

NON-LANGUAGE FACTORS AND LANGUAGE EVOLUTION

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Abstract

Purpose: This paper is devoted to the description of the functioning and development of the language system seen in correlation with the influence of non-language factors.

Methodology: The methodology of the research is based on the systemic approach to the terms and notions interpretation, analysis of different points of view.

Result: As a result, as reality tends to change, the language system meets the requirements for the metamorphosis and starts to absorb new information and adapt to the new conditions. In conclusion, simultaneously the language system, represented by gestalts on the conceptual level, is capable of evolution while knowledge accumulation occurs.

Applications: This research can be used for the universities, teachers and education students.

Novelty/Originality: In this research, the model of the non-language factors and language evolution is presented in a comprehensive and complete manner.

Keywords: *Linguistic Evolution, Language Metamorphosis, Non-Language.*

INTRODUCTION

Language is a living matter having a variety of imprints of many non-language phenomena. These phenomena depend not only on the internal factors (the language culture of native speakers) but also on external ones, including political, social and economic phenomena. The internal and external factors predetermine language variability and metamorphosis. Traditionally, language variability issues and metamorphosis are associated with the existence of language dialects. Scientists are interested in the way the meanings of words differ from one language variant to another, as well as their pronunciation features. Scholars, who are searching for the limit of linguistic variability, determine the differences between the classical and territorial variants of the language. Thus, the study of languages from the point of view of their influence on each other in international contacts is a well-known phenomenon, which has a long scientific history and a solid theoretical basis. This knowledge helps people all over the world to understand that Standard English is the best language to study for work or travel abroad, to find out which language norms should be followed in personal and business correspondence or scientific work, and which language features should be taken into account while traveling to the English countryside. For example, the English word light, traditionally sounding like (lait), performed by English farmers in the counties near Oxford, will sound like (loit), and the phrase turn on the light (loit), spoken contrary to the standard rules of reading, will confound even the most sophisticated specialists in the field of the language. Such historically established and geographically entrenched dialects show unconditional linguistic variability, reflecting the interconnection of social and linguistic strata ([Cangelosi, A., & Parisi, D. \(2002\).](#))

But in our study, we understand the term variability somewhat differently, stating that any language is always a national and historical verbal monument. In other words, to restore the facts of the past years one can read the language section of this or that time, look at the frequency and style features of words of a certain period. For instance, now we do not actively use the words pioneer (in the original sense), sovnarkom, narcomprof, which correspond to the era of socialism. In our time, words and combinations like terrorism, Islamism and conflict escalation are more often heard. This verbal change additionally emphasizes the fact that a language coexisting with a society objectively and absolutely, always acts as a storehouse and custodian of knowledge, a litmus test of public opinion. The society's attitude towards this or that fact is reflected in the words, grammatical constructions bearing a positive or negative semantics. And whatever event happens in the life of the nation, it always finds a language response in the form of new dictionary meanings of already existing words or neologisms. New evaluation tools appear, as a rule, first in informal communication, then they get more and more widespread, they penetrate official media publications. Accordingly, the variability for us is not only an age-old linguistic understanding of the problem but also a kind of language synergy, Sepir's language drift. Both notions in our study can be considered conditionally synonymous, their essence lies in a unique tandem of language and culture, interrelated development over time, the impact of the mentality and culture of the nation on its language and vice versa.

Today, a lot of immigrants from different countries come to the UK each year, and therefore it is important to study the variability of the English language under the influence of various political, social and economic factors. Our research priorities are now not only questions of language contacts, but also the attitude of native language speakers towards immigrants in the conditions of the destroyed model of a tolerant multicultural society reflected in the language. The very model of a multicultural society originated in Canada in the late 1960s. In the 1980s, this idea was adopted by the

European community. Britain was among the countries that became the most rigid followers of this trend. The United Kingdom officially supported national minorities, any attempt at discrimination based on national or racial grounds was cruelly punished, and the idea of a hospitable attitude was implanted. Law-abiding British subjects strictly observed all the proscriptions, and at the language level, the words tolerance and multiculturalism acquired exaggerated status.

