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DYNAMICS OF LANGUAGE SYSTEMS IN THE ERA OF DIGITALIZATION

LARYSA KRAVETS
FERENC RAKOCZI II TRANSCARPATHIAN HUNGARIAN COLLEGE OF HIGHER EDUCATION, BEREHOVE, UKRAINE

NATALIE VENZHYNOVYCH
UZHHOROD NATIONAL UNIVERSITY, UZHHOROD, UKRAINE

BOLIN ZHANG
DRAGOMANOV UKRAINIAN STATE UNIVERSITY, KYIV, UKRAINE

IVAN POLIUZHYN
UZHHOROD NATIONAL UNIVERSITY, UZHHOROD, UKRAINE

RENATA LUKANYNETS
UZHHOROD NATIONAL UNIVERSITY, UZHHOROD, UKRAINE

Abstract. The relevance of this article determines the need to study the changes occurring in the Ukrainian language under the influence of digital technologies. The aim of the article is to determine the extent of changes in the Ukrainian language caused by the development of digital technologies. To achieve this goal, a substantial body of scholarly works on the subject was reviewed, the empirical data sources were identified, and linguistic units were collected and analyzed. The study employs a set of theoretical research methods, including Computer-Mediated Discourse Analysis. It was found that the most significant changes occur in the language of computer-mediated communication, particularly in social media, and these changes influence other spheres of human interaction as well as the norms of standard literary language. The most noticeable dynamics were recorded in several linguistic subsystems: lexical, syntactic, and stylistic systems. The specific features of computer-mediated communication also manifest in the disregard of standard Ukrainian orthographic norms, such as the use of capital letters, and in punctuation, as evidenced by the minimization of punctuation marks. The study demonstrates that digital technologies intensify the development of the Ukrainian language by activating processes in various subsystems and expanding the domains of its functioning.

Keywords: Language system; Language norm, Dynamics of the language system; Social media; Computer-mediated communication.

The development of information technologies and the resulting digitalization of society have significantly influenced language and linguistic communication. They have created new forms of interaction and altered the structure of language, its norms, and its stylistic and stylistic characteristics. The revolutionary impact of modern technologies on the development of civilization is often compared to the impact of printing on the socio-system. As McLuhan notes, "with print Europe experi enced its first consumer phase, for not only is print a consumer medium and commodity, but it taught men how to organize all other activities on a syste matic lineal basis. It showed men how to create markets and national armies. For the hot medium of print enabled men to see their vernaculars for the first time, and to visualize national unity and power in terms of the vernacular bounds: "We must be free or die who speak the tongue that Shakespeare spake." Inseparable from a nationalism of homogeneous English or French speakers was individualism" (McLuhan, 1962). In our time, digital technologies, just as printing did in its day, have brought about significant changes in all spheres of society and the economy, transforming linguistic communication and stimulating the dynamics of language systems (Pocheptsov, 2015). This impact is, in some respects, similar to that of printing on civilization, since both printing and digitalization, according to Warschauer (2004), represent improvements in the means of human interaction: they foster greater engagement, facilitate the dissemination of information, and enable individuals not only to receive information but also to create it. At the same time, new technologies are fundamentally different from those that existed over the several centuries since the

invention of the printing press by J. Gutenberg, and therefore their impact on society is somewhat different as well. While the printed book is a cultural phenomenon and a material form of preserving and transmitting knowledge, digital technologies are electronic tools that not only store vast amounts of data but also analyze and generate information. They ensure easy accessibility of information for users, as well as the speed of processing and transmitting information over great distances.

The specific nature of printing fostered centralization and unification within society, particularly by transforming national dialects into a means of mass communication (McLuhan, 1962). It also contributed to the elevation of vernacular languages, their codification, and their integration into the cultural sphere. Digital technologies, conversely, have stimulated decentralization and pluralism: by creating a global environment for diverse interpersonal and social interactions and encouraging users toward public communication, they have enabled the widespread use of all available means of the common language in the public sphere, prompted the emergence of new genres, and influenced the structure and volume of texts. H. Pocheptsov emphasizes: "The book brought nationalism and nation-states, gave freedom to science and religion, and made it possible to create education of a new level. Humanity received high-level intellectual models to look up to. Strangely enough, the Internet is carrying out the reverse process, it has given a voice to low-level models, and people have begun to look up to them as well" (Pocheptsov, 2015). The changes in national languages driven by digital technologies have attracted significant interest from researchers, particularly linguists. Scholars seek to document all innovations and to determine the possible consequences of these transformations for language, culture, and society.

