

# Information Society Through the Prism of Language and Culture

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**Abstract** – The article defines stages of development of information technologies sublanguage, its functions and a place in the system of the national language. The modern stage is marked by wide penetration of special vocabulary of information technologies sublanguage in all strata of the Russian language, both literary and non-literary: vernacular, slang and jargon. It is argued that the introduction of information technology generates linguistic and cultural changes in modern Russian society, indicating its steady transformation into the information society. The increased importance of engineering and technology is associated with symptoms of determinologization: penetration of terms and nomina from the sublanguage of information technologies in the common-literary language – and deprofessionalization: penetration of professional words and professional jargon words. Technocratic thinking determines the nature of modern metaphors: aiming at assimilating a human to technical devices, giving technology human qualities. Globalization processes are expressed in the flow of borrowings from the Anglo-American language. The dominance of the role of information is manifested in the expansion of semantics, lexical compatibility, increasing frequency of use of lexemes *информация* (*information*), *информационный* (*informational*), *интернет* (*Internet*), *веб* (*web*), *сеть* (*network*). Redundancy, fragmentation, rhizomatism, network principle of organization of information systems form hypertext, which becomes the principle and translator of network communication. Axiological and value-based anti-hierarchy are manifested in the blurring of boundaries of the language, erasing boundaries of the sublanguage of information technologies both between it and literary language, vernacular and jargon, as well as within the sublanguage. At the language level, the virtualization of reality is manifested in the functioning of combinations like: *реальная действительность* (*real reality*), *виртуальная действительность* (*virtual reality*), *дополненная реальность* (*augmented reality*), etc. Now it is impossible to consider as pleonastic expression *реальная действительность* (*real reality*), since the expression *виртуальная реальность* (*virtual reality*) is used actively. The symbolic nature of values relates to status aspects: “in the post-industrial era, the essential thing is not the consumption of material objects, but the consumption of images, because images have a much greater capital intensity.” Language creates the world, language describes it. We know what we can express with language. The rest is valuable, but – alas – is animal mooring. L. Ulitskaya

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## I. INTRODUCTION

Global and universal transformations of human consciousness are caused by the change of communication

channels, signified in the change of epochs. The information age has replaced the printing "Gutenberg Galaxy", which was preceded by the era of phonetic writing and pre-written barbarism [1]. Russian researchers, in particular, Yu.V.Rozhdestvensky, identify four stages of development of semiotic means in the history of mankind: speaking – appropriating economy; writing – producing economy (civilization); printing press – industrial society; information technology – post-industrial information society [2].

As for information society, let us turn to processes of its formation, correlated with the development of sublanguage of information technologies and represented in it since it is in the language that human knowledge about the world is formed, maintained and preserved. The development of information technology sublanguage correlates with the evolution of computer technology. Based on the accepted chronology of information technologies progress [3], we proposed a periodization of the development of information technologies sublanguage in accordance with formation of its main components and their further implementation in the national language [4, 5]. Thus, there are three stages of sublanguage functioning in this sphere. The first one covers the 50–80s of the 20th century, during that period the codified part of sublanguage of information technology was formed – terminology and nomenclature – as a significant fragment of the scientific style of the literary language. The second stage (the 90s of the 20th century) involves a flourishing of the uncoded part of information technologies sublanguage – professional words and professional jargon words as components of professional vernacular and professional jargon. And finally, the third stage, observed by us from the 2000s to the present, is characterized by a wide penetration of special vocabulary of information technology sublanguage in all varieties and strata of the modern Russian language: literary (scientific, official-business, journalistic, artistic, conversational styles, advertising language) and non-literary (vernacular, and not only professional, slang and jargons). There is active use of Internet communication: Internet languages, Internet jargons. The third stage is associated with formation and development of a new type of society – information society.

Information technology brings new words to everyday lives of millions of people, nominating the realities, processes and procedures of information technology. Gradually becoming generally understood, they replenish and noticeably transform the national language. The purpose of this work is to trace the linguistic and cultural changes in modern Russian society, which are caused by widespread introduction of

information technologies, indicative of its steady transformation into an information society.