The crisis of the multicultural model occurred at the beginning of the 2000s when the scale of immigration exceeded the limits of hospitality when news of the terrorist acts of Muslim extremists thundered, then the alarm and the sense of fear of the native British people won political support. More and more, tolerance began to give way to the rejection of immigrants and xenophobia intensified. At the same time once euphonious words multiculturalism and tolerance acquired additional shades of meaning and began to express a negative assessment of current events. As time passes it is likely that some new meanings of these words will be written in the dictionaries, and these will be the version put into the history of the politics of multiculturalism and its collapse. In the meantime, this is the most unexplored and relevant material from a linguistic point of view.

In our interdisciplinary research, we rely on the data of sociology, political science, psychology, cultural studies, and statistics, which show that the endless flow of refugees and immigrants who have reached Britain in search of a safer and better life, naturally affects the national mentality by projecting these changes into the language environment. The consequence of the current crisis of multiculturalism is the emphatically negative attitude of the British towards the immigrants who are being accepted and the atrocities of terrorist groups. This attitude is particularly evident in statements on the internet. For us, the question of the status or the age of internet users is not fundamental. The focus of attention is their personal attitude to what is happening, which is evident in the linguistic means of expressing one's own opinion. Such a research position, in our opinion, is more objective, as we are not constrained by any framework or criteria, and this allows us to work with heterogeneous factual material, take into account the statements of individual users, media publications and any other sources. Collecting the actual material for further processing and comparative analysis, we get access to consciousness, linguistic culture and isolate the factors, especially affecting the appearance of linguistic variability and not relevant for invariants. Thus we are able to track language changes and language invariants that do not change under the influence of certain external factors. We have set ourselves a difficult research task: to establish the slightest changes in the meaning of words that ordinary users of the global network use to convey their own opinion with respect to the changes that are taking place.

LITERATURE REVIEW

To achieve our research objectives and to see if the language and the linguistic culture change under the pressure of extralinguistic factors, we carried out a literature review on the issue of language evolution. Indeed, opposing views on the problem of formulaic language development have every reason for existence, because language is a living organism. Moreover, its study cannot be reduced to simply counting the frequency of transmission of the meaning of a token by a principle of recurrence. However, it should be noted that by virtue of E. Sapir's described lingvocultural habit of the language community to associate certain meanings and associative series of words, we are able to speak about a sense of patterns of association, including the transfer of connotations and certain associative series of tokens (Wray, 2008). As has already been noted, language is labile and flexible to changes in substance, alongside the community. However, it is developing cyclically and changing at certain stages of development. Language, in its coexistence with society, experiences metamorphosis, cycling over and again throughout its evolution.

According to the Oxford English Dictionary's lexicographical interpretation of the term, a cycle is a period in which a certain round of events or phenomena is completed. As expected, at the end of the completion of one cycle, another cycle begins. However, it happens at a higher level and at a new rate. These changes are not always consistent and progressive. Linguists who study language in diachronic believe that such changes are triggered by factors of two types. First, internal factors that cause language change, are always the principles of expediency, most of which are associated with the peculiarities of the word pronunciation and facilitate the process of articulation in the act of speaking. External factors include the pragmatic intentions of the speaker, when he tries to be original, polite, creative, or, on the contrary, conservative. This factor is influential, though not exclusively and not so much at the phonetic level, but operates at the syntagmatic level, dictating changes in the structure of language. In this case, the collocation of lexemes is modified; there are significant modifications of the systemic, meaning which result in extended dictionary definitions.

At first, such changes are only a point of contrast; they stand in contradiction to the principle of linguistic economy and the profiling principle of reinventing expression (the term Expressive Renewal). This is when the speaker makes the idea explicit by the words, or occasionally profiles the meaning of a token, and this meaning is obvious in the context. In addition to the stated factors, the language system is affected by the so-called preservation mechanism, applying some well-established rules. Without the above-mentioned rules, such a system and its functional mechanism cannot exist in principle. This very principle allows it to hold back the inevitable changes, leaving only valid data at a certain stage of its cycle (Gelderen, 2011; Galvão & Henriques, 2018). If we do not take into account the factors that oppress the change of the language system and discard the negative aspects of metamorphosis, we can talk about the cyclicity of its development as a linguistic change.