The aim of this article is to determine the extent of changes in the Ukrainian language caused by the development of digital technologies.

LITERATURE REVIEW

One of the foundational works in studying the impact of technology on societal development in general, and language in particular, is M. McLuhan's *The Gutenberg Galaxy*. The scholar argues that it is communication media that transform the world by manifesting and extending certain functions of the human body, which is notably reflected in language and human behavior patterns. McLuhan emphasizes that the effects of technology occur not at the level of ideas or concepts; they alter sensory ratios or patterns of perception, gradually and without resistance (McLuhan, 1962; McLuhan, 1964). The outcomes of this influence are multifaceted, encompassing both positive and negative aspects, manifested in expanded consciousness, restructuring of the psyche, worldview, and the nature of human interaction, among others. The theoretical propositions of this scholar have been further developed in subsequent communication studies, although they have also faced considerable criticism for a lack of depth and certain limitations. Nonetheless, these ideas remain relevant today. In our study, we take into account McLuhan's insights regarding the role of technology in shaping language and the transformational processes within its structure (McLuhan, 1962).

The dynamics of language systems have become a focal point of interest for scholars studying language functioning on the Internet. These studies are primarily based on texts of various types of computer-mediated communication (blogs, online media, social media posts, online chats and discussion forums, commercial websites, internet advertising, email, fiction, etc.). Initial attention was especially drawn to the language of SMS, as the specific features of this form of communication, such as character limits, the inconvenient small keyboards of earlier-generation mobile phones, and message fees, led to the development of a concise mode of expression and the emergence of numerous innovations. The language of SMS is characterized by features such as abbreviation (including acronyms, abbreviations, notably alphanumeric notations, and word shortening through vowel omission, as well as contraction of phrases); short, truncated, and/or incomplete sentences; the use of pictograms; and disregard for grammatical and punctuation rules (punctuation may be simplified or entirely absent); avoidance of capital letters or, conversely, their use to intensify emotional expression, among others (Thurlow, 2003; Rúa, 2007). At the same time, it is important to emphasize that the basis of these text messages is the contemporary common language, whose orthography generally conforms to current spelling standards, although it exhibits significant deviations.

Scholars' assessments of SMS language and the potential consequences of its use vary significantly. For example, J. Sutherland argues that this form of language conserves cognitive effort, masks illiteracy, and resembles dyslexia; he considers it primitive and devoid of imagery (Sutherland, 2002). In stark contrast, Crystal contends that text messaging language fosters creativity (Crystal, 2008, p. 19). Crystal also emphasizes that abbreviations are not a modern invention but have existed historically: "People have always abbreviated in English and in German. You can find abbreviations going back centuries, right to the beginnings of English in Anglo-Saxon times" (Crystal, 2008, p. 17). At the same time, according to Crystal, the influence of the Internet on language remains unpredictable (Crystal, 2008, p. 20).

With the development of other genres of digital communication (such as social networks, messengers, and online media) the focus of research has gradually shifted toward these areas. The emergence of a substantial number of new genres has created a need for their description and classification. Recent studies have generally characterized the specific features of various genres of computer-mediated communication. According to Goroshko's observations, research on genres currently proceeds along three main directions:
- Functional (this direction involves describing the social and organizational functions of genres, that is, defining their role and place within the discursive space, genre repertoire, and the overall system of genres; it also includes studying the functions of a genre from the perspective of the user interface);
- Evolutionary (this area focuses on examining the adaptability of traditional print genres to the new electronic environment, characterized by ever-expanding hypermedia capabilities; it also considers the hybridization of genres and the emergence of entirely new forms of digital genres);
- Linguo-philosophical (this approach studies the genre of Internet communication as a modified speech genre. Concurrently, it involves examining digital genres from the standpoint of the cognitive-pragmatic principles underlying the creation of a virtual identity (Goroshko, 2007b).

The development of Internet communication genres is influenced by various factors, including the hypertextuality and interactivity of the environment; the intensity of multimedia usage; the capabilities for maintaining a connection between the text's author and its audience; the synchronicity and asynchronicity of communication; the frequency of information updates; the intended recipient of the text; the author and their linguistic characteristics; the multiplicity or singularity of electronic text authorship; and the communicative goals the author seeks to achieve within the electronic environment (Goroshko, 2007b).

