the Pécs Infertility Centre, where we quickly got an appointment. We went for the first time at the end of April. We took the ready results because I had read up on what they asked for and had everything done in advance. I had a blood test back on day 21, the doctor asked me to have it done there in Pécs. The results came back and the decision was made: insemination!

I got a lot of prescriptions, left 30.000 HUF in the pharmacy, got sick with great difficulty and could start the injections and the medication.

Day one ultrasound. No results. No follicles of the right size. That was Tuesday, I was given 5 more ampoules of injections, which had to be given quite drastically, three that day, two the next day, the repellent in the evening and insemination on Friday. They didn't look at anything else on ultrasound. They didn't do another ultrasound. I was a bit surprised by this, that there's no ultrasound, just pushing the soldiers into me, 'and that's it'?

Anyway, I thought, as long as the doctor knows what he's doing. We got there in the morning, dad got the glass and went. 10 minutes and he came, then they sent us for a walk, an hour and a half while they prepped. Daddy said he'd certainly produced very little, it might not be enough. Time passed, we went back and the biologist saw us and told us there was not a single sperm in it. Well, that stopped me in my tracks! But we got another glass and it went again, or rather I went with it. Then it was a bit more, but very little, just under 8 million, and they could only get 3 of those out. I laid on the table, they put the soldiers on, half an hour of lying down and I was home. As a farewell, the doctor said goodbye with lots of sex, I had to take a test in 2 weeks, even though there was not much 'stuff', but they have worked wonders with that much! It was the longest two weeks of my life, I was home on sick leave, lying down, but deep down I felt I had failed. The test day came: negative. I called [...] for an

appointment for a sperm test, we got one soon after, but the result was bad again. I was so confident that it was just a temporary condition, it must be hot, but no... Here it was only 8 million. With that, we couldn't go to another inspection. The doctor asked for a urologist's opinion. We went there. Organically everything is fine, don't know what the problem is, let's go to an adrologist. We went, his appointment was yesterday [...]. He also examined him, everything is fine, but we should do another sperm test. This is on the [...], we go back with the papers on the [...]. And we got a 3rd referral for genetics. Another doctor, another test. I am tired!

Today I called the phone number I received, [...] genetics. I called the infertility center and told them I was sick of going from doctor to doctor, I just wanted a baby! I want an appointment as soon as possible and in [...] I want to start a fombie with our 8 million stock. It took a bit of wanting but we got the appointment for [...]. I don't care... I'm not going to any more doctors, we'll go to this genetics and that's it! I would like to get the prescriptions for the lombies and get started.

Many people say how young I am, I still have time. Ok I am young because I just turned [...], I have time, but my disease is not getting better! As I get older things get worse, not just for me but for my partner too. But they keep telling me not to squirm, we are young! But it's all over the attic, if you want a child, you're too busy! I need this now, this is what I want! I want to have a child with the person I love the most in the world, someone like him, like me, someone who will be both of us. I feel terrible. I've been blaming myself! What kind of person am I, what kind of WOMAN am I, who can't even give birth to a child, who can't conceive?! I felt/feel like a piece of stump. I just keep pulling my husband here and there, making him uncomfortable. That feeling! About him in there. From there it got easier when I found out he was not okay either, I didn't blame myself anymore. Or him either, because we're not to blame, it's just fate! This is just how fate brought it, but I believe that we will be parents too! I hope your relationship will last. In the meantime we will raise our [...] kittens they will always help us through the low points.

Sorry if I was long, but I had to write my pain out! I wouldn't even wish it on my enemy!

Forum 2

HU

A címmel ellentétben nem egy szomorú cikk lesz. Kedvesemmel [...] év együtt járás után [...] összeházasodtunk. Úgy döntöttünk, hogy az sem lenne baj, ha az esküvőn már kerekedne a pocakom, ezért nem védekeztünk már [...]. Én ekkor még azt sem tudtam, hogy mikor van peteérésem, nem figyeltünk semmit, csak amikor kedvünk volt, akkor voltunk együtt.