The complexity of the issues and the language's ability, or lack of ability, to vary, motivates many linguists to study the problem. The studies of the early development of the language cycle and change of the language system can be found in the works. Nevertheless, there are few contemporary researchers studying language changes. Lakoff expresses a very specific assumption about the variation of the language system, suggesting the absence of a mechanism in explaining the issues of language change within the theory of transformational grammar. The existence of the linguistic cycle, though, is a disputable question. Lakoff is supported in his view by Lightfoot (Lightfoot) and [Traugott and Dasher \(2002\)](#) spoke of language changes more gently and believed that examples were insufficient to illustrate the property of the language system to be flexible to changes and fix them. At the same time, we cannot deny the existence of the concept of language evolution, and philosophical doctrine associates it with the fundamental principles of human existence. The theory of evolution is based primarily on philosophical studies, of cosmic and earthly bodies, fauna, anthropology, history, as well as biology and other natural science disciplines. In addition, each branch of science gives a specific definition of this theory. However, a systemic approach to the interpretation of these definitions allows one to find a lot of common features in them. Thus, evolution is any change in the overall system. In this case, scientists believe that the universe is coherent and able to interrelate the changing elements. In this sense, the term evolution cannot be refuted. Such an interpretation may not be accepted by scientists elsewhere. In other words, evolution is progress at any stage of language development.

However, despite the polarized points of view of experts described above, modern science recognizes the theory of language evolution. In our study, this theory is certainly associated with fundamental principles of language as a system and as a semiotic code, aimed at changes in human society and at the same time it is subject to change under the so-called onslaught of the lingvocultural community. In our study, we rely on the assumption that the earliest changes happen in the lexical stratum of the language system. This lexical stratum is especially susceptible to metamorphosis. There is no need to be a great scientist to realize the fact that, excluding their graphic and phonetic forms, words still change their meaning in context according to the communicative situation and intentions of the speaker. Thus the tokens appear in their occasional meanings in certain communicative situations, and only after some time, if they are used very often, this occasional semantic adjustment is reflected in the dictionary. This process poses a legitimate question: what factors allow lexical units to change their meanings, acquire functional ones and still be able to broadcast the sense to the recipient in a certain communicative situation?

According to E. Sapir and B. Whorf, human beings cannot survive in the objective world and its social space without any language support. In this case, language acts as an intermediary between society and objective reality. From this perspective, it would be naive to believe that the adaptation of the person in society is possible without a language environment. Also, it is impossible to believe that language can be the only means of solving problems of communication and reflecting current events. In fact, for the most part, the language is based on the unconsciously perceived habits of the linguistic culture... We see, hear and even perceive everything we say and do, at the same time as society is determining the habits and the choice of language means and their interpretation.

When we express our thoughts by using language, we encrypt them by means of linguistic signs, combine them into topical chains of all kinds, appeal to verbal symbols selecting the appropriate forms and correlating them with the relevant content. Thus, we are appealing to the formulaic language code (formulaic language), which is associated by many researchers with whole topical chains transmitting the information as a set of symbols from one subject of the linguistic culture to another, using the mechanisms of meaning translation. The problem of meaning translation and its transfer by means of formulaic language has gained importance in recent years when computer linguistics appeared as a branch of linguistics and when it became really possible to study topical chains objectively and quickly, to find thematic associations of words in the volumes of research empirical material. However, these positive features of formulaic language often encounter opponents, suggesting the existence of a certain relationship between the formula and the incidence. Hereinafter, we turn to the literature review on the problem of formulaic language and the main research methodology.