The study of the specific features of Internet communication genres has led to the conclusion that «that prototypical networked writing is shaped by four main conditions (…): (a) it is vernacular, in the sense of non-institutional writing that is located beyond education or professional control; (b) it is interpersonal and relationship-focused rather than subject-oriented; (c) it is unplanned and spontaneous; and (d) it is dialogical and interaction-oriented, carrying expectations of continuous exchange. These properties set the frame for a prototype of new writing, which first materialised in pre-web applications such as personal emails, newsgroups and chat channels, then carrying on to forums, texting and instant messaging» (Androutsopoulos, 2011, p. 145).

Ukrainian researchers note that language on the Internet holds particular significance and greater potential for development: "The Internet space itself embodies living human thought, expressed in the form of text that simultaneously synthesizes graphics, sound, and animation. As a new communicative environment, the Internet encourages language users to reflect more often on the linguistic resources they employ. The network stimulates human linguistic creativity. Language thus becomes a tool for the creative self-realization of individuals communicating through it" (Goroshko, 2009).

MATERIALS AND METHODS

The specific nature of computer-mediated communication necessitates a revision of traditional research tools. In particular, there arises a need to define classification criteria for identifying and characterizing units of analysis, principles for organizing experimental sampling, as well as ethical issues related to conducting research (Goroshko, 2009; Herring 2004a). The properties of the online environment determine the necessity of developing hybrid and multimodal research methods that combine several levels of data analysis (Bergman 2007; Herring 2004b; Morgan 2007). In recent years, Computer-Mediated Discourse Analysis (CMDA) has gained popularity as a method designed to study the functioning of language in various genres of online communication, such as forums, social networks, e-mail, and others. This method is used to analyze the structure and content of texts, the means of expressing individuality in the online space, the specific features of human interaction, and so on (Herring 2004b). At the same time, Herring, while noting the potential analytical effectiveness of CMDA, points out its limitations and considers it appropriate to combine it with other methods, such as surveys, interviews, and ethnographic observation (Herring 2004b).

The methodological framework of our study is based on a comprehensive and systematic combination of general scientific and specialized (linguistic) methods. The general scientific methods employed in the research include analysis, synthesis, information-retrieval method, descriptive method, induction and deduction, as well as the method of continuous sampling. The method of analysis was applied to substantiate the theoretical foundations of the study and to process the collected material; synthesis was used to characterize the key concept of "language of computer-mediated communication"; the information-retrieval method was employed to process the material necessary for further analysis of the dynamics of the Ukrainian language; the descriptive method served to characterize the recorded linguistic phenomena, to explain their meaning, functional features, and formation mechanisms; the inductive method helped to formulate conclusions about the dynamics of the language system; the deductive method was used for the sequential

presentation of the research results and to move the text from general to specific; finally, the method of continuous sampling was employed to compile the material base of the study. Within the framework of Computer-Mediated Discourse Analysis (CMDA), the study employed (1) variable contextual analysis, which was used to identify how changes in context influence the meaning of a word and its grammatical collocability, and (2) interpretative analysis to explain the meanings of linguistic units. The following linguistic methods were also applied: the conceptual-linguistic method, to identify established and newly emerged linguistic units; lexical-thematic modeling, to distinguish thematic groups of the recorded linguistic units; and the functional-semantic method, to examine the semantics and functions of the recorded linguistic units.

The material for the study consisted of posts on the pages of active Facebook users (primarily Ukrainian public figures and writers), posts in groups and comments on them, blogs, and commercial websites.

RESULTS

Internet communication is a multi-style and multi-genre exchange of information, characterized by the speed of message transmission, polyphony, hypertextual and interactive capabilities, anonymity and distance, emotionality, among other features (Goroshko, 2009; Sorochenko, 2017). The forms of Internet interaction include dialogue (via email, messengers, social networks), monologue (electronic publications, partly commercial websites), polylogue (conferences, forums, online chats, social networks), as well as their combinations. These interactions occur predominantly in written form, which constitutes one of the most noticeable changes in public, interpersonal, everyday, and official communication. The exchange of written messages (SMS, emails, messages in messengers such as Telegram, Viber, WhatsApp, and on social networks) has displaced telephone conversations. This shift toward writing has given rise to new trends that combine the immediacy of spoken language with the permanence of written records. Overall, people now write, and therefore read, more than ever before, yet this writing is largely spontaneous and situational.

Digital technologies induce, to a greater extent, changes in the language that functions on the Internet, primarily in the language of social networks, online chats, and forums, and to a lesser extent in the language of commercial websites and online media. Changes are observed across several subsystems of language, namely, the lexical, phraseological, and syntactic levels (the construction of utterances and texts), as well as the stylistic level (alterations in genre and stylistic norms). Notable changes are also recorded in the system of language etiquette formulas.

