THE NOTION OF FUNCTIONAL SYNERGISM IN LINGUISTICS

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ABSTRACT
The article highlights the notion of synergism as applied to speech/discourse in terms of functional linguistics. The term ‘synergism’ denotes the ability of self-organising open systems (language and speech included) to combine elements in such a way that their overall effect exceeds pure linear addition of components. This non-linearity is inherent in speech, as the general sense of a text does not usually equal to a mechanically obtained sum of its units semantics. From the angle of functional linguistics, synergism is attributed to the discourse functional plane, i.e. to its system of pragmasemantic properties. Functional synergism results from sense accretion. The author defines discourse as a self-organising system of senses formed in a text by an aggregate of all verbal means, which synergistically mobilizes their functional potential in order to actualise the speaker’s communicative purport. Using methods of pragmasemantic analysis the author focuses on the interaction of discourse components in their common strife for the so-called functional attractor, i.e. the point of communicative purport actualisation. Discourse specificity lies in a simultaneous development of both systemic and dynamic functional properties, and their pragmatic synergy, when built up with good knowledge and with good intention, may prove to be a most efficient way to harmonizing human interaction.

Keywords: functional linguistics, synergism, discourse functional self-organisation, pragmasemantic properties, communicative impact

INTRODUCTION
The notion of synergism is relatively new to functional linguistics, though the idea itself has been inherent in language functional analysis since its early days. It embodies a crucially important feature of complex systems – the ability to synergy (from Greek συνεργία (synergia) – cooperation, working together), a cumulative effect resulting from a cooperative coherent activity of all system elements which outperforms a mechanical addition of their separately taken activities [2], [6], [9].

Correspondingly, the research area investigating the relevant phenomena is named synergetics. Born initially within natural sciences, this methodological approach has acquired an interdisciplinary character, and its analytical toolset has been transposed into social studies, arts and humanities, linguistics being no exception. Works by the founders of synergetics or closely related paradigms (Buckminster R. Fuller in the US, H. Haken in Germany, I. Prigogine in Belgium, V.I. Arnold, E.N. Knyazeva and S.P. Kurdyumov in Russia, R. Thom in France) and their followers lay the ground for integral methods of analyses that have given solution to a host of highly challenging problems in different scientific fields.
Synergetics is often treated as the theory of complex systems self-organisation. The object of the synergetic analysis make open hierarchical non-linear systems and the coherent processes inside and outside such systems aimed at their self-regulated evolution and preservation [3], [6], [7]. Thus, synergetics can be qualified as a special stage of development of the systems theory, namely the one concentrated on systems evolutionary non-linear processes in which elements mutually enhance each other’s performance producing a synergistic effect. In other words, it presents a holistic dynamical systems approach which integrates the analysis of system’s inner structure in a stable functional state and its dynamic evolutionary properties (up to chaotic trends) in a non-equilibrium state.

The systemic and dynamic nature of language has been firmly established in science and is completely correlated with such view on complex systems development. Still, as of now, linguistic synergetic theories are quite few. To the best of my knowledge, in Europe the most prominent works on language evolution from a synergetic perspective belong to the research direction headed by G. Altmann, R. Köhler, R. Thom, W. Wildgen. They have elaborated computational methods of analyses disclosing the algorithms of language components interaction in the process of language evolution.

In Russia linguosynergetics has been gaining momentum for about two decades, and is being worked out in two directions:

1) developing the synergetic methodology of structural and computational linguistics (works by N.V. Drozhashchikh, I.A. German, G.G. Moskalchuk, R.G. Piatrovskiy, V.A. Pishchalnikova, etc.),


The purpose of the present work is to give an overview of the concept of speech synergism and the gains of functional linguistics embracing the synergetic approach.

**SELF-ORGANISATION AS THE CENTRAL CONCEPT OF SYNERGISM**

As follows from the above, the term ‘synergism’ denotes the ability of self-organising open systems (like language and speech) to combine their elements in such a way that their overall effect exceeds pure linear addition of the components and their functions. But some scholars are skeptical about the expedience of putting language in this framework, claiming that language is a well-regulated system and discourse is built up voluntarily by the speaker, which allegedly excludes speech ‘self-organisation’.