METHODOLOGY

This article is a descriptive paper the main goal of which to attract the attention of scholars to language evolution (this research is based on the systemic approach to the interpretation of the term evolution and analysis of different points of view), but also takes into consideration the interdisciplinary approach of modern linguistics, which allows us to prove our choice. Our article is focused on the methodology of Lingvo cognitive modeling while dealing with epistemic mental structures. Cognitivism is trying to solve the problem of a language change by working in the field of lingvo cognitive modeling and associating the meaning with the way the data are reflected and stored as a mental structure. This more or less adequate, but experimentally unproven, explanation (which is natural in view of the lack of linguistic tools and powers of investigation of the neural processes of the brain) is based on the hypothesis of the existence of mental structures (constructions). The functions of the latter are to maintain an association of form and meaning (form and meaning pairing). Taking this approach as a basic one, scientists formulate the hypothesis and share their assumptions about the nature of language as a system regardless of affiliation to any particular group of languages. This universal point of view is also relevant to the present study. The latter because of its cognitive orientation is also associated with a system of meanings of the word mental construct of a certain kind. This construct is associated in our study with such structures as a gestalt - as the most relevant epistemic model. Such properties as the susceptibility to change, organization, the ability to be discrete and syncretic simultaneously, accommodate a substructure at some level and make it relevant for the present study.

RESULTS

A gestalt is a unit of cognitive structure. It appears as a complex unit of information transmitted from one generation to another, and in the theory of artificial intelligence, it corresponds to a high degree of abstraction. At this level universal information and lingvocultural knowledge about this or that phenomenon are stored and preserved. This knowledge is generally unchanged, which prevents the system from the destruction of the notions (gestalts) under the influence of external factors, and comparison of incoming information allows them to ensure understanding. As a discrete unit, gestalt holds more structured variable mental structures or frames. These slots contain immutable, nuclear information, allowing them to be attached to the gestalt, and variability, which allows and even welcomes the changes of optional component level. The latter lets the parameters start changing the whole system. In terms of the theory of artificial intelligence this part corresponds to the lowest degree of abstraction. Here are opportunities for the communicative changes of word meanings for the native speakers, the possibilities to select any tokens to fulfill the communication tasks.

One of the universal properties of any epistemic structure (framed as a part of a gestalt in our case) is its openness to new information. The influx of new information is possible in the form of tokens to attract any thematic groups not associated with the considered frame. However, this is possible, taking into account the capacity of the frame parameters and requirements for the token to match the frame (to update the optional elements of the frame in a certain communicative situation, i.e., at the functional level). If the speaker chooses one belonging to an adjacent frame within a single gestalt, intersystem transformation of meanings occurs. In another case occurs extra systemic transformation of meanings. This word creation, as a rule, is occasional in nature but can change their scale in favor of the social situation, status, communicative goal, etc.

When the scale of change belongs to a single word meaning, there is the evolution of the language on the microlevel. The changing of semantics results in the change of dictionary definitions. As a rule, it occurs within a gestalt, when it comes to intrasystem. The process of extra systemic changes happens less often and takes longer. However, this theory raises the natural question of what factors trigger a similar metamorphosis of the established system. These factors are drawn from the theory of speech generation and activity-related (procedural) theory. They are relevant on-line (in the chronotope, or here and now, immediately) and vary depending on current conditions, which are purpose, conditions, and operations. They work together to find suitable tokens in a particular act of communication. The regularity of these changes of word meanings for the sake of context allows them to become non-functional and the system to move from a low level of abstraction to the higher one.

These changes in form and content resemble evolution. And if we assume that the language is a dynamic, non-linear, open and self-developing system, it is possible to speak about its evolution as a system. Thus the process of evolution looks something like this: the existing system maintains its balance via maintaining a balance between the current and the incoming information that is provided by the parameters of the order contained therein. Further, when the system is beginning to be influenced by external factors, it starts to fluctuate (vibration loosening). The system descends into a state of chaos, and only when it restores its order parameters again, expending some of the external and internal resources, it results in an evolutionary leap and then the system is at rest until the next change.

As for the lexical formation, there is an obvious similarity between this system and a language one. We also tend to believe that the other language identical subsystems undergo metamorphosis. The proof of this lies in different changes of word meanings, typical collocation, and syntagmatic, which happen as the result of the meaning change. As the metamorphosis takes place everywhere, the language system, which is a self-organizing system, is definitely triggered. These changes are smooth and gradual, almost imperceptible to the members of a language community. This fact enables them to maintain communication at all levels without any visible and perceptible gaps in understanding.