A distinctive feature of computer-mediated communication is the development of hybrid, or multimodal, forms of interaction. Users often combine text with various types of images, photographs, videos, audio messages, and animated GIFs. This integration of diverse means makes written communication richer, more emotional, and more effective, while also conserving linguistic resources. For example, instead of describing emotions in words, users send an appropriate emoji or GIF that visualizes the mood and conveys it more quickly and expressively than several words.

Emojis, stickers, and GIFs, when integrated into message texts, become fully-fledged nonverbal means of expression and function as substitutes for words, phrases, and sometimes entire sentences. It should be noted that emojis are the most international in nature, as they convey emotions common to all people in a simple form.

Emojis express emotions, intonation, and psychological reactions that are often lost in written communication. They are considered a means to compensate for the lack of an emotional component in writing. Stickers (large, detailed images) can convey more complex emotions and reactions, or even serve as brief verbal responses. GIFs (animated images), due to their dynamic nature, transmit humor, irony, and more nuanced emotional states, or substitute entire dialogues by invoking well-known cultural references.

The use of these means in the Ukrainian segment of the internet, as in other segments, is widespread, providing grounds to speak of a visual "supercode" that complements or even replaces established linguistic expressions, making communication emotionally richer.

The language of social media, online chats, and forums resembles conversational style, whose primary mode of functioning is oral communication. At the same time, it differs from direct face-to-face interaction in the speed of response. Messengers and online chats create the illusion of synchronous communication, where an almost instantaneous reaction is expected. However, asynchronous communication is also possible, when messages are read and responded to later, meaning communication can occur without the simultaneous presence of the interlocutor. This flexibility alters the pace of conversation and enables people to communicate regardless of time zones or busy schedules, but it can also cause some psychological tension due to the expectation of a prompt reply.

Significant changes are observed in the lexical composition of the Ukrainian language used in computer-mediated communication. These changes manifest in several aspects: borrowings (predominantly from English), semantic neologisms (extensions of established word meanings), and neologisms.

Borrowing is one of the productive means of enriching the lexical stock of the Ukrainian language used in computer-mediated communication. The primary source of borrowings is English, as the lingua franca of the technological world. Borrowings from English form the basis of computer jargon but are also actively used across various domains of computer-mediated communication. Among these borrowings are direct borrowings, lexemes adapted to Ukrainian phonetics and morphology, and calques, which are literally translated words. The main groups of borrowings include technical terminology, vocabulary related to the internet and social networks, lexicon associated with business and marketing in the digital sphere, and jargon (computer slang). Among borrowings, abbreviations and acronyms transliterated from English stand out, such as *IMXO (IMHO – In My Humble Opinion), Лол (LOL – Laughing Out Loud), ОМГ (OMG – Oh My God)*, and others.

It should be noted that the borrowing of words not only enriches a language but can also lead to the impoverishment of the recipient language's lexical stock, the loss of its uniqueness, changes in grammatical structure, and destabilization of linguistic norms. In the long term, these processes may risk limiting the language's functional scope. Therefore, within the Ukrainian-speaking community, it is recommended to replace unjustified borrowings with Ukrainian equivalents, for example: *deadline – rechenets, screenshot – znimok ekranu, mobile app – zastosunok, account – oblikovyi zapys, like – vpodobaika, sticker – nalipka, link – posylannia, fotohrafiia – svitlyna*, among others.

Semantic derivation is also a productive process in computer-mediated communication, whereby commonly used Ukrainian lexical units acquire new meanings or expand their semantic scope under new contextual conditions. This issue has been the subject of the detailed analysis (Kravets et al., 2024). Semantic derivation is interpreted as a "complex, multi-level process of creating new meanings, accompanied by changes in the semantic structure of a word, arising from the influence of both intra-linguistic and extra-linguistic factors, which affects the entire lexical-semantic system of the language, making it open to change and dynamic." Semantic derivational processes are mostly associated with the development of polysemy. However, various types of actantial transformations are also relevant, namely categorical shift, shift of focus of attention, and deagentivation" (Kravets, 2023, p. 75).

Another productive way of enriching the vocabulary functioning in computer-mediated communication is the formation of new words according to the word-formation norms of the Ukrainian language (morphological neologisms) (see Table 1).

