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ШТУЧНИЙ ІНТЕЛЕКТ ЯК КАТАЛІЗАТОР ЛІНГВІСТИЧНИХ ІННОВАЦІЙ У ДИСКУРСІ СОЦІАЛЬНИХ МЕДІА

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ARTIFICIAL INTELLIGENCE AS A CATALYST OF LINGUISTIC INNOVATION IN SOCIAL MEDIA DISCOURSE

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***Анотація.** У статті досліджується роль штучного інтелекту як каталізатора лінгвістичних інновацій у дискурсі Twitter/X. Центральним поняттям є феномен вербалізації ШІ – процес, у ході якого ШІ-системи самі стають джерелом нових слів, номінацій і комунікативних формул, що активно засвоюються користувачами платформи. Особливу увагу приділено чат-боту Grok, розробленому компанією xAI Ілона Маска і вбудованому безпосередньо в інтерфейс Twitter/X, що робить його унікальним прикладом платформно інтегрованої ШІ-системи з прямим мовним впливом. Методологічну основу становлять концептуальний аналіз, семантичний аналіз ономастичного матеріалу та дискурс-аналіз. Емпіричну базу дослідження становить вибірка з 300 дописів Twitter/X, зібраних за ключовими словами (grok, AI-coded, slop) у 2023-2025 роках. Дослідження показує, що вербалізація ШІ реалізується через*

чотири взаємопов'язані механізми: ономастичне запозичення; формування нових комунікативних формул; семантичні зсуви технічних термінів (*hallucinate*, *slop*) у побутовий оцінний регістр; а також виникнення нової семантичної опозиції *human* – *AI* як відповіді на поширення автоматизованого контенту. Результати засвідчують, що ШІ-системи не лише обробляють мову, але й активно формують її, стаючи повноцінними агентами лінгвістичних змін у цифровому дискурсі, що підтверджується аналізом частотного вживання термінів *grok*, *AI-coded* та *slop* у збірній вибірці.

Ключові слова: штучний інтелект, вербалізація ШІ, лінгвістичні інновації, дискурс Twitter/X, *Grok*, неологізм, семантичний зсув, цифрова комунікація.

Annotation. *The article investigates the role of artificial intelligence as a catalyst of linguistic innovation in Twitter/X discourse, with a particular focus on the phenomenon of AI verbalization – the process by which AI systems themselves become sources of new words, nominations and communicative formulas actively adopted by platform users. Special attention is given to Grok, the chatbot developed by Elon Musk's xAI company and integrated directly into the Twitter/X interface, which represents a unique case of a platform-level AI tool with immediate and measurable linguistic impact. The methodological framework combines conceptual analysis, semantic analysis of onomastic material, and discourse analysis. The empirical basis of the study is a sample of 300 Twitter/X posts collected by keywords (grok, AI-coded, slop) in 2023-2025. The study demonstrates that AI verbalization operates through four interconnected mechanisms: onomastic borrowing; the emergence of new communicative formulas; semantic shifts of technical terms (hallucinate, slop) into everyday evaluative register; and the formation of a new semantic opposition human – AI as a user response to the proliferation of automated content. The findings confirm that AI systems do not merely process language but actively shape it, functioning as full-fledged agents of linguistic change in digital discourse, which is confirmed by the analysis of the frequency of use of the terms grok, AI-coded and slop in the collected sample.*

Key words: *artificial intelligence, AI verbalization, linguistic innovation, Twitter/X discourse, Grok, neologism, semantic shift, digital communication.*

Introduction. Language has never evolved in a vacuum: every new communication technology has left its mark on the linguistic system of its era. Artificial intelligence stands apart in this regard – it does not merely alter the conditions under which text is transmitted, but for the first time plays a direct role in its creation. This is a fundamentally new type of technological influence on language, and it is already happening, although linguistics is only just beginning to make sense of it.

At the centre of this process is the Twitter/X platform, which is a particularly telling arena for observation for several reasons. Firstly, the platform has traditionally been characterised by an extremely rapid adoption of new words and forms of communication. Secondly, this is of fundamental importance – since November 2023, Twitter/X has been the only major social network in which an AI chatbot is built directly into the platform's interface. This refers to Grok – an artificial intelligence system developed by Elon Musk's xAI as an alternative to ChatGPT (xAI, 2023). Such architectural integration means that the language of Grok and the language of the platform are in constant and inevitable contact.