The above-mentioned theoretical positions are not meant as an absolute for the explanation of the parameters, factors, and fundamentals of language evolution, but they can in some way shed the light on interesting linguistic issues, or at least to introduce non-trivial ways and means to address them and, in addition, open new prospects for the study of complex issues and further emphasize the need to bring the knowledge of other sciences to purely linguistic research. If we assume that the language system is self-organizing, we see that in terms of functioning it is in a state of a relative balance. And any external factors, including information coming from the outside encourage the launch of the so-called non-equilibrium phase of the system. It begins intrasystem fluctuations and leads to the disagreement of the parameters of the order. As a result, the system descends into chaos. The system expends some external and internal resources to ensure relative stability for the evolution of the system. At the cognitive level, this means the structural modifications of the sequencing and quantitative and qualitative composition of conceptual elements. Occasional modification happens at the mental level of a particular communicant (low level of abstraction) and serves to modify the meaning suitable for the communicative situation. Understanding is possible due to the level of a high degree of abstraction. Because of the regularity of meaning modifications, these occasional meanings are kept in the memory of people, are recorded by the lexicographical sources and are not perceived as neologisms by the community.

In this paper, we also take into consideration the fact that meaning is a non-independent unit, it is formed as a result of human speech activity, it is not separated from the relationship of the subject to the object, due to this fact we appeal to the procedural approach and its interpretation. The fact is that the act of speech itself launches creative and cognitive processes

that result in various processes of integration of dynamic cognitive structures. The mental structures being self-organized, dynamic and able to adjust to a communicative situation undergo the process of evolution. And if we take into account the fact of the formalization of mental activity, as well as the fact that this formalization has a verbal expression by means of formulaic language (which transfers invariant information, emphasizing one or another facet of the process), formulaic language is capable of modification and evolution, depending on the evolutionary factors. In the verbal equivalent, it is as follows: knowledge accumulated in the language exists in lexical verbalizers of various epistemic knowledge structures. They store the knowledge of the language community and pass it from one generation to another.

The confrontation of conceptual signs is actualized in the context by the opposition of meanings expressing positive and negative semantics, by the opposition of good and evil. This confrontation is vividly shown in the modern proverb: One man's terrorist is another man's freedom fighter. This proverb underlines the fact that the same person can simultaneously be treated as a terrorist committing evil and as a fighter for freedom, depending on which side of the conflict the subject supports.

Other examples of the phenomenon of war are the forms of linguistic signs such as language units as: suicide bomber, homicide terrorist: shahid, mujahideen, and jihadist. It should be noted that these monikers are used by both the western and eastern sides, although their connotations are polar. Thus, when the author emphasizes negative or positive connotation by means of this or that lexeme's distribution, the manipulation of semantics takes place. This phenomenon in our study is associated with the evolution of the gestalt as a system. Gestalt being verbalized by the whole system of lexical units with different connotations unites as its nuclear and peripheral verbalizers the tokens that nominate ([Chiesa, B. D., Scott, J., & Hinton, C. \(2012\)](#)):

- Ultra-radical activists, with the emphasis on their religious-ideological beliefs (suicide-homicide terrorist, suicide/homicide bomber, car bomber, suicide killer, sleeper agent) and hierarchical status in cell (mega-terrorist, superterrorist, arch-terrorist);
- Extremists in English which include Arabic borrowings (shahid, mujahideen, jihadist) and their English equivalents (martyr, holy warrior) and function mostly expressing negative connotation;
- The prejudiced attitude towards the representatives of this world religion, their way of life, religious and cultural values are formed in the minds of non-Muslims (anti-Western jihadist; the Great Satan; the Islamic bomb; Islamic extremism; Islamic militant; Islamic terrorist; Islamist violence; Islamofascism; Jihadist terrorism; militant cleric; militant Islam; militant Islamic terrorist; Muslim military powers; pan-Islamism; radical imam; radical Islamism; religious extremism; religious fanaticism; violent Islamism; violent jihadist; the WMD nation) et ([Gong, T., Shuai, L., & Zhang, M. \(2014\)](#)).