TABLE 1

Lexical system		
Borrowings	technical terminology	*gadget, device, software, hardware, account, login, file, click, update, screenshot, hacker, spam,* phishing, cache, *bug, firewall, browser, server, hosting, domain, widget, playlist* and others.
	vocabulary related to the Internet and social networks	*online, offline, post, like, repost, follower, hashtag, stream, blog, blogger, meme, chat, messenger, avatar, nick, scroll, pixel, gamer, cybersport, crowdfunding, feedback, fake, cyberbullying, trolling* and others.
	vocabulary related to business and marketing in the social sphere	*startup, copywriter, freelance, targeting, content, creative, case (у значенні "приклад, випадок"), deadline, meetup, workshop, coworking* and others.
	semantic neologisms	*comment* (has acquired the meaning: "to leave a comment under a post")*, *zavantazhyty* (has acquired the meaning: "to download a file," "to download a program"), *vydalyty* (has acquired the meaning: "to delete a file," "to delete an account",) *storinka* (has acquired the meaning: "webpage," "page on a social network"),

	merezha (has acquired the meaning: "computer network," "social network"), *virusnyi* (has acquired the meaning "rapidly spreading on the network"), *khmara* (has acquired the meaning "cloud data storage"), *stina* (has acquired the meaning "wall" on Facebook), *druzi* (has acquired the meaning of "friends" on social networks (who may also be strangers)), *strichka* (has acquired the meaning of "news feed"), *hilka* (has acquired the meaning of "comment thread"), *zberehty* (has acquired the meaning of "to save a file"), *koshyk* (has acquired the meaning of "trash bin" for deleted files) and others.
morphological neologisms	*skrynyty, zaskrynyty, zahuhlyty, zalaikaty, zafrendyty, rozfrendyty, zabanyty, rozsharyty, tsyfrovizatsiia, internet-zalezhnist, infa (informatsiia), komp (kompiuter), translit (transliteratsiia), frylanserstvo* and others.

Computer-mediated communication (such as online chats, social networks, messengers, and comments) significantly affects not only the lexical composition of the Ukrainian language but also its syntax. This influence is manifested in a tendency toward simplification and economization of linguistic means to enhance communication speed. Syntactic simplification is reflected in the predominance of simple sentences with direct word order, fragmentation of sentences, and omission of sentence elements (ellipsis).

The syntax of messages and posts in computer-mediated communication generally adheres to the current norms of the Ukrainian language but exhibits certain peculiarities. Users prefer short, simple, often unextended sentences instead of complicated and complex syntactic constructions with many subordinate clauses. Long sentences are mostly divided into several short ones, which facilitates their perception on the screen and maintains the dialogue's dynamics. Main or secondary sentence members are often omitted when they can be easily inferred from the context (see Table 2).

TABLE 2

Syntax	
prevalence of simple sentences	Traditionally: "*Ya dovho dumav nad vashoiu propozytsiieiu, yaka zdaietsia meni dosyt tsikavoiu, prote potrebuie detalnishoho analizu pered pryiniattiam ostatochnoho rishennia*". Variant from computer-mediated communication*: "Podumav. Tsikavo. Treba rozibratys" or "Propozytsiia tsikava. Detali?"*
sentence fragmentation	Traditionally: "*Nezvazhaiuchy na skladni pohodni umovy ta intensyvnyi rukh, vodii zmih vchasno distatysia do mistsia pryznachennia, unykaiuchy bud-yakykh neperedbachuvanykh sytuatsii.*" Variant from computer-mediated communication: "*Pohoda zhest. Rukh intensyvnyi. Ale doikhav vchasno. Bez pryhod.*"
ellipsis (omission of sentence elements)	"Kudy ydesh?" or "Kudy ty" instead of "Kudy ty ydesh?" "Vzhe zrobyv", "Vzhe" instead of "Ia vzhe tse zrobyv."

The influence of the specifics of computer-mediated communication (CMC) is also evident in the use of punctuation marks and capital letters. Notably, there is minimal use of punctuation marks. Users often disregard the punctuation norms of contemporary Ukrainian, frequently omitting periods, commas, dashes, colons, and semicolons, especially in rapid, informal communication. In contrast, the use of exclamation and question marks tends to be excessive, employed to emphasize emotional intensity or to replace entire expressions. Occasionally, emojis serve as punctuation marks, most often substituting for periods. Text is often typed in lowercase letters, particularly in online chats, reflecting the informal nature of the interaction. The avoidance of capital letters often coincides with the omission of punctuation marks. At the same time, within the Ukrainian digital communication segment, typing in all capital letters has become conventionally interpreted as shouting or aggression, especially in online chats and emails (see Table 3).

