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Language Development as a Change of the Parameter Pattern of the Language System

Розвиток мови як зміна параметричного патерна мовної системи

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ABSTRACT
The article advances linguistic synergetics as a novel research methodology by focusing on applicability of synergetic principles to language development studies. Synergetics

is a name for the science of complexity that deals with principles of emergence, self-organisation and self-regulation of complex systems. From the perspective of the synergetic approach, a human language is considered an open, dynamic, non-linear, self-organizing system with all its hierarchical subsystems and elements coherently interconnected and controlled by governing parameters. The latter are considered to be principles of grammatical structure imposing constraints on the range of structural variation permitted in a given language. Any human language, as a synergetic system, has its own set of parameters to characterize peculiarities of its structural organization. It is parameters that highlight grammatical differences between languages. From this angle language development is understood as a change of the parameter pattern of a given language system, which causes the latter to self-organize into a new state. It is assumed that at any given moment the system of a language has its own parameter pattern. Any change within this pattern is but a signal of changes of the whole synergetic system. The article focuses on the following four parameters peculiar to Old English, namely: The null subject parameter, The head directionality parameter, The reflexive domain parameter, and The question movement parameter. The article shows that the typological shift of English is based on the mechanism of changes within the parameter pattern of the language. As a result, the Old English synthetic language became the Modern English analytical language. A close examination of historical dynamics of English within its different language levels indicates that language never changes chaotically but has an underlying order determined by certain grammatical parameters of the language system. Mechanisms of self-organization of a complex system lie in the changes within its parameters. By contrast, the structural stability of the language is provided by stability of a great number of control parameters of the language mega-system.

Keywords: *complex systems, linguistic synergetics, language development, evolution, parameter, a history of the English language, a typological shift.*

Introduction

The early years of the 20th century witnessed a great number of scientific discoveries, the rise of new scientific disciplines (such as genetics in biology, thermodynamics and quantum mechanics in physics, and others), as well as rapid development of new technologies, which brought about significant changes into our understanding of the system and its ubiquity. The outer world began to be seen as a dynamic conglomeration of systems – biological, chemical, physical, social, etc. Researchers were eager to construct a comprehensive scientific view of the world based on laws common for both organic and inorganic nature, or put differently, to create a new complex systems paradigm. New scientific theories were suggested (such as General Systems Theory, Instability Theory, Dynamic Chaos Theory, Catastrophe Theory, Phase-Transition Theory, the Theory of Bifurcations, etc.) within which new concepts and methods of investigation were developed, which later on provided a foundation for synergetics as a unified approach to various complex systems study.

The term *'synergetics'* (from Greek 'coherent action') was coined by the German physicist Hermann Haken in the mid-1970s to name a science of complexity, dealing with principles of emergence, self-organisation and self-regulation of complex systems of various ontology – either human-made (artificial) or natural (self-organized).

Successful application of concepts and methods of the synergetic approach to the description of biological, physical, historic, social, and even economic phenomena has revealed similarity, if not universality, of principles of evolution of complex systems. As a result, synergetics has made it possible to launch a wide variety of interdisciplinary interrelationships, among them mathematical physics, mathematical history, social government, neurosynergetics, meteorology, geodynamics, prognostics, to mention just a few. The new disciplines, in their turn, require specialists with a profound knowledge of complex systems methodology. Otherwise, as Cliff Hooker points out, people whose education does not include relevant competency in complex systems are excluded from science, policy and large scale business or find themselves increasingly dependent on those who have it (Hooker, 2011: 6).

Nowadays, the necessity of integration of different sciences calls for no argument and most scholars agree that the future of science lies within interdisciplinary research of complex systems.

The key concepts of synergetics are parameters, integration, synthesis, co-operation, coherence, non-linearity, dynamism, and evolution. They can be used to describe various complex systems, including language. Expansion of synergetic methods into new areas of research is effective for highlighting self-development of a system – its main stages and phase-shifts, fluctuations, bifurcation zones, parameter changes and other features. Since a human language is an open self-developing complex system, a synergetic approach to the study of various aspects of its structure and functioning is not only possible, but seems absolutely necessary.

The **purpose** of the article is to advance linguistic synergetics as a novel research methodology by focusing on applicability of synergetic principles to language development studies. It is argued that from a synergetic perspective the essence of language development should be seen in a change of the parameter pattern of the language under analysis. This change triggers a process of self-organization of the system into a new state.