To begin with, the definition of self-organisation, one of the key concepts of synergetics, does not imply anything incompatible with the idea of language and speech being systemic. In the general systems theory the basic characteristics of this phenomenon are as follows [2], [3], [9], [14]:

1) self-organisation is understood as system capacity of self-development and self-regulation using not only energy, information, substance coming from the outside but also the resource existing within the system itself;

2) self-organisation takes place in complex dynamic open systems in a non-equilibrium state;
3) self-organisation is possible if quite a large number of interacting elements are available;
4) functioning of all the system components is directed towards the attractor – the goal of the system evolution, the area of its best-balanced position;
5) the elements activities must be cooperative and coherent, which is provided by the order parameters – the controlling factors of the system;
6) elements of a self-organising system interact in a non-linear way, i.e. the result of this interaction is formed not according to the linear principle of gradual mechanic addition of elements and their performance, but non-linearly, in complex, under the synergistic influence of any (including barely noticeable or unpredictable) effects when, figuratively speaking, “two and two” can “make five”;
7) not only self-development of the system but the influence of outside processes is also non-linear, which largely defines the direction of the system evolution.

Regarding language such approach implies that language evolution is influenced by:

- signals from the external medium (like a change in native speakers' living conditions, their judgments on different events/views/values, interference of contacting languages, etc.), which proves the openness of the language system,
- its internal tendencies at various levels (the appearance of new words or a change in the meanings of old ones, the formation of lexical and syntactic models similar to those already existing, the phonetic and grammatical adaptation of loanwords, advancement of some synonyms to priority and others to the periphery of the system, etc.).

The complexity of organization and dynamics of language, its possibility to upset the equilibrium and its adaptivity are obvious. Moreover, language itself is a functionally complicated instrument. It is a complex multilayer system which is able not only to reflect human consciousness but also to form it, as viewed by numerous studies of verbal and cogitative activities in cognitive linguistics. According to the famous scientist I.P. Pavlov, physiology has proved that man is a system with the highest level of self-regulation which supports and restores itself, and that there is a permanent self-organisation of neuronal links in human brains and, consequently, self-organization of human perception [13]. Proceeding from these premises, even skeptics have to admit that similar processes in linguistic consciousness are highly probable.

**SYNERGISTIC EFFECTS IN DISCOURSE FUNCTIONAL SPACE**

In accordance with the classical definition of language as a functional system, language is a system of means of expression, specially designed for communication [10], [15]. In terms of synergetics it is a system of signs directed towards the attractor (the center of attraction of all the elements), the state and area most adequately actualising the communicative purport. It allows to express non-linguistic images of consciousness by language means. And these images are naturally never fixed or fully restricted. Therefore, the acknowledgement of everlasting flexibility and evolution of the language system, once firmly approved in the traditional science, is logical here.

Thus, the basic characteristics of language are mobility, evolution, modification of its components alongside stabilising features of the system per se [1], [8]. Hence, both functional and systems approaches to the study of language must intertwine, with the functional approach focused on the system dynamics. Notwithstanding whether the signals causing functional fluctuations (appearance of new elements or changes in the
old units, relations, functions) are born inside or outside the language system, it obeys the controlling parameters of order, "digest" these fluctuations and either adapts a certain sector to them, or rejects or changes them so significantly that they have to comply with the initial state of the system.

These processes naturally involve a large number of elements into interaction which is inevitably cooperative and coherent; otherwise the system of language would start to ruin, and understanding between speakers would sooner or later become impossible.

I believe that everything mentioned above proves the legitimacy of applying synergetic principles in linguistics. However the question of how the theory of self-organisation can be useful for linguistic studies needs thorough consideration.

The term "synergy" means "fusion of energies", as system evolution rests on the interaction of all its elements, no matter how tiny their role in the system functioning may seem. The basic pillar of synergism is the principal possibility of spontaneous order and organization out of disorder as a result of the system inner self-organisation and exchange with the environment (external medium).

In brief, the general scheme of self-organization is viewed as follows [14]. An open integral system exists in the state of dynamic equilibrium and exchange with the environment. It is defined by its inherent factors – order parameters. The elements subordinate to the order parameters, are directed towards the attractor, the purpose of the system performance, the regime most favourable for its functioning. Gradually the system’s initial state is being modified, the inner dynamic processes and some signals from the medium give rise to fluctuations in the system, which cause further functional shifts, and the system approaches the so-called bifurcation point(s) - the turning-point(s) in its evolution. Here deregulating, chaotic processes are activated, and in order to oppose them and preserve itself, the system has to mobilize all its elements for common coordinated actions, and to dissipate extra matter, or information, or energy into the medium. Some so far stable structures tend to fall apart and the least fluctuation can push the system to a different (not necessarily better) stage of development. The overall non-linear impact on the system may well outperform the predictable linear summing up of particular components’ effects. Finally, the synergetic system adapts to evolutionary processes and passes to a new level of existence. Otherwise it will be ruined.