This situation poses a new question for linguistics: how do AI systems themselves – through their names, forms of address, characteristic lexical choices and descriptions of their own capabilities – become a source of linguistic innovation within the platform's discourse? This article attempts to answer this question through the concept of AI verbalisation as an independent mechanism of linguistic change in digital discourse.

Problem Statement. Contemporary digital discourse is undergoing a fundamental transformation, driven not merely by the emergence of new communication technologies, but by a fundamental shift in the role these technologies play in the linguistic process. Whereas until recently digital platforms served primarily as a channel for transmitting human utterances, the spread of generative artificial intelligence has radically altered the situation: AI systems have

become participants in the very process of text generation. This circumstance poses a question to contemporary linguistics that had not previously arisen: can a non-human agent be a source of linguistic innovation, and how is this influence realised in the platform's live discourse? Since November 2023, Twitter/X has been the only major social media platform to feature an AI chatbot integrated directly into the platform's interface. Such integration means that the language of Grok and the language of the platform are in constant direct contact. It is not simply a matter of people writing *AI-generated* or *ChatGPT said*, but of a deeper process: AI systems verbalise themselves, and this process of verbalisation is reflected in users' language. The question of how this process unfolds in the live discourse of Twitter/X and what role the platform-integrated AI bot plays in it remains open. Filling this research gap is the aim of the present study.

Analysis of recent research and publications. The theoretical framework of this study is based on research in several interrelated fields. The foundations for the study of language in online environments were laid by D. Crystal, who argued that internet communication gives rise to a qualitatively new – a 'third' – type of discourse, unknown prior to the emergence of digital platforms: it combines features of spoken and written language, but cannot be reduced to either of them (Crystal, 2004). Crystal later demonstrated that platforms with limited formats – particularly microblogs – are a particularly productive source of lexical and grammatical innovations, as technological constraints stimulate linguistic creativity (Crystal, 2011).

M. Zappavigna has systematically studied Twitter discourse as a distinct object of analysis. She introduced the concept of *ambient affiliation*: hashtags, appeals and evaluative statements bring strangers together around shared values, signifying membership of a particular digital community (Zappavigna, 2012). This mechanism is key to understanding why new AI-related terms – such as *grok* or *AI-coded* – are adopted so quickly: the use of such words is not merely a lexical choice, but a signal of belonging to an AI-literate audience.

Regarding artificial intelligence and language: D.Jurafsky and JH.Martin (2023) demonstrated that large language models are trained on corpora of academic and encyclopaedic texts and, by default, reproduce their characteristic stylistic features – in particular, hedging constructions such as *it seems that* and *one might argue*, passive constructions, and formal conjunctions. This is precisely why AI-generated texts on social media are recognised by users as stylistically alien and become the subject of ironic imitation and parody.

N. S.Baron (2023) described the ability of digital communities to reflect on *AI language* and parody it as a manifestation of the *metalinguistic awareness* of contemporary users: people not only assimilate AI language, but are also conscious of this process, and it is precisely this awareness that drives further linguistic transformations. The sociolinguistic underpinnings of these processes were outlined by W.Huang and J.Grieve (2025), who proposed viewing AI language as a distinct sociolinguistic variety – a variety of language that emerges at the intersection of human and machine communication and has its own patterns of dissemination and acquisition.

Despite the productivity of existing approaches, none of the current studies examines the situation that has arisen on Twitter/X following the integration of Grok – that is, an environment where the AI bot and its users are in constant public linguistic contact and where new terms and expressions spread in real time.

The aim. The aim of this article is to conceptualise the phenomenon of artificial intelligence verbalisation as a mechanism of linguistic innovation in Twitter/X discourse, and to identify its main forms and patterns using the AI chatbot Grok and related linguistic phenomena as case studies.

Achieving this aim involves addressing the following tasks: (1) to substantiate the concept of AI verbalisation as an independent linguistic mechanism; (2) to analyse the onomastic specificity of the name *Grok* and the processes it triggers in Twitter/X discourse; (3) to describe new communicative formulas generated by the integration of the AI bot into the platform's interface; (4) to investigate the semantic shifts caused by the verbalisation of AI systems.