The **material** that is subjected to analysis was selected from Old and Middle English poetry and prose. The samples were to illustrate the action of this or that parameter of the English language system. Methods of the investigation are determined by the purpose, the material and the theoretical approach of the article. They include the methods of observation, analysis and description of linguistic phenomena, their changes and functions. The

deductive method is employed to verify the theoretical theses on the factual material. The synthesis of evolutionary and synergetic paradigms together with the functional and cognitive paradigms is seen as essential for language study.

The **practical value** of the given research is seen in the advisability of implementation of the obtained results in teaching the history of the English language for university students. The approach suggested in the article can be employed in the historical analysis of other languages. The theory of parameters is regarded useful in further research in the domain of diachronic linguistics to disclose the architecture of the system's states through a variety of dynamic types in different periods of the system's development.

The article starts with defining language as a synergetic system. Then, we turn on the problem of parameterization of the linguistic system. Finally, grammatical organization of the Old English language (OE) will be briefly considered through the prism of the parameter theory.

Language as a synergetic system

Synergetic systems are multi-component systems characterized by complex behaviour of their parts and sub-systems. From the perspective of the synergetic approach, a human language is considered an open, dynamic, non-linear, self-organizing system with all its hierarchical subsystems and elements coherently interconnected and controlled by governing parameters. A degree of complexity of any synergetic system is determined not only by a great number of its parts, but also by a wide range of links and interactions among them within the system, as well as by their ability to establish new (e.g. paradigmatic, syntagmatic, etc.) relations with other components and to fit in the existing links. The system's complexity is closely connected with its flexibility and dynamism.

It is obvious that language is always dynamic and undergoes outer and inner influence. The language mega-system consisting of hierarchically structured and interconnected systems and subsystems is only relatively stable as some parts of it can be in equilibrium at a given moment, while the other parts are not.

The language system is flexible and is open to changes. However, its subsystems change at a different rate. A history of the English language proves that phonetic processes are of highest dynamics, while grammatical structures tend to remain more or less stable in the course of time.

The open character of language manifests itself in reflecting the social, economic, political and cultural life of the society, as well as the scientific and technological advances of the time. Besides reflecting, language transmits the new notions by saving them in its lexical depository. Language contacts, as a rule, result in various lexical borrowings. Nowadays, mass media and

the global net have considerably accelerated information exchange. Under the conditions of multinational society and global migrations of the population language cannot but change, though only to a certain degree, for any system, including language, seeks self-preservation. To retain its form and functioning, the system may only allow insignificant fluctuations, i.e. such deviations in the dynamics of its components that do not lead to disorder and chaos but preserve the subordination of the system's components.

Linguistic synergetics is seen as a new methodological approach to the investigation of language as an open self-regulating system (Dombrovan, 2018: 29). The system's equilibria are fully described within conventional linguistics and its branches, while linguistic synergetics aims at the study of language at the change point, in the situations of restructuring and reorganisation caused by external influence.

Language is known to undergo changes constantly; however, its various levels and subsystems are changing at a different rate (Lass, 1997; McCully, 2009; Saraceni, 2012). In spite of any changes, language remains capable of performing its communicative functions in a society not only among contemporaries, but also between generations. Consequently, the main task of linguistic synergetics is to reveal and describe the inner dynamic structure of a language and explain mechanisms of its changes using research principles of synergetics as a paradigm of complexity. Diachronic synergetics, in particular, aims at modelling and interpretation of phase-shifts of the system, as well as at projecting possible variants of its change depending upon many-directional bifurcations and a variety of potential attractors.

The main idea of diachronic synergetics lies within multi-directional non-linear evolution of language system. The concept of non-linearity is the most essential for language development. It is generally assumed that language evolution and development involve changes of multitude of units (that what evolves) and levels (loci where evolution takes place) (Gontier, 2017: 12). It is the non-linear character of changes within various units and on different levels of language that contributes to non-linear dynamics of the whole system.

A close examination of historical changes in English within different language levels indicates that language never changes chaotically but has an underlying order. The latter is a result of the 'work' of so-called order parameters of the language system.