1 év eltelte után [...] eldöntöttem, hogy orvoshoz fordulok, de nem gondoltam, hogy bármi komoly gond lenne. Kezdődtek a vizsgálatok, hormon vérvételek, ultrahangok félidőben. Az orvosom az összes papíromra ráírta, hogy PCO gyanú, de soha nem magyarázta el, hogy ez mit is jelent.

Szedtem peteérés serkentő gyógyszereket, mert azt mondta nem megfelelő a peteérésem. [...] úgy döntöttem orvost váltok, mert nem történt semmi. Az új orvosom egyből [...] műtétet javasolt, de itt sem találtak semmit. Az új orvos kijelentette, hogy PCO-s biztos nem vagyok, de nincs megfelelő peteérésem spontán, ezért inszeminációt javasolt.

[...] volt 2 inszeminációm, de attól a stimulációtól sem nőttem elég nagyra tüszőim, ezért úgy döntöttünk inkább lombikkal próbálkozunk. Nyár elején meg is volt a stimuláció, 13 petesejtet szívtak le, 9 meg is termékenyült. Kettőt ültettek be, hetet lefagyasztottak. Sajnos nem volt sikeres a beültetés, a következő hónapban hármat kaptunk vissza, de ez sem sikerült. Nagyon elkeseredtünk, a férjemet is egyre jobban megviselte a sikertelenség. Úgy éreztük, időre van szükségünk, ezért pár hónapot kihagyunk, [...] megyünk a következő beültetésre.

Én egyrészt szerettem volna 4-5 kilót leadni, másrészt kicsit egészségesebben élni, ezért úgy döntöttem életmódot váltok. Elkezdttem lúgosítani, kevés szénhidrátot ettem és sok-sok zöldséget, emellett sportolni is kezdtem, egy alakformáló tornát csináltam heti kétszer, illetve az Arwen tornát heti háromszor, esténként nem ettem, csak fehérjeturmixot ittam.

Fogytam is pár kilót, már alig vártam, hogy októberben megjöjjen a menstruációm, hogy tudjunk menni a következő beültetésre, de nem jött meg.

Kiderült babát várunk. Tökéletes terhességem volt, amit szinte végigdolgoztam, és egy tökéletes pici lányom született, [...]. Én voltam a legboldogabb a világon.

[...] ismét szerettem volna pár kilót leadni. Sportolni (spinning) és diétázni kezdtem, ismét nagyrészt zöldségeket ettem és vacsira a turmixot ittam. Sikerült is 47 kilóra lefogyjni (49-el lettem terhes, alacsony is vagyok), kezdtem elégedett lenni magammal. A kistesó

	kérdéssel úgy voltunk, hogy talán télen elkezdünk próbálkozni. Félidőben védekeztünk óvszerrel, ezen kívül megszakításos módszerrel, amiről nyilván tudtuk, hogy nem 100%-os. És [...] nem jött meg a menstruációm, és pozitív lett a teszt, nekem, akiről több orvos is kimondta, hogy meddő vagyok.. Most boldogabbak vagyunk, mint eddig bármikor, és izgatottan várjuk a kistesót, akinek a pici szíve itt dobog a pocakomban és [...] fog megszületni. Ha csak egy embernek is tudtam segíteni, reményt vagy erőt adni ezzel a cikkel, akkor örülök, hogy megírtam!
EN	Despite the title, this will not be a sad article. My sweetheart and I got married [...] after [...] years of living together. We decided it would be fine if I had a belly at the wedding, so we stopped using protection [...]. At that time I didn't even know when I was ovulating, we didn't monitor anything, we just had sex when we felt like it. After 1 year I decided to see a doctor in [...], but I didn't think there was anything seriously wrong. The tests started, hormone blood tests, ultrasounds at half term. My doctor wrote on all my papers that PCO was suspected, but never explained what that meant. I was taking ovulation stimulant medication because she said I was not ovulating properly. In [...] I decided to change doctors because nothing was happening. My new doctor suggested a [...] operation straight away, but nothing was found here either. The new doctor stated that I definitely did not have PCO, but I was not ovulating properly spontaneously, so he suggested insemination. We had 2 inseminations in [...], but even with that stimulation my follicles didn't grow big enough, so we decided to try inseminations instead. At the beginning of summer we had the stimulation, 13 eggs were retrieved, 9 fertilised. Two were implanted, seven were frozen. Unfortunately, the implantation was not successful, we got three back the following month, but that didn't work either. We were very desperate, and my husband was getting increasingly distressed by the failure. We felt we needed some time, so we are taking a couple of months off and will go for the next transplant in [...]. I wanted to lose 4-5 kilos on the one hand and live a bit healthier on the other, so I decided to change my lifestyle. I started to alkalise, eat low carbohydrates and lots of vegetables, I also started to exercise, I did a toning workout twice a week and the Arwen workout three times a week, I didn't eat in the evening, I just drank a protein shake.