The synergetic analysis reveals the mechanisms of self-organisation and discovers the order parameters that ensure self-preservation of the system and regulate synergistic processes which help the system and its elements evolve on their way to the attractor. This analytical device is appropriate for both language and speech/discourse. For speech order parameters are the functional relations between utterances defined by T. van Dijk [5] as the specific semantic role/function of utterances in respect to each other, which is based on semantic links between propositions and on relations between the described facts and their properties in ‘possible worlds’. So, in fact such relations are more precisely qualified as pragmasemantic ones, i.e. as semantic links acquiring pragmatic accretion in the process of their linguistic actualization.

They build up the systemic foundation of communication, because semantic structures reflect the mental pattern of the situation described. Considering that mental patterns have a more or less typical (though not exactly similar) character with human beings, it becomes clear that functional (pragmasemantic) relations perform a stabilizing role and make the appropriate criteria for speech synergetic analysis [7], [14]. And it is those
functional dissimilarities that enrich the text sense system and turn a text into discourse. *Discourse* can be defined as a self-organising system of senses formed in a text by an aggregate of all verbal means, which synergistically mobilizes their functional potential in order to actualise the speaker’s communicative purport.

It is important that recognition of non-linear features of language and discourse does not mean denial of their linearity. The traditional idea that linearity of elements arrangement in the course of language functioning determines language syntagmatics and is the form of existence of all language elements (F. de Saussure, V.M. Solntsev, M.L. Makarov) is generally valid. However the content of speech results not only from consecutive addition of semantic units (linearly structured fragments of discourse) but even more so from new sense components that are peculiar to discourse as a whole. That is why we put forward the idea of *functional*, not structural, self-organisation of speech.

For instance, the synergistic non-linear effect is vivid in the following excerpt from the novel by Maggie Osborne “The Best Man”:

1. Three more days, Alex thought. 2. She finished washing the supper dishes, then dried her hands on her apron and leaned against the worktable, watching the sun flare into a glowing disk and sink into the horizon. 3. Three more days and the most profound experience of her life would come to a close. 4. Would she drive into Abilene the same woman who had driven away from Klees? 5. Or would she be someone new? 6. It was time to face her choices (M. Osborne).

The general functional (pragmasemantic) evolution of this communicative block consists in revealing the girl’s disturbance through her thoughts against the background description of her simultaneous physical actions. The first sentence renders the theme of the discourse fragment, it is the basic statement. The development of the theme and sense accretion actualizes the author’s intention – bring it home to the reader that Alex is aware of the need to make the choice of her future life path. This idea is formulated in the final phrase (6), which, consequently, verbally expresses the attractor (the communicative purport) of the given (sub)system of discourse.

From the position of functional synergetic analysis more details disclose the trajectory of forming the pragmasemantic space of the text.

Functional interaction of linearly aligned components is represented by the following relations (order parameters): (1) - (2) – succession; (2) - (3) – switching (theme change); (3) - (4) – explication (disclosure of the implied semantic components); (4) - (5) – alternative; (5) - (6) – expansion (conclusion).

In whole the mode of discourse synergistic functional development looks as follows.

Sentence (1) (*Three more days...*) is the basic (thematic) statement, it depicts the initial, equilibrium conditions of the system of senses and their verbal representation – information on the girl’s contemplation. Statement (2) (*She finished washing...*) is first perceived as reflecting the objective course of events, as it steps in the system build-up as an independent “full-fledged” component of the relations of succession formed at this stage. However, later this statement undergoes semantic and pragmatic modifying: with systemic perception of the whole fragment, utterance (2) transforms and becomes a background component of the sense system: switching the theme, it causes some semantic deregulation (‘chaotisation’) but it is still constructive. The constructive role of (2) appears in forming spontaneous functional properties – appearance of
pragmasemantic increments, the most important of which is a signal of possible serious consequences for a person going through a difficult period of life. After completing this task, the functional field (2) is dissipated, “forgotten” by the sense system.