## II. MATERIALS AND METHODS

The material for observations and interpretations was the card file of lexical units of the information technologies sublanguage, both codified and uncoded, collected by the author, as well as samples of their functioning in written and oral forms of speech, in professional and non-professional spheres: in political and administrative discourses, in media, in advertising, in fiction, in social networks, in everyday speech.

The paper uses a synchronous approach with the dynamics within synchrony. The author used linguistic methods (descriptive, comparative, contextual, structural and semantic analysis), as well as linguo-cultural and sociological methods-conceptual analysis, method of interviewing informants.

The study involves observations on lexical units of information technologies sublanguage, processes of its implementation in the national language, the specifics of functioning and cultural shifts taking place in Russian society at the present time.

The methodological basis of this work is the philosophical doctrine of the universal interdependence of objects and phenomena, particularly, the theory of cause-effect relations and connections in the analysis of linguistic and socio-cultural phenomena. After studying the works of founders of post-industrial information society concept we identified the features of the information society in modern Russian society and found their manifestations in the Russian language and the facts of modern Russian culture. To see the signs of the information society through the prism of language and culture is possible due to the linguistic and cultural concept of the interconnectedness, interdependence of these phenomena, their dual nature. Thus, the sublanguage of information technologies, nominating the realities of this sphere, creates facts of culture caused by them, which, in turn, are represented in the language.

## III. RESULTS

The following features of post-industrial information society of Russia are manifested in the modern Russian language and Russian culture: the increased importance of technology alongside accelerating technological progress and, as a consequence, technocratic thinking; globalization processes, the dominance of knowledge and information, its redundancy and fragmentation; rhizomatism and network principle of information systems organization; virtualization of reality and symbolic nature of values.

## IV. DISCUSSION

The predominant importance of technology with accelerating technological progress is manifested in wide penetration of special vocabulary of information technology sublanguage in all varieties and strata of the modern Russian language: literary (scientific, official-business, journalistic, artistic, conversational styles, advertising language) and non-literary (vernacular, slang and jargon).

The penetration of terms and nomina from information technologies sublanguage in the common language linked to the phenomena of determinologization, and – of professional words and professional jargon words – deprofessionalization. For example, the words: *зависание* (*freeze-up/hanging out*), *загрузка* (*download*), *интерфейс* (*interface*), *кибер-атаки* (*cyber attacks*), *компьютер* (*computer*), *мегабайт* (*megabyte*), *мультимедийный* (*multimedia*), *принтер* (*printer*), *роутер* (*router*), *сайт* (*website*), *сеть* (*network*), *сканер* (*scanner*), *трафик* (*traffic*), *файл* (*file*) etc. – can no longer be considered narrowly professional. They actively function in different styles of literary language, including literary fiction: “У меня рухнул компьютер” (translation: “My computer crashed”) [6].

Simple lexical determinologization and deprofessionalization – spread of words from the field of information technology with the preservation of their semantics in connection with spread of computer technology: *быстродействие* (*performance*), *дискета* (*floppy disk*), *драйвер* (*driver*), *записать* (*burn*), *компакт* (*CD*), *память* (*memory*), *сохранить* (*save*), *электронка* (colloquial for *e-mail*), *электронная почта* (*e-mail*). Semantic determinologization and deprofessionalization is the entry of words of the sphere of information technology into the common-literary language with a change in their semantics. The particularities of the processes of semantic determinologization and deprofessionalization involve the specificity of verbal and cognitive processes of linguistic identity in the information society. For example: *зависать в Фейсбуке* (*hanging out on Facebook*), *грузить проблемами* (*load sb. with problem*), *заюзанный* (*used a lot*), *юзер* (*user*) etc. «Ну что, у тебя касса *отвисла*?» – спрашивает девушка-кассир свою коллегу. (translation: “Well, has your cash register *de-frozen*?” – The cashier girl asks her colleague.) “Лыжный забег. Они считают это прекрасной возможностью начать новый год с нуля, с *перезагрузки*” (translation: “Ski race. They consider this a great opportunity to start the new year from scratch, with a *reboot*.”) [Vesti. Russia 24, 01.01.17]. «Стихи Подъёмшиковой не давят, не *грузят*”, как теперь говорят» (translation: “Poems by Pod'yemshchikova do not push, do not *load*”, as they say now” [7]).