I also lost a few kilos, I was looking forward to my period in October so we could go for the next implantation, but it didn't come.

Turns out we're having a baby. I had a perfect pregnancy, which I worked through most of, and had a perfect baby girl on [...]. I was the happiest person in the world.

At the [...], I wanted to lose a few kilos again. I started exercising (spinning) and dieting, again eating mostly vegetables and drinking the smoothie for dinner. I managed to lose 47 kilos (I got pregnant at 49, I'm short), I started to feel happy with myself. With the little brother issue, we were going to maybe start trying in the winter. We used condoms half term, plus an interruption method, which we obviously knew wasn't 100%. And at the [...] I didn't get my period and tested positive, for me, who had been told by several doctors that I was infertile.

Now we are happier than ever, and excitedly awaiting the baby brother, whose tiny heart is beating in my tummy and will be born in [...]. If I could help even one person, give them hope or strength with this article, I'm glad I wrote it

THE COMPLEX IMPACT OF AI-GENERATED CONTENT ON COMMUNICATION¹

Abstract

The rise of artificial intelligence (AI) is causing a paradigm shift in many areas of communication. This paper explores the diverse and often ambivalent implications of AI-generated content, focusing on the risks of homogenisation and sameness, the potential for manipulation and disinformation, and the erosion of human interactions and social skills. It also examines the challenges of preserving linguistic diversity, the risk of exacerbating social inequalities, the role of cultural differences in the adoption of AI-based communication, and the importance of adaptation, the acquisition of new skills, and ethical considerations. Finally, the paper also analyses the psychological impact of AI on communication, highlighting the importance of maintaining self-confidence, autonomy and creativity when integrating with AI. The study takes an interdisciplinary approach, drawing on relevant research in linguistics, communication science, sociology, ethics and psychology.

Keywords: AI, communication, skills, psychology, education, linguistics

Introduction

The rapid development of Artificial Intelligence (AI) is profoundly changing many aspects of society, including communication. AI-generated content, be it text, speech, images or video, is increasingly essential in our daily lives, from news sources to social media and professional communication (Balázs G. 2015; Farkas et al. 2024). While AI has significant potential to increase the effectiveness and reach of communication, it also raises several critical issues and potential risks. This paper aims to provide a comprehensive picture of the complex implications of AI-generated content for communication, focusing on the dangers of homogenisation, manipulation and erosion of social skills. It also explores the social, cultural and psychological factors influencing the adoption and impact of AI-based communication. The complex effect of AI-generated content on communication: homogenisation, manipulation and erosion of social skills (Balázs–Arató 2024).

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Homogenisation of communication and the proliferation of templates.