TABLE 3

Changes in the use of punctuation marks and capital letters

minimal use of punctuation marks	"pryvit yak spravy shcho robysh" instead of "Pryvit, yak spravy? Shcho robysh?"
excessive use of exclamation marks, question marks, and ellipses	"Ura!!!", "Tse pravda????", "Ne znaiu……" !!!!!!!! ?????
disregard for the rules of capitalization	"pryvit napyshy koly zmozhesh"

Notable changes are also observed in the stylistics of Ukrainian language in computer-mediated communication. The texts demonstrate a high frequency of colloquial, informal vocabulary, often carrying ironic or humorous connotations. Overall, text messages in messengers are highly expressive, as evidenced by the considerable use of interjections, reduplication, and the frequent employment of exclamation and question marks. For example, interjections such as *aha, uhu, oho, o, oi, ehe, khm* may be intensified with exclamation or question marks: *Oho!!!????, Ahov!!!, O!!!!.* Reduplication, the repetition or doubling of a root, base, or entire word, as well as elongation of basic sounds, is also a frequent phenomenon in Ukrainian text messages: *Niiiiii!, fuuuuu, Nuuuu*, etc. This technique serves to express the intensity of emotions. Characteristic as well are playful phonetic spellings, reflecting heightened metalinguistic awareness, and the extensive use of graphic means in combination with linguistic units. For example, emotions are conveyed not only through words but also by means of emojis, stickers, and GIFs, which influence the choice of lexical units and the structure of sentences. The texts acquire a specific stylistic coloring through digital-alphabetic representations of phonetically similar phrases, formed on the basis of English but international in their use: *4U (for you), CUL8R (see you later), T2UL (talk to you later), B2W (back to work), B4 (before)*, and others. Comparable Ukrainian abbreviations are almost absent, although some letter-based reductions are used: *treba → tra (less commonly – tre), diakuiu → diak, khochesh → khosh, khto znaie → khz*, etc. These changes represent a natural process of the Ukrainian language's adaptation to the new conditions of functioning in computer-mediated communication. They demonstrate the dynamism and flexibility of the Ukrainian language, its ability to integrate new concepts and expressive means while developing its own resources. At the same time, these processes provoke discussions about maintaining language purity and adhering to existing norms, which is characteristic of any period of intense linguistic change.

The specificity of the internet space has led to the emergence of new rules of communication and the transformation of established ones. The etiquette of online communication has become known as netiquette. This etiquette is aligned with the moral human values inherent in face-to-face interaction. Electronic communication does not negate traditional Ukrainian language etiquette and presupposes the use of established etiquette formulas at various stages of verbal interaction. In messengers and email, as in live communication, the social status of the addressee and the relationship with them (friends or acquaintances) are important. With an unfamiliar person, the norms of formal communication are usually observed, whereas conversations between friends or close acquaintances often feature freer use of linguistic signs combined with emoticons, stickers, and numerous abbreviations. However, in web chats, forums, and comments, the rules of interaction are more liberal.

In computer-mediated communication, groups or chats are usually moderated by an administrator who publishes the rules of conduct, and only after accepting these rules may a participant join the conversation. This helps to prevent, for example, disinformation or insults involving obscene language. Violations of netiquette include insulting an individual or group of people, deliberate deviation from the topic, advertising or self-promotion in unauthorized spaces, slander or other intentional disinformation, and plagiarism. In most groups, hate speech and obscene language are also prohibited (Yermolenko et al., 2022).

The language etiquette of computer-mediated communication is heterogeneous and varies depending on the forms and modes of interaction, videoconference, chat, messenger, social networks, email.

The most regulated forms of communication are email and videoconferencing. In emails, predominantly conventional etiquette units are used. For videoconferencing, as an official form of communication that closely approximates face-to-face interaction, standard etiquette formulas of address, greetings, thanks, farewells, and good wishes are typical. These formulas are mandatory for all participants who join the

videoconference. However, in the presence of a large number of participants, it is customary to exchange greetings, thanks, and farewells primarily in the chat.

Messengers are used primarily for informal or semi-formal communication. Language interaction in messengers is stylistically heterogeneous, spontaneous, and expressive, often characterized by non-compliance with linguistic etiquette norms, the use of non-codified units, and non-verbal etiquette means. Communication in messengers does not require introducing oneself, apologizing for disturbing the recipient with a message, inviting someone to communicate, or starting the conversation with a preamble, as is customary, for example, in a telephone conversation. At the same time, traditional etiquette formulas of greeting, making requests, and saying farewell remain relevant.