Acceleration of technical progress is a factor of hyperactive updating of nomenclature, terms, professionalism and jargonisms of the specified sphere. There is a displacement of obsolete units and replacing them with new ones due to the change of equipment and technologies, for example, now the following words are almost forgotten: *дискета* (*floppy disk*), *нейджер* (*pager*), *факс-модем* (*Fax modem*). The colloquial word *мобильник* (*mobile phone*) is considered obsolete; it is replaced with the names of new types of telephony: *смартфон* (*smartphone*), *айфон* (*iPhone*), as well as *компакт-диск* (*Compact disk*), *компакт* (*compact*) are replaced by lexemes *флэш-память* (*flash memory*), *флэш-карта* (*flash card*), *флешка* (*flash drive*).

Rapid introduction of information and communication technologies in the society’s daily life creates fertile ground for wide spread of technocratic thinking, which is based on the ideology of technological determinism. It includes the idea

that technology develops solely according to its own laws, the logic of the implementation of which determines the nature of a man, society and the world as a whole. "As the machine becomes like a man, man becomes more like a machine" [8]. Technological determinism also specifies modern metaphor, the desire to liken man to technical devices and the endowment of technology with human qualities. Such manifestations are found in contemporary works of fiction: «На нет и суда нет. Я иду спать! – поднялся Лёша. – В жёстком диске, – он постучал себя по голове, – полнейший сбой и конфликт программ. Надо форматировать. Но завтра!» На следующий день утром он не успел «перезагрузить жёсткий диск», как позвонила мама». (translation: "If it is a no, let it be so. I'm going to bed!" rose Alex. "The hard drive, he tapped his head, is a complete failure and conflict of programs. Need to format. But tomorrow!" The next day in the morning he did not have time to "reboot the hard drive", as mother called) [9].

The evolvement of an information society is associated with globalization processes: creation of a global information space. Enhancing information technology inevitably develops terminology and nomenclature of the industry. However, this development takes place in the language of the country where information technology and related devices are primarily developed. Modern information technology terminology is produced in English and subsequently adopted by other languages. English has become not only the language of international communication but also the language of human-machine communication. Globalization of the information society is expressed today in an uncontrolled flow of borrowings from the Anglo-American language: *хард (hard)*, *софт (soft)*, *сервер (server)*, *сканер (scanner)*, *трафик (traffic)*, *принтер (printer)*, *компьютер (computer)*, *веб (web)*, *нет (net)*.

Informatization of society means that information acts as a resource of social, economic, political and social development. The dominant role of information involves the expansion of semantics, lexical compatibility, increasing frequency of using lexemes *информация (information)*, and its derivative *информационный (information or informational)*. Our examples confirm it: *информационный (information/al) + день (day)*, *дизайн (design)*, *кабель (cable)*, *менеджер (manager)*, *менеджмент (management)*, *мир (world)*, *навигатор (navigator)*, *носитель (medium)*, *обмен (exchange)*, *объект (object)*, *объём (volume)*, *портал (portal)*, *продукт (product)*, *проект (project)*, *процесс (process)*, *реестр (registry)*, *ресурс (resource)*, *сайт (website)*, *центр (center)*, *час (hour)*, *язык (language)*, etc. We have identified 66 combinable variants of a relatively high degree of stability. 22.02.17 in his speech to the deputies of the State Duma, S.K. Shoigu talked about "forces of information operations". Article by A. Gang in the newspaper "Izvestiya" from 21.04.2019 is called "Зеленский намерен закончить конфликт в Донбассе с помощью «информационной войны»". (translation: "Zelensky intends to end the conflict in Donbas with the help of "information war").