AI algorithms are trained on existing, mostly English-language data sets, which can result in the texts and speeches they generate repeating specific patterns and styles. This phenomenon can be particularly pronounced in cases where the training data does not adequately represent linguistic diversity and individual idioms. We risk losing our unique verbal expressiveness and linguistic innovation if we rely too heavily on AI-suggested or generated content. The suppression of individual style and creativity can be particularly problematic in creative industries (e.g. journalism, literature, screenwriting), education (e.g. essay writing, presentations) and personal expression, where authentic voice and originality of approach are key. If content production becomes routine, AI-generated ‘good enough’ texts may overshadow work based on individual thought and creative expression. Shneiderman (2021) emphasises that AI design should enhance rather than replace human creativity, highlighting the potential of human-machine collaboration in creative processes. Dominek (2022) highlights the role of the flow experience in acquiring experience and developing creativity in education in the context of the flow-based pedagogical model. The overuse of AI in communication can prevent the experience of flow in creative processes, thus limiting individual expression and linguistic innovation. Rather than enhancing our creativity, AI can paradoxically limit it if we passively accept the content it generates. In the long run, this can lead to a loss of linguistic and intellectual diversity (Bender–Friedman 2018), leading to a poverty of forms of communication and a loss of cultural and social diversity. The impact of AI in this direction can be hazardous for younger generations, who increasingly require autonomous, authentic self-expression and linguistic creativity in their identity formation. The decline of critical thinking, originality and intellectual curiosity may negatively affect education and democratic discourse.

The threat to linguistic diversity

Despite the development of AI-based translation technologies, maintaining linguistic diversity can be a significant challenge. Although AI systems are increasingly capable of handling more languages and machine translation technologies have made spectacular advances, minor languages, dialects and linguistic diversity are often overshadowed. One of the main reasons for this is the dominance of large training datasets containing predominantly most languages. As Hinton’s (2015) work points out, deep learning systems

require vast amounts of data to be effective. This approach puts resource-poor languages, for which a limited quantity of digitised text is often available, at a structural disadvantage. This digital inequality can have technological, cultural, and social consequences. In his work on language revitalisation, Fishman (2001) emphasises that languages are not only means of communication, but also complex cultural systems that are carriers of shared knowledge, worldviews, historical experiences and identities. Suppose AI systems are unable to represent these languages adequately. In that case, this is not only a technological shortcoming, but can also contribute to cultural homogenisation and the gradual disappearance of linguistic diversity.

In the long term, marginalising minor languages in AI systems risks linguistic digital exclusion. This is exacerbated by the fact that in many cases, language communities do not have sufficient technical or financial resources to effectively digitise their languages and make them available to AI systems. In addition, collecting and using data raises several ethical issues, mainly if the data is used without the consent of the communities or in a non-transparent way. Jurafsky et al. (2020) highlight that a more inclusive, linguistically diverse approach that takes into account the specificities and cultural values of minority languages would be key in the development of language models for MI. This requires both technological developments and a commitment to language policy by developers, researchers and policy makers alike.

In the future, AI will have to speak as many languages as possible and represent each language community respectfully and responsibly (Balázs 2025). To this end, developing partnerships involving local language communities, linguists, cultural organisations and teachers is essential. In the long term, the marginalisation of minor languages in AI systems carries the risk of linguistic digital exclusion. This is exacerbated by the fact that the language-speaking communities often do not have sufficient technical or financial resources to digitise their languages and make them available to AI systems. In addition, collecting and using data raises several ethical issues, mainly if the data is used without the consent of the communities or in a non-transparent way. Jurafsky et al. (2020) highlight that a more inclusive, linguistically diverse approach that takes into account the specificities and cultural values of minority languages would be key in the development of language models for MI. This requires both technological developments and a commitment to language policy by developers, researchers and policy makers alike (Antal 2017; Antal 2024).

Manipulation and disinformation: the dark side of AI and ethical considerations

Being used as a tool for manipulation and disinformation is one of the darkest potential consequences of AI. AI can produce highly lifelike and convincing fake content, including deepfake videos, generated voice recordings, fake news, manipulated images and personalised misleading messages (Kenyeres–Szűts 2024: 2005; Kenyeres–Szűts 2025). These technologies can be highly sophisticated and often complex for experts to distinguish from accurate content (Goodfellow et al. 2014). This is particularly dangerous in digitally illiterate communities, where the ability to evaluate critically may not be able to keep up with algorithmic manipulation (Pennycook–Rand 2019; Kenyeres–Szűts 2024). AI can bring a new level of effectiveness to disinformation campaigns, with the ability to automatically produce targeted, personalised content for political or economic purposes. Micro-targeting exposes users to information bubbles that reinforce their views, increase polarisation and amplify social divisions (Lewandowsky et al. 2017). The narratives generated by AI can thus not only influence public opinion, but also directly impact the outcome of elections, trust in public institutions and the quality of democratic discourse. The danger is compounded by the tendency of users to over-rely on AI-generated content, which implies technological objectivity. This trust often leads to uncritical acceptance and diminishes the role of source criticism and awareness in information acquisition. The fake content created by AI not only disinforms, but also creates fear, anger or distrust in society through emotional manipulation - thus destabilising social cohesion.