In social networks, linguistic etiquette significantly depends on social factors, such as the social status of the page author and the participants in the discussion. For example, posts by Ukrainian writers generally do not include direct addresses to their readers. Occasionally, these posts contain addresses to inanimate objects or the surrounding world rather than to specific individuals. In contrast, direct addresses are frequent in comments on such posts. Readers of Myroslav Dochynets are quite active, responding in comments with various greeting formulas and forms of address: *"Peace to you, Myroslav!"*, *"Many years and blessings, author!"*, *"Good day, Mr. Myroslav!"*, *"Peaceful day to us all!"*, *"Mr. Myroslav, shared your post with friends, let them read it with your virtual consent,"* *"Such tasty words you have, Mr. Myroslav!"* (Facebook, 06 February, 2022). Virtual communication with the writer is aestheticized and carries a unique emotional coloring. The forms of address are imbued with warmth and friendliness, bringing the artist closer to his readers.

A distinctive feature of communication in social networks is the absence of a clear division into introduction, main body, and conclusion; nevertheless, texts always contain a clearly articulated author's viewpoint. Etiquette formulas of greeting, even conventional ones, are practically absent. Only occasionally are greetings such as *"Good day!"* or *"Hello!"* recorded in comments on posts. Traditional forms of address by first name or full name with patronymic in chats and comments, especially where there are many participants, are replaced by mentions using "@" or by quoting the message. Avoiding direct forms of address, on the one hand, reflects an economy of linguistic resources, but on the other hand, it somewhat depersonalizes the interlocutor and does not facilitate establishing a close connection with them. Etiquette linguistic formulas in social networks are often modified, demonstrating individual originality, which imparts a particular stylistic color to the communication.

Societal events significantly influence the linguistic etiquette of computer-mediated communication. For example, in the Ukrainian segment of social networks, the war between Russia and Ukraine has led to the widespread use of the phrase *Slava Ukraini! – Heroiam Slava! (Glory to Ukraine! – Glory to the heroes!)* as a greeting or farewell, as well as the emergence of a new phrase serving the same function: *Slava ZSU! (Glory to the Armed Forces of Ukraine)*. Additionally, expressions such as *Tykhoho dnia (vechora, nochi)! and Myrnoho dnia! (Have a quiet day (evening, night)!)* have become frequent.

DISCUSSION

Research results show that computer-mediated communication causes significant changes across various systems of the national language. First and foremost, digital communication blurs the boundary between oral and written forms of language. The openness and accessibility of a potential interlocutor, informality, situationality, spontaneity, and sporadicity lead to the transfer of elements of spoken language into written communication. At the same time, the written form increases the responsibility for what is expressed and requires greater communicative effort from participants. Written speech is more prepared, deliberate, and complex both in formal-grammatical and semantic aspects than oral speech. However, computer-mediated communication diminishes some of these characteristic features. Written communication online is more spontaneous and less edited. The liberal linguistic ideology of the Internet does not reject the use of colloquial language, including dialects and various types of slang, in written communication.

Message exchange between participants in network interaction is spatially remote but can occur in real time, which reduces or even eliminates the opportunity for preparation, strategic planning, composing extended texts, and their editing. Computer-mediated communication (such as chat, forums, and messengers) encourages the creation of simple and brief written texts with clear and concise expression of thoughts. An important factor is the absence of paralinguistic cues, which makes it difficult to promptly detect misinterpretations of messages and correct them. This lack is partially compensated by polysemiotic signs (emoticons) and other nonverbal elements. The speed and frequency of message exchange, the peculiarities of keyboard use, and predictive text services contribute to the emergence of a significant number of errors in written texts, which participants often regard with indifference or humor, sometimes even playing with them.

The liberal linguistic ideology of the Internet does not imply the abolition of the rules of language culture. In computer-mediated communication, the rules governing the use of any resources are determined by the owners of those resources; however, there are general norms that all users are obliged to follow. Among the rules of netiquette are those that restrict the use of rude, obscene, or offensive words and expressions. Administrators of many platforms delete messages containing profanity. In numerous Internet genres, such as business, advertising, and scientific texts published on official websites, as well as in electronic mail, Internet conferences, Wikipedia, and others, it is also important to avoid grammatical and typographical errors. Their presence creates a negative impression on readers, reduces trust in the resource, complicates text comprehension, and characterizes the author as uneducated and careless.