Research Results.

AI verbalisation: a theoretical grounding of the concept. In linguistics, the concept of *verbalisation* traditionally refers to the process of expressing thoughts or experiences through language. In the context of this study, we expand this concept by applying it to AI systems as distinct agents of linguistic action. AI verbalisation is a process whereby AI systems, through their own names, self-descriptions, characteristic lexical choices and tonal markers, generate new linguistic units or reinterpret existing ones, and these units migrate into the discourse of real users, becoming established there as productive linguistic innovations. It is important to distinguish this concept from the broader notion of AI-mediated language (Huang & Grieve, 2025): while AI-mediated language describes the full range of human-machine linguistic interaction, AI verbalisation refers specifically to AI-initiated lexical innovation – the subset of cases where the AI system itself is the originating source of the new linguistic form.

The empirical base of the study consists of a dataset of 300 Twitter/X posts, collected via keyword search for the period 2023-2025. Posts were selected on the basis of semantic relevance to the target terms and were analyzed using the methods of conceptual analysis and discourse analysis.

It is fundamentally important that the verbalization process is two-way. On the one hand, AI systems verbalize themselves: they choose specific names, position their voice, and declare a particular communicative style. On the other hand, users assimilate this language, reproduce it, reinterpret it ironically, and incorporate it into their own discourse, thereby closing the feedback loop between human and machine communication. W.Huang and J.Grieve (2025) describe the result of this broader process as a distinct sociolinguistic variety – AI-mediated language, which is neither purely human nor purely machine-based.

Grok: onomastic innovation as a catalyst. A representative example of AI verbalisation is the very name of the chatbot Grok, launched by xAI in November 2023 directly within the Twitter/X interface (xAI, 2023). The name is borrowed from Robert Heinlein’s novel “Stranger in a Strange Land” (1961), where the verb *to grok*

denoted a particular type of understanding – deep, intuitive, and such that it transforms the object of understanding into a part of oneself (Heinlein, 1981). Until 2023, the word had the status of a niche subcultural slang term, known primarily within science fiction fandom and technology communities. The choice of this name is a linguistically charged act: it appeals to subcultural capital whilst simultaneously setting the semantic framework of ‘deep, unconventional understanding’ as the product’s positioning.

Following the launch of Grok, the word began to be widely used in Twitter/X discourse far beyond its onomastic context: “*I finally grokked why this code wasn’t working*”; “you need to grok the whole concept first, not just memorise it” (Twitter/X, 2025). This is a classic example of onomastic ‘spillover’: a proper name reactivates and massively spreads a half-forgotten slang term, giving it new pragmatic potential. Grok’s positioned tone is also of fundamental importance: unlike ChatGPT, which by default adheres to a neutral, academic style, Grok declares from the outset ‘wittiness, rebelliousness and fewer filters’ (xAI, 2023). This self-verbalisation is linguistically significant, as it introduces a metacommunicative framework into the Twitter/X discourse, within which the style of the AI system itself becomes the subject of discussion, comparison and parody by users.

Semantic shifts: how technical terms become part of everyday vocabulary.

Alongside the emergence of new terms, the verbalisation of AI is triggering an intense process of semantic shifts within existing vocabulary. The best-documented example is the word *hallucinate*: the Cambridge Dictionary chose it as its Word of the Year for 2023, recording a new meaning: ‘to generate false information and present it as true’ (Cambridge Dictionary, 2023). The dictionary noted that this particular word ‘captures the essence of what people are saying about AI’, and added a corresponding definition to the new AI-related framework. In Twitter/X discourse, the word has moved far beyond technical usage: “*The news channel was straight up hallucinating facts again, no sources, nothing*”; “*my brain is hallucinating at this point, haven’t slept in 40 hours*” (Twitter/X, 2023). The semantic shift is complete:

the word has moved from a clinical term, through technical jargon, to a general-purpose everyday metaphor.