Parameterization of language change

A system's unity, functionality and safeness are determined by the form of its organization, particularly by the so-called order parameters of the given system. It is assumed that when at least one parameter is changed, the system may go through a phase of instability and finally to a new equilibrium state.

As is shown in synergetics, especially by H. Haken (2000), at such an instability point, in general just a few collective modes become unstable and serve as 'order parameters' to describe the macroscopic pattern. At the same time these macroscopic variables, i.e. order parameters, govern the behaviour of the microscopic parts by the 'slaving principle': «In this way the occurrence of order parameters and their ability to enslave allows the system to find its own structure. When control parameters are changed over a wide range, systems may run through a hierarchy of instabilities and accompanying structures» (Haken, 2000: 13–14).

The assumption that language is a synergetic system provides a natural way of accounting for the fact that language functioning and/ or development is also determined by inner properties of the system.

The principles-and-parameters theory of language was first advanced by Noam Chomsky in the 1980s. It includes a set of universal principles of grammatical structure and a set of structural parameters imposing constraints on the range of structural variation permitted in a given language and thus reflecting grammatical differences between languages.

A linguistic theory of parameters as regulating principles maintains that all grammar discrepancies between languages are caused by a limited number of discrete factors. Any human language, being a synergetic system, has its own set of parameters to characterize peculiarities of its structural organization. Linguistic synergetics aims at highlighting parameter *changes* as a mechanism of self-organization of a complex system.

Mark Baker (2001) calls parameters a salient property of human language and strongly believes that they can play the same foundational role in scientific theories of linguistic diversity that atoms play in chemistry. He defines parameters in the following way: «The atoms of linguistic diversity; a choice point in a recipe for language, permitted by universal grammar. Different choices about how to do things at this point lead to different types of language» (Baker, 2001: 106).

However close conceptual parallels might be, parameters differ from atoms, and vice versa. In M. Baker's words, 'atoms are little chunks of matter, whereas parameters are parts of some kind of mental knowledge structure that constitutes our linguistic abilities. They are like steps in a recipe or blocks of code in our internal programming for language» (ibidem, p. 71).

Using data from about fifty different languages of the world, M. Baker lists a number of parameters, among them are: The null subject parameter; The head directionality parameter; The subject placement parameter; The verb attraction parameter; The serial verb parameter; The polysynthesis parameter; The subject polysynthesis parameter; The extended polysynthesis parameter;

The agreement principle; The adjective neutralization parameter; The reflexive antecedent parameter; The reflexive domain parameter; The question movement parameter; The topic-prominent parameter, and some others.

M. Baker compares parameters to loose rocks on a mountain slope: «All rocks have the same basic structure, but those located near the top of the slope may cause an avalanche of effects, whereas those near the bottom have no such opportunity». This analogy suggests the possibility of a useful order for the parameters: «They could be presented in terms of their placement on this metaphorical slope of cause and effect. This placement need not be seen in temporal terms, as reflecting the order in which parameters are used as our minds process language» (ibidem, p. 71).

Human languages differ in their parameter patterns. Moreover, during its lifetime, any language may undergo a change (or changes) in the parameter pattern. We find M. Baker's theory of parameters especially useful for diachronic research. At any given moment of its existence, a language system is characterized by a certain parameter pattern. This pattern is not fixed once and for ever. On the contrary, it is alterable and variable. It may be compared to a kind of skeleton of the system in which parameters not only co-exist but interact with each other. Any innovation within the pattern may indicate certain changes of the structural organization of language.

Language as a complex synergetic system includes numerous sub-systems, each of which can be represented as a hierarchical unity. Obviously, parameters differ in the scale of their 'activity'. That's why it seems necessary to distinguish between macro-parameters controlling the whole system and micro-parameters having a limited function. For instance, valence of suffixes can be regarded as a micro-parameter, while order of words, such as verb placement SVO, SOV, OVS etc. should be considered as a macro-parameter.

Any level of a language system has a certain set of parameters interconnected with one another and hierarchically interacting with those of other levels. Arrangement of parameters according to their functional load can help to define their importance in the structural organization of the system.

Grammatical organization of the Old English language through the prism of the parameter theory

a. Let us consider THE NULL SUBJECT PARAMETER. Mark Baker (2001: 28) formulates it in the following way:

In some languages every tensed clause must have an overt subject noun phrase. OR: In other languages tensed clauses need not have an overt subject noun phrase.