A particularly worrying dimension of deepfake technology is that it can be used not only against public figures, but also against individuals, for example, in smear campaigns, online harassment or identity theft. At the same time, a new phenomenon is emerging: the strategy of plausible deniability, where the authenticity of real videos or statements can be challenged because they must be deepfakes, thus losing the power of facts in debates. Against this backdrop, prevention and protection through technological, educational and legal means are essential. Vaccari and Chadwick (2020) state that the fight against disinformation must occur at multiple levels: through media literacy and critical thinking education, technological solutions such as content authentication, source tracking and metadata-based identification systems.

Ethical considerations are central to the use of AI in communication. Privacy (Solove 2011), transparency of algorithms (Doshi-Velez et al. 2017),

fairness and avoidance of discrimination (Harris 2018), and accountability are all critical areas that require attention from lawmakers, technology developers, and users alike. Ensuring the authenticity and trustworthiness of AI-generated content and preventing the misuse of deepfake technologies is paramount to maintaining public trust (Taddeo–Floridi 2020). In the future, it will be necessary to develop comprehensive ethical frameworks that regulate the use of AI for communication purposes and ensure responsible and ethical use (Mittelstadt et al. 2016), taking into account the perspectives of different stakeholders (e.g. developers, users, society) (Anderson et al. 2018). Developers and users of AI have a shared responsibility to use these tools transparently, ethically and socially responsibly. Protecting the digital environment is not only a technological issue, but also a moral one, because the authenticity of our shared reality is at stake.

Excessive interactions with AI can reduce empathy and social skills, as these interactions often lack human emotions, non-verbal cues and fundamental social dynamics. Communicating with chatbots, especially with ChatGPT (Balázs–Bek–Szűts 2024: 666) and virtual assistants, does not require the complex social skills developed in basic human interactions, such as patience, understanding, compromise, emotional intelligence and conflict resolution. Turkle (2011) explores how technology affects our social relationships and intimacy, pointing to the dangers of superficiality in virtual relationships and the lack of real intimacy. If people spend too much time in such artificial interactions, they may be less prepared for the complexity and emotional depth of genuine human relationships. The impoverishment of personal relationships and the decline in social skills can negatively affect individual well-being and social cohesion (Oberle 2016), leading to increased social isolation and mental health problems (Cacioppo–Hawkley 2009). Dominek (2021) interprets flow as the presence of positive psychology in education, promoting immersion and intrinsic motivation (Ryan–Deci 2000). Relying solely on AI-based communication may reduce the potential for the flow experience experienced in fundamental human interactions to contribute to developing emotional intelligence and social skills. Thoughts generated with AI will be without heart and soul (Czine 2024).

Social inequalities

Social groups with more limited financial resources, lower digital literacy or living in peripheral regions may be significantly disadvantaged by the diffusion of AI-based systems. This access gap is reflected in the ability to

use the technologies and their physical, economic and educational access. AI's communication and information benefits, such as real-time translation, automated administration, personalised academic support or online employment opportunities, are truly accessible to those with the necessary tools, network infrastructure and technological literacy. Van Dijk (2005) clarifies that the digital divide is not just a technical issue, but is intertwined with profound social, economic and cultural inequalities. Digital illiteracy is not only an information disadvantage but also reduces an individual's opportunities to participate in education, the labour market, and democratic decision-making. The spread of AI could exacerbate these disadvantages, as algorithmic systems are often based on pre-existing social patterns, and if not correctly designed, risk reinforcing or recreating discrimination.