The process of informatization of society relates to the *Internet*, which enabled creating a single information,

economic and educational space. There is a variety of lexical units with the component *интернет (Internet)*: *they are интернет-институт (Internet Institute)*, *интернет-конференция (Internet conference)*, *интернет-технологии (Internet technologies)*, *интернет-ресурс (Internet resource)*, *интернет-браузеры (Internet browsers)*, *интернет-знакомства (Internet dating)*, *интернет-общение (Internet communication)*, *интернет-сообщества (Internet communities)*, *интернет-конференции (Internet conference)s*, *интернет-СМИ (Internet media)*, *интернет-платежи (Internet payments)*, *интернет-магазин (online shop)*, *интернет-шоппинг (Internet shopping)*, *интернет-источники (Internet sources)*, *интернет-выборы (Internet elections)*, *интернет-журналистика (Internet journalism)*, *интернет-компания (Internet company)*, *интернет-услуги (Internet services)*, *интернет-уведомление (Internet notification)*, *интернет-зависимость (Internet addiction)*, *интернет-сленг (Internet slang)* etc. A total of 116 such units were identified.

The above-mentioned compound words with the component *интернет- (Internet)* are formed as a result of word composition – a derivational method that has been activated since the 90s of the 20th century under the influence of Anglo-American word-formation models. Such lexemes are often semi-calque or direct lexical borrowings, but in most cases they are neoplasms of a special type: almost any lexeme can be combined with the formant *интернет-(Internet)*, which, while preserving the original meaning of the word, adds an essential seme "takes place on the Internet, virtually".

The widest compatibility of the formant *интернет- (Internet)* can be explained by the comprehensiveness, pervasiveness of the Internet itself, which is essentially a virtual projection of real life, a significant part of its elements already today has its "clones" on the Internet: *интернет-знакомства (Internet dating)*, *интернет-переписка (Internet correspondence)*, *интернет-продажу (Internet sales)*, *интернет-просмотры (Internet web browsing)*, *интернет-торговля (internet commerce)*, *интернет-услуги (Internet services)*. That is exactly what a principal of a school said: "Сейчас каждый должен прожить три жизни: одну настоящую, другую – в отчётах, третью – в Интернете" ("Now everyone has to live three lives: one real, one in reports, one *on the Internet*") [from conversation, author's card file].

The concept *интернет (Internet)* is also verbalized with synonyms *веб (web)*, *сеть (network)*. **WWW** – an English abbreviation, which stands for World Wide Web and means global network, that is, the Internet. Only the final word *Web* is often taken from this English phrase. This word can function as an independent lexeme in Russian contexts: "Как считается, за термином "глобализация" стоит интеграция, характеризующаяся единственным словом – Web". (translation: "It is believed that it is integration behind the term "globalization", characterized by a single word – Web" [10]. The *web* unit also acts as a word-formation formant: Complex words are formed with its help: *web-адрес (web address)*, *web-графика (web graphics)*, *web-дизайн (web-design)*, *web-документ (web-document)*, *web-мастер (web-master)*, *web-разработка (web-development)*, *web-редактор*

(*web-editor*), *web-сайт* (*web site*), *web-страница* (*web page*), *web-технология* (*web technology*), etc. It is characteristic that the first part of a compound word has spelling with Latin letters, and the second, having undergone a semantic transformation, acquires Russian-language form. In the common-literary language, such hybrid lexical units, called by L.P. Krysin as words-centaurs [11], have not been observed before. The combination of Cyrillic and Latin graphics in writing of one word testifies to incomplete development of the borrowed lexemes. Then, part of the **web-** is russified, i.e. receives the appropriate graphic design: *веб-выборы* (*web elections*), *веб-интерфейс* (*web interface*), *веб-камера* (*webcam*), *веб-капитал* (*web capital*), *веб-картография* (*web-mapping*), *веб-мастер* (*webmaster*), *веб-приложения* (*web applications*), *веб-поиск* (*web search*), *веб-разработка* (*web development*), *веб-ресурс* (*web resource*), *веб-страница* (*web page*), *веб-сайт* (*website*), *веб-студия* (*web studio*), *веб-технологии* (*web technology*), *веб-сервер* (*web server*), *веб-сервис* (*web service*), *веб-серфинг* (*web surfing*), *веб-термины* (*web terms*), “*Доктор Веб*” (*Doctor Web*).