Obviously, the English language belongs to the group of languages with an obligatorily explicit subject. In other words, the initial – subject – slot in

an English sentence must always be filled with the corresponding component. Structurally, the latter can be of four types:

– simple, i.e. expressed by a single word (e.g. a noun, a personal / indefinite /interrogative pronoun, etc.): *You can never tell*.

– a word combination, i.e. a phrase (usually, a noun phrase): *Great Britain has long-standing traditions*;

– a complex, i.e. expressed by a secondary structure of predication with an infinitive or a participle as a secondary predicate: *For him to act so is a shame!*

– a clause, i.e. a primary structure of predication which enters the subject slot of another primary structure of predication: *What he said was offensive.*

However, structurally bulky subjects (i.e. those expressed by a complex or by a clause) tend to be placed at the end of sentence, while the emptied initial slot is filled with the so-called formal subject – *it, that, there*.

Thus, formal *it* is used in impersonal sentences to describe the environment (time, weather, date, etc.), as in: *It was late. It was late morning. It is Sunday*. *It is raining.* Anticipatory *it* (or a less common alternative *that*) is used instead of a clausal subject or a complex that are usually extraposed, e.g. *It is a shame for him to act so. That he acted so is a shame. It was offensive what he said*. *It is no use crying over spilt milk.* Formal *there* introduces situations of existence, hence the other name for this sham subject – existential *there*. *There is no place like home*. *There is safety in numbers.*

Modern English belongs to nominative languages, i.e. languages in which the subject is expressed by the Nominative case of a noun or a pronoun. However, diachronic research shows that in Old English already there existed a group of so-called impersonal verbs that did allow a logical subject in an objective case, as in:

(1) þa *ðuhte him nyttre & betre, þæt he ðær Godes word bodade & lærde,...* [Bede]. – *He then thought that it was better and more useful to announce and teach the word of God.*

Such constructions were common in Middle English, e.g.

(2) *Me lykes þat I schal fange at Þy fust Þat I haf frayst here* [Sir Gawain, l. 390-1];

(3) *Ne lust him nu to none unrede* [The Owl and the Nightingale, l. 212];

(4) *John knew the wey, him neded no gyde* [Chaucer, The Canterbury Tales, The Prologue of the Reves Tale, line 166].

It is noteworthy that in Old English the so-called impersonal verbs could also function as personal, for they were used with the subject in the Nominative case. In Middle English and later on, because of simplification and unification of case inflections, any word used prepositively to the predicate verb became

to be interpreted as a subject of the latter. The actual subject parameter so to say reshaped sentences with impersonal verbs by filling the subject slot: (12) *he thought*…; (13) *I like*...; (14) *he doesn't lust for*…; (15) *he needed* … .

In other words, the order parameter (in our case, it is the subject parameter) influenced the outer structure of the impersonal sentences in such a way that they were transformed into two-member predication-structured sentences. The outer form of impersonal sentences became the same as that of personal sentences. Thus, the formula $S - V_p$ corresponds now to the syntactic structure of semantically different sentences, e.g. *It rains. Time flies.* Similarly, the structure with a compound nominal predicate $S - V_{link} + C_s$ allows various grammatical subjects (formal or notional): *It is Sunday. Silence is golden.*

In Middle English and Early New English, another syntactic pattern developed intensively, namely the one with initial *there* (***There – V_p – S***) in which adverb *there* attracted a predicate verb and moved it towards the sentence beginning before the subject. It is well known that on the syntactic level adverbs enter the structure of modification where they modify verbs (as a rule) or other adverbs/adjectives. The verb contains in itself a condensed structure of predication, adverb *there* denotes spatial coordinates of the situation which is expressed by the predication structure. A verb's movement to a front position in an existential sentence can be explained by a close semantic cohesion between the verb and the adverb, the latter further developed into a structural component.