The problem of inequality of access is not only at the level of individuals, but also at the level of whole communities. Some schools, workplaces or regions do not have the resources to implement and sustain AI tools. As a result, students or workers in such environments are disadvantaged - their chances of social mobility, skills development and economic advancement are reduced. It is also important to note that access to AI is not only a technical issue, but can also be a cultural and linguistic one. If technologies cannot adequately address a particular language, dialect or cultural code, members of a specific community may again be excluded from the opportunities offered by AI. This can be particularly critical for minority or immigrant communities, who may then face a new form of digital marginalisation. Floridi (2014) emphasises that promoting digital ethics and information justice is one of the pillars of equitable AI development. The widespread and equitable availability of AI-based communication tools is essential to ensure these technologies reduce, rather than reinforce, existing inequalities. This requires targeted education programmes, inclusive design, and territorial and social equity in technological infrastructure.

Different cultures may also interpret and use AI-based communication tools differently, significantly impacting their acceptance and communication norms (Arató-Balázs 2022: 92; Szöllősi-Baráth 2023: 95). Hofstede's (2001) theory of cultural dimensions highlights that collectivist and individualist cultures have different values that can influence technology adoption and communication preferences. For example, resistance to AI-mediated interactions may appear impersonal in a collectivist culture, where there may be a greater emphasis on personal relationships and community harmony. Conversely, AI-based communication may be more readily adopted in an individualistic culture, emphasising efficiency, autonomy and convenience.

Consideration of cultural context is essential for successfully implementing AI communication technologies and managing potential resistance (Akinagbe 2024), including culturally sensitive design and localisation of user interfaces (Nielsen 1993).

As AI becomes more integrated into our communication processes, we must learn how to interact effectively with these tools. This means not only understanding the technical skills but also being able to critically examine AI-generated content and identify potential biases and attempts at manipulation. The notion of AI literacy is becoming increasingly important, encompassing a basic understanding of how AI works, the effective use of AI-based tools, and knowledge of the ethical implications of AI (Long–Magerko 2020). Education and social awareness are key in helping people acquire these new skills, including critical thinking, media literacy and the responsible use of AI-based information resources (Buckingham 2003; Monika Rajcsanyi-Molnar 2024; Balázs L. 2023; Köküt et. al. 2023, Szűts–Szűts–Novák 2023: 566).

Ultimately, the actual societal value of AI communication technologies depends not only on their level of advancement but also on the fairness of their accessibility. The opportunity to participate in the digital world must not be a privilege – everyone deserves a fair chance to be part of the communication revolution of the 21st century (Arató–Balázs 2023: 756).

The psychological effects can also be profound. Excessive reliance on AI in decision-making and communication may reduce self-confidence and belief in one's abilities (Bandura 1977). The seemingly perfect texts and responses generated by AI can create unrealistic expectations of our communication skills, potentially leading to anxiety and self-esteem issues (Leary–Kowalski 1995). Constant comparison with AI-generated, flawless-looking content can negatively impact trust in individual creativity and self-expression. It is vital to view AI not as a replacement for creativity and independent thinking, but as a complement. Establishing a healthy balance in the interaction between human and artificial intelligence is crucial for maintaining psychological well-being (Ryan–Deci 2000), emphasising the fulfilment of psychological needs for autonomy, competence, and relatedness during interactions with AI. Overuse of AI can also reduce cognitive effort and weaken critical thinking skills (Carr 2010).

Conclusion

AI-generated text revolutionises communication but also brings significant challenges and risks. Homogenisation, manipulation, erosion of social skills,

threats to linguistic diversity, amplification of social inequalities, ethical dilemmas, and psychological impacts are all areas that require careful consideration and proactive measures. Future research and development should promote responsible AI use, enhance critical thinking, preserve linguistic and cultural diversity, and develop ethical frameworks. Only then can AI in communication truly benefit humanity without undermining individual creativity, social trust, and genuine human connections. Society must approach these complex challenges with an interdisciplinary perspective, involving technology developers, researchers, policymakers, and users alike in shaping a sustainable and ethical future for AI-based communication.

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