The diverse linguistic communication experience gained on the Internet is automatically transferred by the user into real life. This has various consequences. On the one hand, there is an opinion that "the extreme simplification of communication on the Internet leads to the simplification of the linguistic, and subsequently the physical (real) personality, causing irreversible changes in the psyche. The visualization of communication results in a decline in the ability for verbal expression and perception, which negatively affects communication across different age groups, reducing its overall effectiveness and mutual understanding, for example, between generations" (Goroshko, 2007a). On the other hand, it is believed that participants in network communication gradually acquire skills for free, open, and easy interaction. Under the influence of online communication, their metalinguistic reflection expands and strengthens, which is determined by the dominance of the written form of language in computer-mediated communication, the use of polysemous signs and messages, the coexistence of two alphabets (Cyrillic and Latin), and at least three languages functioning within the Ukrainian segment of the Internet. These factors somewhat "complicate" communication; however, these semiotic "burdens" enhance the user's semiotic competence.

The Internet, by reducing social pressure and allowing anonymity, facilitates a multifaceted expression of personality and fosters creativity. Individuals gain the opportunity to create numerous virtual linguistic personas under different names (nicknames) and maintain their functionality, bypassing the socially conditioned norms and rules of real life. Anonymity enables easy alteration of formal attributes and social roles, allowing one to act in a carnivalistic or playful manner. At the same time, anonymity can provoke an online sense of permissiveness, which may trigger aggression toward others, manifested, in particular, through verbal aggression, the use of obscene language, and coarse swearing online. The secrecy of the individual's identity, the lack of direct contact with the interlocutor, and immersion in a virtual space, seemingly an extension of the inner world with its fantasies and dreams, disinhibit consciousness and alienate primary identity, resulting in the emergence of latent psychological traits.

The specific use of technical devices (smartphones, tablets, computers), the increasing volume of information received through these devices, and the peculiarities of its perception and processing significantly affect the human psyche and functional processes. In particular, they alter the perception of time and space, memory retention, and the ability to concentrate (Baron, 2009; Goroshko, 2007a). The continuous growth of information volume and the intensification of communicative processes lead to an increased informational pressure on individuals, naturally provoking multifaceted reactions, on one hand, a desire to avoid unnecessary information, and on the other, an effort to control it (Baron; 2009; Turkle, 1995). These factors influence the language of computer-mediated communication, manifesting in the economization of linguistic resources, simplification of writing, the construction of syntactically incomplete or deviant sentences, individualization of punctuation, and increased use of visual elements.

CONCLUSION

The conducted research provides grounds to assert that digital technologies serve as a powerful catalyst for changes in the Ukrainian language, most prominently manifested in its lexical, syntactic, and stylistic systems. These changes primarily occur within the language of computer-mediated communication, particularly in social media, and influence other spheres of human interaction as well as the norms of the literary language.

The lexical system has traditionally been the most dynamic, exhibiting significant renewal of the lexical stock, including the emergence of a large number of borrowings from English, as well as semantic neologisms (expansion of established word meanings, emergence of new meanings) and morphological neologisms. It is noteworthy that the intensive borrowing of foreign vocabulary has provoked a counter-reaction characterized by the activation of Ukrainian linguistic resources, manifested in the intensified processes of word formation and the use of established Ukrainian vocabulary to denote new realities.

Significant changes are also observed in the syntax of the Ukrainian language, which generally complies with the current norms of literary Ukrainian but exhibits certain specific features. In particular, there is a clear tendency towards simplification and economization of linguistic means to increase communication

speed. Simple sentences with a direct word order prevail, while frequent instances of sentence fragmentation and omission of sentence elements (ellipsis) occur. Changes are also evident in the rules governing text structuring and genre-stylistic norms. Users demonstrate considerable creativity in their use of punctuation and capitalization.

The stylistics of language in computer-mediated ommunication (CMC) has also acquired new specific features. We observe tendencies toward hybridization and convergence of styles. Written language acquires characteristics of spoken language, it becomes more spontaneous and less structured. Users face no restrictions in the use of linguistic units; therefore, their messages often contain colloquial vocabulary, as well as dialects and slang. Overall, communication is quite expressive and includes language play, which reflects an increased metalinguistic awareness.

New rules of linguistic interaction have formed in computer-mediated communication; however, adherence to ethical norms of language behavior remains relevant.

Thus, the identified changes characterize the Ukrainian language in computer-mediated communication, which influences the literary norm, although this influence is insignificant. Digital technologies intensify the development of the Ukrainian language by activating processes in various subsystems and expanding its functional domains. The conducted research does not exhaust all aspects of the outlined problem, as the Ukrainian language is in constant evolution. The prospects for further research on this issue are seen primarily in the continuous in-depth study of changes occurring in the linguistic subsystems of the Ukrainian language, as well as in a thorough comprehensive analysis of their impact on the literary language.

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