In Old English with its relatively free order of words, the use of adverbial of place *there* in the initial slot was common. This involved movement of the predicate verb to the second slot – between the adverbial and the subject. Such sentences had the following structure **Adv – V_p – S**. For instance:

(5) <…> *and* **Þær bi***ð swýðe manig burh,* <…>
(«And there are very many towns»);
and **Þær bi***ð swýðe mycel hunig and fisc[n]að;* <…>
(«And there is very much honey and fish»);
Þær bi*ð swýðe mycel gewinn betwēōnan him*
(«there is much struggling between them»);
And ***ne bið Þær*** nænig ealo gebrowen mid Estum, ac **Þær bi***ð medo genoh. And* **Þær is** *mid Estum ðēāw,* <...>
(«and there is no ale brewed by Estonians, as there is enough mead. And there is among Estonians a custom, <…>») [Ohthere's and Wulfstan's Story];

(6) **Þǽr wæs** *on blōde brim weallende* («there was water surging with blood») [Beowulf, 847].

When the SVO pattern was fixed in the English sentence, the initial element *there* began to function as a formal (structural) subject. The fact that *there*

did widen the range of its functions manifested itself in the formation of a disjunctive question: the subject slot in the tag began to be occupied by *there*. E.g. *There is no time like present, is there? There is safety in numbers, isn't there*?

To sum up, the interaction between the subject parameter and the word order parameter predetermined further changes within the structural organization of the sentence in Middle English and Early New English.

b. One more parameter that also underwent certain changes in the course of time is THE HEAD DIRECTIONALITY PARAMETER. In M. Baker's (2001: 33) book it is stated as follows:

> *Heads follow phrases in forming larger phrases (in Japanese, Lakhota, Basque, Amharic, and certain other languages). OR: Heads precede phrases in forming larger phrases (in English, Edo, Thai, Zapotec, and certain other languages).*

It means that in Modern English, for example, verbs precede direct objects, prepositional phrases, and embedded clauses to which they are semantically related, but in Japanese they come after. In an English prepositional noun phrase it is a preposition that comes first. However, it follows a phrase in Japanese.

In Old English, due to an elaborated system of inflections, the given parameter allowed certain variations. Thus, for instance, it was possible to place head words distantly from their dependent phrases, as in:

(7) *Ne* ***mæg*** *ic hēr leng* ***wesan*** [Beowulf, 2801] («I can hold out no longer»),

as well as to change their sequence, e.g.

(19) ***Tō Þām wīfe cwæð*** *God ēac swelce:*<…> [The Fall of Man (Genesis 3:33)] (lit.«to that woman said the God likewise: <…>»);

(20) Þā hē Þā sē cyning **Þās** ***word gehīerde***, <…> [Bede] (lit.: «When he then the king those words heard, <…>»);

(21) *ond eac swylce* ***leafnesse sealde****, þæt heo mosten Cristes geleafan bodian & læran.* – (Lit.*:* and also likewise permission granted that they could Christ-GEN faith preach& teach.) *«and he gave his permisson for them to preach and teach the faith of Christ».* [Bede] with the SOV pattern.

Yet we are to note a considerable stability of the head directionality parameter in Old English already. According to estimates, during the period from X c. to late XI c. the number of sentences with VO pattern increased twice and made up 63,4% (Мороховский, 1980: 51). E.g.

(22) *'<…> and sē cyning and Þā rīcostan men* ***drincað myran meolc*** *and Þā unspedigan and Þā Þēōwan* ***drincað mede'*** [Ohthere's and Wulfstan's Story] («and the king and those richest men drink mare's milk and those poor and those servants drink mead»).

Another sentence contains a verb followed by a prepositional phrase V–PrepP:

(23) <...> *Þæt hē wære* ***on Truso on syfan dagum and nihtum'*** [Ohthere's…] ('that he was on Truso for seven days and nights').

Like in Modern English, an OE preposition precedes the noun phrase:

(24) <…> *flota wæs* ***on ýðum,*** bāt ***under beorge***. [Beowulf, 210–11] («the boat was on water, in close under the cliffs»).

The head directionality parameter also demands that a subordinate conjunction precede a subordinate clause, which was common in Old English already:

(25) *He cwæð* **Þæt** nān man ne būde benorðan him [Ohthere's and Wulfstan's Story, 317] («he says that no man lived to the north of him»).

(26) *Hīe oncnēowon Þā* **Þæt** hīe nacode wǽron [The Fall of Man (Genesis 3:15)] («they knew then that they were naked»).