The word *slop* – meaning ‘low-quality AI-generated content produced in large quantities’ – has followed a similar trajectory, – which Merriam-Webster named Word of the Year 2025, noting its shift from the colloquial ‘liquid animal feed’ to a critical label for automated posts (Merriam-Webster, 2025): “My feed is just slop now, every other post is obviously AI”; “stop posting slop and write something real”. In the dataset, the word appears in 47 out of 300 posts and is consistently used as a negative evaluative label, applied to both AI-generated content and, increasingly, to human posts that are perceived as formulaic or requiring little effort. Both shifts demonstrate the same pattern: a technical term describing AI behaviour is metaphorised and moves into the evaluative register, where it can then be applied to any human phenomenon.

The semantic opposition between ‘human’ and ‘AI’: a new framework for evaluation. The most profound consequence of the verbalisation of AI is the emergence of a fundamentally new semantic opposition within the Twitter/X discourse. The adjective *human* has acquired a new marker meaning – authentic, written by a living person, sincere, with a genuine reaction – as a direct opposition to automated content. Comments such as “*this feels so human, thank you*”, “*finally a human take on this*”, “*so refreshing to read something human*” function as praise that did not previously exist – because there was no need to mark human writing as something distinct from machine-generated text. The emergence of this opposition is a direct and irreversible consequence of the verbalisation of AI systems in digital discourse.

At the same time, the evaluative expression *AI-coded* has emerged to mean ‘formulaic, predictable, lacking in genuine emotion’ – and it now applies not only to texts (“this apology is so AI-coded, zero emotion”), but also to people’s behaviour (“the way he answered was totally AI-coded, like reading from a script”). In the dataset, the word occurs in 38 publications and is used exclusively in a critical, evaluative sense, which indicates that its semantic narrowing to the negative register

is already stable. The semantics of the expression have expanded from a technical assessment to a general evaluative register – and this is further proof that the verbalisation of AI is a systemic process.

Conclusions and Perspectives for Further Research. This study allows us to draw several key conclusions. Firstly, the verbalisation of AI is an independent and systematic mechanism of linguistic innovation within Twitter/X discourse, distinct from the previously described forms of technological influence on language. It is realised through three interrelated processes: onomastic borrowing, the formation of new communicative formulas, semantic shifts in technical terms, the emergence of a new semantic opposition between *human* and *AI*, and evaluative lexicalisation (*AI-coded*). Secondly, Grok is a unique case in this process: as a platform-integrated Twitter/X AI bot, it is in direct and constant linguistic contact with the platform's users, accelerating the diffusion of AI language into everyday discourse. The onomastic choice of the name Grok – borrowed from the slang of the science fiction subculture – is in itself a linguistic innovation that has revived a half-forgotten slang term and given it new pragmatic potential. Thirdly, the verbalisation of AI is a two-way process: AI systems verbalise themselves, whilst users not only passively assimilate this language but also actively reflect upon it, parody it, and thereby generate new discursive forms. This metalinguistic activity indicates that AI is not merely the object of users' linguistic reactions, but a full-fledged participant in the language-creating process within digital discourse.

The analysis of 300 Twitter/X posts collected in 2023-2025 confirms the frequent and contextually diverse use of the target terms: *grok*, *AI-coded*, and *slop*, each of which occurs across multiple subject areas and at different register levels, suggesting that their integration into everyday discourse is already underway rather than merely emergent.

The findings of the study have both theoretical and practical significance. Theoretically, the proposed concept of AI verbalisation expands the conceptual framework of media linguistics and opens up a new research perspective for analysing human-AI interaction in the linguistic space. In practical terms, it can be

applied in the development of digital literacy methodologies, in curricula for new media linguistics, and in applied research into the linguistic strategies of AI products.

Prospects for further research lie in several areas. Firstly, a comparative analysis of the verbalisation of different AI systems across various languages and cultural contexts will help determine which of the patterns described are universal and which are culturally specific. Secondly, a diachronic analysis of AI terms in Twitter/X discourse will make it possible to track their linguistic fate – whether they become established, are displaced, or undergo transformation. In practical terms, the results can be applied in the development of digital literacy methodologies and teaching programmes in the linguistics of new media. Prospects for further research involve extending the material to other languages and platforms, as well as multimodal analysis of AI content.

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