The choice of the lexeme and the surrounding context, by the author of the utterance, is influenced by communicative strategies of manipulative nature. Such polar semantic changes occur on the lexical level and are available to a different interpretation by the opponents. This is the result of the conceptual process in which the gestalt profiles certain features and neglects the other features, which results in the situational shift in concept and its structure. Such conceptual interchange of features is determined as a procedure for rethinking and restructuring the mechanisms of perception of the meaning of the language unit. Thus, lexical units with positive shades of meaning can acquire negative ones in certain contexts (Shahid = suicide bomber, jihadist = terrorist), and units with negative coloring can change their connotation into a positive one (Arab.: Suicide bomber = shahid = martyr).

The meaning of words associated with Islamism and immigrants in the English language has some association with terrorism and terroristic acts which is the result of the influence of macro social factor that activates innovative language processes. Such a process of lexical innovation that is obvious to the native speakers and perceived by them through words and phrases sustains the language evolution and explains the existence of language variety in form or in content.

CONCLUSIONS

In summary, we believe that the approach to the process of evolution seen as the result of the epistemic structure transformation is productive in explaining the mechanisms of mental verbalization of other structures, the semantics of the labile linguistic sign, and can be extrapolated to the study of another language strata. Thus, we can define a language as a living dynamic organism, a properly functioning system, flexible to changes in the course of evolution.

In this article, we claim that the fundamental principle of knowledge is a human activity that stimulates the development of fundamental principles of thinking, which results in meaning. All the information is accumulated in consciousness, packaged in a special way, structured and stored in the mind in the form of epistemic structures of knowledge, concepts, or quanta of structured knowledge. Such dynamic epistemic structures are ready to change and restructure under the influence of different factors. In order to identify the nature of the epistemic structures of knowledge, it is necessary to take into consideration the principles of the theory of artificial intelligence and procedural approach that set the level of a high degree of abstraction. The organization of a gestalt as the most relevant epistemic structure is hierarchical and includes conceptual invariant features which are the components of the high level of abstraction (that broadcast invariant information from one generation to another), and components of the low level of abstraction (which are the main cause of the meaning modification). Transmission of knowledge and experience from one generation to another is carried out by

means of linguistic units, tokens. According to the author's participation in the design and interpretation of the meaning in the discourse, the meaning is seen not only as a denotative but a connotative component ([Fauskanger & Bjuland, 2018](#); [Nurgaliyeva et al. 2018](#); [Matandare, 2018](#)).

The system of a gestalt and its lexical representation exist and function in close connection with humanity transmitting the senses and notions stored in the minds of human beings by verbal means. As the process of communication is based on the procedural theory and the participants of communication perform certain functions during this process, the process of evolution is triggered by communicants in the particular situation of communication (Boldyrev & Dubrovskaya, 2016; 2015). As reality tends to change, the language system meets the requirements for the metamorphosis and starts to absorb new information and adapt to the new conditions. These changes are not usually perceived by society so the process of evolution does not affect the process of communication ([Khorrami, 2015](#); [Ingavale, 2013](#)).

However, simultaneously the language system, represented by gestalts on the conceptual level, is capable of evolution while knowledge accumulation occurs. The process of evolution is more vividly seen in internet resources where the language of the authoritative internet mass media does not change very much with regard to the characteristics of the situation with immigrants. These sources are still impartial and priceless in describing the political and social situation in the country, and this fact, of course, is due to censorship and the tradition of a positive attitude towards multiculturalism. At the same time, the philistine point of view has significantly changed in terms of the choice of linguistic means of expressing attitude. Tolerant British quite caustically describe their attitude and express their opinion on the political, economic and social spheres of British society, the influx of foreign citizens in search of a better life, for example, through terrible monikers such as the Great Satan; Religious violence; militant cleric, etc.