If we compare the grammatical organisation of Old English with that of Modern English, we may conclude that in V–XI cc. the language system was well ordered and was governed by a certain set of parameters. That was, so to say, an order of a synthetic type. As a result of numerous factors, including extra-lingual ones, the grammatical system of the English language, being a self-regulated synergetic complex system, entered a chaotic and disordered state, which was revealed in changes of standard morphological forms and in violation of syntagmatic relations. A re-arrangement of parameters was brought about, which in its turn pushed the system to seeking a new equilibrium state and finally led the whole system to a qualitatively new level of organisation with other dominating order parameters.

However, the transition to a new state was not accompanied by changes of *all* the parameters of the system. The typological shift took a few centuries (XII–XIV cc). Although the described period is characterised by intensive changes on all language levels, nevertheless, the language preserved its functions, the most important of them being that of communication between people of the same or of different generations. The structural stability of the language (and, to a certain extent, its identity) was provided by stability of a great number of control parameters of the language mega-system.

Let us mention some of them.

c. Thus, THE QUESTION MOVEMENT PARAMETER underwent no changes. It is stated as follows (Baker, 2001: 80):

Interrogative phrases must move to the front of the clause (English). OR: Interrogative phrases appear in the same positions as other noun phrases (Japanese).

In Modern English, a special question starts with a WH-word (hence, another name for this type of question – a WH-question). In Old English, special questions also had an interrogative word in the initial slot. However, in Old English, interrogative words began with HW, as in:

(27) ***Hwanon*** *ferigeað gē fætte scyldas,*
græge syrcan ond grīmhelmas,
heresceafta hēap? [Beowulf, lines 333-335]
(***Where*** *do you come from, carrying these*
Decorated shields and shirts of mail,
These cheek-hinged helmets and javelins? [Beowulf, A Verse Translation, 2002: lines 333–335]).

(28) *Adam,* ***hwǣr*** *eart Þū?*
(Adam, ***where*** *are you?')* [The Fall of Man (Genesis 3:20)].

(29) ***Hwȳ*** *dydest Þū Þæt?*
*(****Why*** did you (do) that?*)* [The Fall of Man (Genesis 3:26)].

(30) ***Hwider*** *mæȝ ic nu faran? (****Where*** *can I go now?)* [ibidem].

d. Now we would like to consider one more parameter, called by Mark Baker THE REFLEXIVE DOMAIN PARAMETER. It is formulated as follows:

> *A reflexive pronoun must refer to the same thing as some other noun phrase that is contained in the same clause (English). OR: A reflexive pronoun may refer to the same thing as a noun phrase outside its clause (Chinese)* (Baker, 2001: 82).

It is well known that in the Old English language the meaning of reflexivity was conveyed either with the help of personal pronouns in the Objective case or by the lexeme *self* (*sylf*) that agreed with its antecedent in number and case. Example:

(31) *<…> Þā behýdde* ***Adam hine,*** *and his wīf ēac swā dyde* [The Fall of Man (Genesis 3: 18–19)] – «then Adam himself hid, and his wife did so»;

(32) *<…>and cwæð, 'Ic swerie Þurh* ***mē selfne****, sæġde se Ælmihtiga, <…>* [Abraham and Isaac (Genesis, 22: 72)] – *selfne*: ACC.sing., masc. «and said, I swear, by myself, said the Lord, <…>»;

(33) *Hīe* ***hīe selfe*** *fēdaþ* [A Colloquy on the Occupations, line 121] – *selfe*: ACC.pl.masc. «They feed themselves»;

(34) *<…> swā swā hī wīston him sylfum.* [Ælfric's Life of St.Edmund, line 326]. – *sylfum:* DAT.pl.masc. – «as they knew themselves».

Although reflexive pronouns were organized into a separate word-class only in Middle English, even in OE they always followed their antecedent closely. To put it differently, the reflexive domain parameter manifested its activity in Old English already.

Conclusion

The theory of parameters is highly promising and particularly useful in further research in the domain of diachronic linguistics. It may help to model the architecture of the system's states taking into account a variety of its

dynamic types in different periods of the system's development, as well as to outline potential limits of variations within parameters, so to say a threshold of changes beyond which there is a phase shift, i.e. transition of the system to a new state. A historical dynamics of the parameter pattern of language levels, as well as the problem of mutual interaction between the system's parameters may help us to approach the essence of changes that have already occurred and are taking place in the system at present, and to cast a novel look at origin of quantitative changes in the system caused by instability of one or other parameter of a synergetic system.