The concept of Internet is also verbalized by the word **Сеть** (*Network*): “...”профессиональный” читатель в первую очередь предъявляет спрос на демонополизированное вещание, на плюрализм в освещении любых сюжетов. Именно в этом с точки зрения тех пользователей, для которых *Сеть* служит основным источником новостной информации, состоит главное конкурентное преимущество Интернета перед традиционными СМИ” (translation: “... the “professional” reader first of all makes a demand for demonopolized broadcasting, for pluralism in covering any subjects. For those users for whom the *Network* is the main source of news information, this is the key competitive advantage of the Internet over traditional media”) [12]. Combinations with the adjective *сетевой* (*network*) are mostly technical in nature, denoting special devices: *сетевой адаптер* (*network adapter*), *сетевой драйвер* (*network driver*), *сетевой кабель* (*network cable*), *сетевая карта* (*network card*), *сетевой контроллер* (*network controller*), *сетевая модель данных* (*network data model*), *сетевое радио* (*network radio*), *сетевой фильтр* (*network filter*).

The network principle of information flows is projected on the nature of social structures. The network structure of information and society determines the principles of communication on the Internet: communication in Internet communities as social “nodes” leads to the development of group languages saturated with occasionalisms. Network culture subordinates both the culture of words and the culture of writing to its influence. This forms the hypertext, which becomes the principle and translator / processor of network communication.

Hypertext contributes to the producing of mosaic information, which determines its redundancy and fragmentation. At the beginning of the 20th century, the education system, books and media sought to create a coherent, logical picture of the world. In today's world, fragmented information produces a blip culture – a culture which results in “clipping consciousness”, involving fragment

and mosaic ideas about the world. Blip culture is based on the blips of information offered by modern media format as short modular flashes: ads, scraps of news, fragments of films and TV shows dissected by advertising and having “strange, fleeting and incoherent form” [13]. Kaleidoscopic nature of information results in superficiality of perception and thinking. Language reflects the decline in the role of memory and thought: instead of lexemes *ум* (*mind*), *разум* (*understanding*), *интеллект* (*intellect*), *рассудок* (*reason*), they use a particular noun with the anatomical meaning that is *мозг* (*brain*), the use of which reduces thinking, previously perceived as a manifestation of man's higher nature, to physiological processes. For example: “Не выноси мне мозг!” (translation: “Don't drive me crazy!”) [from conversation]. “Заряди мозги, если они есть!” (translation: “Charge your *brains*, if you have any!”) [Snickers commercial], “Включи мозги!” (translation: “Turn on your *brain!*”) [from conversation]. At a press conference on 20.12.18 about the sanctions imposed against Russia after the integration of Crimea in 2014, V. V. Putin said: “Это заставило нас *включить мозги* по многим направлениям”. “It made us turn on *our brains* in many ways” [Press conference of the President of the Russian Federation 20.12.2018].

Network information logic is based on the principles of plurality, rhizomatism, indeterminism, axiological and value-based antihierarchy that on the language level are manifested in blurring of boundaries of the literary language, blurring of boundaries of domains of information technology sublanguage between it and the literary language, the vernacular and jargons, as well as inside sublanguage: between terminology, professional words, professional jargon words. Terms cease to comply with the requirements imposed on them.