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REFERENCES

1. BOLDYREV, N., & DUBROVSKAYA, O. 2015. Context of Sociocultural Knowledge in Discourse Construction. *Mediterranean Journal of Social Sciences*. Vol. 6, N° 1. Doi:10.5901/mjss.2015.v6n1s2p25. Rome, Italy. <https://doi.org/10.5901/mjss.2015.v6n1s2p25>
2. BOLDYREV, N., & DUBROVSKAYA, O. 2016. Sociocultural specificity of discourse: the interpretive approach to language use. *Procedia - Social and Behavioral Sciences*. Vol. 236, N° 59. Doi: 10.1016/j.sbspro.2016.12.019. Netherlands. <https://doi.org/10.1016/j.sbspro.2016.12.019>
3. Ingavale, D. (2013). An impact of advertisements on purchase decision of youth with reference to consumer goods. *Advances in management*, 3(1),18-22.
4. Galvão, M., & Henriques, R. (2018). Forecasting Movie Box Office Profitability. *Journal of Information Systems Engineering & Management*, 3(3), 22. <https://doi.org/10.20897/jisem/2658>
5. GELDEREN, E. 2011. *The Linguistic Cycle. Language Change and the Language Faculty*. Oxford University Press. UK.
6. Khorrami, F. T., Fallah, M. H., & Abadi, H. Z. M. (2015). The Effect of Unconscious Influences of Satellite Channels on Attitude of Using Satellite. *UCT Journal of Social Sciences and Humanities Research*, 3(1), 61-67.
7. Matandare, M. A. (2018). Botswana Unemployment Rate Trends by Gender: Relative Analysis with Upper Middle Income Southern African Countries (2000-2016). *Dutch Journal of Finance and Management*, 2(2), 04. <https://doi.org/10.20897/djfm/3837>
8. Fauskanger, J., & Bjuland, R. (2018). Deep Learning as Constructed in Mathematics Teachers' Written Discourses. *International Electronic Journal of Mathematics Education*, 13(3), 149-160. <https://doi.org/10.12973/iejme/2705>
9. Nurgaliyeva, S., Zeynolla, S., Tulenova, U., Zulkarnayeva, Z., & Yespolova, G. (2018). Features of institutional autonomy of the Kazakhstan's universities. *Opción*, 34(85-2), 302-336.
10. TRAUGOTT, E., & DASHER, R. 2002. *Regularity in Semantic Change*. Cambridge: Cambridge University Press. UK. <https://doi.org/10.1017/CBO9780511486500>
11. WRAY, A. 2008. *Formulaic Language: Pushing the Boundaries*. Oxford University Press. UK.
12. Cangelosi, A., & Parisi, D. (2002). Computer simulation: A new scientific approach to the study of language evolution. In *Simulating the evolution of language* (pp. 3-28). Springer, London. https://doi.org/10.1007/978-1-4471-0663-0_1
13. Gong, T., Shuai, L., & Zhang, M. (2014). Modelling language evolution: Examples and predictions. *Physics of life reviews*, 11(2), 280-302. <https://doi.org/10.1016/j.plrev.2013.11.009>
14. Chiesa, B. D., Scott, J., & Hinton, C. (2012). *Languages in a Global World: Learning for Better Cultural Understanding*. OECD Publishing. 2, rue Andre Pascal, F-75775 Paris Cedex 16, France.
15. Pennycook, A. (2004). Language Policy and the Ecological Turn. *Language policy*, 3(3), 213-239. <https://doi.org/10.1007/s10993-004-3533-x>



16. Johansson, S. (2011). Constraining the time when language evolved. *Linguistic and Philosophical Investigations*, (10), 45-59.
17. Tamariz, M., & Kirby, S. (2016). The cultural evolution of language. *Current Opinion in Psychology*, 8, 37-43. <https://doi.org/10.1016/j.copsyc.2015.09.003>
18. Kirby, S., & Christiansen, M. H. (2003). From language learning to language evolution. *Studies in the Evolution of Language*, 3, 272-294. <https://doi.org/10.1093/acprof:oso/9780199244843.003.0015>
19. Christiansen, M. H., Chater, N., & Culicover, P. W. (2016). *Creating language: Integrating evolution, acquisition, and processing*. MIT Press. <https://doi.org/10.7551/mitpress/9780262034319.001.0001>
20. Di Sciullo, A. M. (2010). The biological nature of human language. *Biolinguistics*, 4(1), 004-034.
21. Hurford, J. R. (2002). The roles of expression and representation in language evolution. *The transition to language*, 311-334.