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АНОТАЦІЯ

У статті зроблено акцент на використанні принципів синергетики як нової міждисциплінарної дослідницької методології для вивчення проблем розвитку мовлення. Синергетика визначається як наука про складність, що досліджує принципи емерджентності, самоорганізації та саморегуляції складних систем різної онтології (живої чи неживої природи, природних чи створених людиною систем). Ключовими поняттями синергетики виступають параметри, синтез, когерентність, нелінійність, динамічність, фазовий перехід. З позиції синергетичного підходу запропоновано розглядати мову як відкриту, динамічну, нелінійну систему, що здатна до самоорганізації та в якій всі ієрархічно організовані підсистеми і компоненти когерентно пов'язані і контролюються керівними параметрами. Під останніми розуміють принципи граматичної організації, які обмежують структурну варіативність конкретної мови. Мова належить до синергетичних систем, а тому також має певний набір параметрів, які детермінують особливості її структурної організації. Граматичні розбіжності між мовами визначаються дією керівних параметрів цих мов. У статті запропоновано розглядати історичний розвиток мови як зміну параметричного патерну певної мовної системи та її наступний перехід – через стадії хаосу та самоорганізації – у новий, динамічно врівноважений стан. Автори припускають, що в кожний момент свого існування система конкретної мови характеризується певним параметричним патерном, будь-яка зміна якого служить сигналом про зміни в синергетичній системі в цілому. Як приклад у статті проаналізовано чотири керівних параметри, характерні для давньоанглійської мови, а саме – параметр нульового підмета, параметр розташування вершини, параметр сфери зворотного займенника і параметр побудови запитання. Доведено, що типологічний зсув в організації англійської мови (від синтетичного типу до аналітичного) ґрунтується на механізмі зміни його параметричного патерну. Навпаки, стабільність структурі мови забезпечується стабільністю керівних параметрів конкретної мовної мегасистеми.

Ключові слова: *складні системи, лінгвістична синергетика, розвиток мови, еволюція, параметр, історія англійської мови, типологічний перехід.*

Домброван Татьяна, Олександренко Екатерина. Развитие языка как изменение параметрического паттерна языковой системы

АННОТАЦИЯ

В статье делается акцент на использовании принципов синергетики как новой междисциплинарной исследовательской методологии для изучения проблем развития языка. Синергетика определяется как наука о сложности, рассматривающая принципы эмерджентности, самоорганизации и саморегуляции сложных систем различной онтологии (живой или неживой природы, естественных или созданных человеком систем). Ключевыми понятиями синергетики выступают параметры, синтез, когерентность, нелинейность, динамичность, фазовый переход. С позиций синергетического подхода предлагается рассматривать язык в качестве открытой, динамической, нелинейной, самоорганизующейся системы, в которой все иерархически организованные подсистемы и компоненты когерентно сопряжены и контролируются управляющими параметрами. Под последними понимаются принципы грамматической организации, ограничивающие структурную вариативность данного языка. Являясь синергетической системой, язык имеет набор параметров, определяющих особенности его структурной организации. Грамматические несоответствия между языками определяются действием управляющих параметров этих языков. В статье предлагается рассматривать историческое развитие языка как изменение параметрического паттерна данной языковой системы и её последующий переход – через стадии хаоса и самоорганизации – в новое, динамически устойчивое состояние. Предполагается, что в каждый данный момент своего существования система конкретного языка характеризуется определенным параметрическим паттерном, любое изменение в котором служит сигналом об изменениях в синергетической системе в целом. В качестве примера в статье анализируются четыре управляющих параметра, характерные для древнеанглийского языка – параметр нулевого подлежащего, параметр расположения вершины, параметр области возвратного местоимения и параметр построения вопроса. Показано, что типологический сдвиг в организации английского языка (от синтетического типа к аналитическому) базируется на механизме изменений его параметрического паттерна. Напротив, стабильность структуры языка обеспечивается стабильностью управляющих параметров данной языковой мегасистемы.

Ключевые слова: *сложные системы, лингвистическая синергетика, развитие языка, эволюция, параметр, история английского языка, типологический переход.*