Information technologies and telecommunications producing “mirror worlds” change the picture of the world, make it possible to perceive virtual reality as a real one and represent reality virtually. This leads to blurring of the line between the real and virtual world, today feeling of the virtual world as more realistic than the real world is becoming ubiquitous. The sentence sounds quite materially: “Я ему ко дню рождения послала коньяк и шоколад. На Facebook, конечно”. (translation: “I sent him cognac and chocolate for his birthday. On Facebook, of course.” [from a conversation, 2013].

Mixing virtual and real is reflected in funny stories and jokes: “Вань, у меня *окно не закрывается*”. – “А что пишет?” – “Ручки нет”. – “Абракадабра какая-то. *Перезагрузи систему*”. – “Окно нашей спальни!” (translation: “Vanya, my window won't close.” – “What does it say?” – “No pen.” – “That's just gibberish. *Reboot the system.*” – “Our bedroom window!” [ADME]. While the indistinguishability of the virtual and real is still the subject of jokes, but soon their differentiation will require special markers, the occurrence of which is observed. “Хорошие пилоты должны много летать как на тренажёрах, так и в *реале*” (translation: “Good pilots should fly a lot both on simulators and *in the real world*,” according to V. Solovyov's program “Polny kontakt” FM Radio, 22.05.2019. “*Реальные угрозы виртуальной сети*” (translation: “*Real threats of the*

virtual network”): this is the title of the report in the program “Time” 04.06.13, where antonymy acts as an impressive and original means of expression.

At the language level, the virtualization of reality is manifested in the functioning of combinations like: *реальная действительность* (*real reality*), *виртуальная действительность* (*virtual reality*), *дополненная реальность* (*augmented reality*), *виртуальные экскурсии* (*virtual tours*), *виртуальная примерочная* (*virtual fitting room*), *виртуальные наглядные пособия* (*virtual visual aids*), *виртуальный концертный зал* (*virtual concert hall*) etc. Now it is impossible to consider as pleonasticity expression *реальная действительность* (*real reality*), since they actively use the expression *виртуальная реальность* (*virtual reality*).

A new system of values is being formed. Their symbolic nature associated with status aspects is its principal feature. Things are understood not in the discourse of consumer or exchange value, but in the discourse of sign value. The essence of this new phenomenon is revealed in the novel by V. Pelevin “The Numbers”: “Секрет капиталистической одухотворенности заключен в искусстве потреблять образ себя... В цивилизованном мире человек должен поддерживать общество, в котором живет. Интенсивность потребления сегодня есть главная мера служения социуму, а значит, и ближнему. Это показатель... Как это по-русски social engagement (социальная вовлеченность). Но в постиндустриальную эпоху главным становится не потребление материальных предметов, а потребление образов, поскольку образы обладают гораздо большей капиталоемкостью. Поэтому мы на Западе берем на себя негласное обязательство потреблять образы себя, свои consumer identities, которые общество разрабатывает через специальные институты. Понимаешь?.. Вспомни свой накрученный и навороченный “Геландваген” ... Ты ведь потребляешь не его. Ты потребляешь образ себя, едущего на нем...” (translation: “The secret of capitalist spirituality lies in the art of consuming the image of yourself... in the civilized world, a person must maintain the society in which he/she lives. The intensity of consumption today is the main measure of service to the society, and hence to the neighbor. This is an indicator... What is it in Russian “social engagement” (social involvement)? And in the post-industrial era, the essential thing is not the consumption of material objects, but the consumption of images, because images have a much greater capital intensity. Therefore, we in the West undertake an unspoken obligation to consume images of ourselves, our consumer identities, which society develops through special institutions. You see... Remember your flashy

and fancy Gelandewagen ... You consume not it. You consume an image of yourself driving it...” [14].

## V.CONCLUSION

Information technology not only transforms the life of modern society but contributes to the restructuring of the very context of relations between people, leaving an imprint on the nature of imaginative perception of reality. Influence of modern technologies changes the idea of the world, its structure, the place of an individual in it, which is reflected in the language and culture.

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