Chaotisation introduced by (2) causes competition among order parameters (functional relations), which leads the system to the point of bifurcation (branching), forcing the choice of further sense evolution. As discourse continues developing proposition (1) (not (2)), the functional relation of switching is set between (2) and (3), and explication – between (3) and (1). Such functional interaction of discourse components, on the one hand, is created due to the radial-chain structural-semantic contour, and, on the other hand, contributes to its establishment. This contour is peculiar to all further discourse and thereby realises a circular causal relationship of the system synergetic development. Certain means are used to that end: expanded repetition ((1) - (3)), syntactic parallelism ((4) - (5)), the past perfect form creating a retrospective semantic link (4), conjunction or, enhancing pragmatics of disturbance (assuming dual outcome) (5).

In step (3) - (4) - (5) the system goes through the so-called “blow-up regime”, the dynamics of semantic and pragmatic development increases significantly. Interaction of statements (3) - (4) and (3) - (5) is regulated by the relation of explication, (4) - (5) - by that of alternative. Functional evolution toward the attractor is intensified by a number of functional operators: the superlative degree of comparison, syntagms with the meanings of the situation approaching the end (3), contrasting the girl’s features (4) - (5) and the distance between the beginning and the end of the way covered (4).

All these stages and elements of functional evolution are “attracted” to one idea – the need for further understanding of the heroine’s life choices. This idea expressed in the final sentence conveys the communicative purport of the author and, therefore, forms the attractor of the discourse system. Sentence (6) being connected not only with (5), but also with all previous ones sets up the functional relation of expanding conclusion. The formants of this relation in (6) are the impersonal construction (it was time), and the word of an undefined general meaning (choices). The combination of these elements and specific interaction of syntactic structure (6) with other sentences somewhat changes the discourse pragmatics (it becomes more categorical). Systemacy and coherent interaction of all elements and parts of the text produce another (unverbalised, subtextual) emergent component of the functional perspective – the idea of the need for any person to comprehend one’s place in life, which complements the system attractor.

The result of the systemic evolution of the analyzed communicative block is bringing the system of senses and their verbal realisation through nonequilibrium, chaotisation and nonlinearity to an ordered state at a new level, i.e. to the convincing substantiation of the principal message stated above.

Discourse specificity lies in a simultaneous existence of both systemic and dynamic functional properties. Their pragmatic synergy, when built up with knowledge and good intention, may prove to be an efficient way of harmonizing human interaction. That is why many language teachers rightfully insist on reasonable implementation of useful points of theoretical linguistics in teaching practice, without opposing one to the other [4], [11]. [12]. They put forward the issue of elaborating on this basis some optimal techniques of preparing young specialists for constructive and fruitful communication. In today’s turbulent world, when tensions not only between people but also between countries are running high linguists have a chance to contribute to taking the pressure
off, as the scrupulous analysis of communication reveals the mechanisms of creating certain semantic ties in people’s minds and their exterioration in verbal structures. Put to good use, this knowledge can be very helpful for humanity to stay reasonable.

CONCLUSION

Summing up, the presented analysis results in the following inferences:

1. In terms of functional linguosynergetics the notion of synergism (cumulative non-linear effect) is applied to speech pragmasemantic space, which is built up as a complex non-linear unity whose overall system of senses outperforms pure consecutive addition of the components. The synergetic approach integrates systemic and dynamic peculiarities of language and speech.

2. Due to speech actualization (be it oral or written) a text evolves into discourse with all its sense accretion based on various parameters of the situation and the participants of communication.

3. Discourse as language incarnation makes a self-organising open system of senses conjointly formed by all verbal means of a text and synergistically mobilized in order to actualise the speaker’s communicative purport – discourse functional attractor.

4. In order to survive (in case of discourse it means to avoid communicative failure) the developing system needs self-regulation and self-organisation. The stabilizing role is played by functional (pragmasemantic) relations which act as controlling parameters regulating the synergistic coherent movement to the goal.

In conclusion, it should be admitted that the scope of the article does not allow to present all the arguments about the synergetic properties of language and speech/discourse, but even such a brief review of the basics of functional linguosynergetics and the concept of synergism in particular helps understand that the analysis of self-organisation processes of discourse functional space is both of scientific and practical interest. Developing a set of effective synergetic models of discourse functional perspective will suggest methods of harmonizing communication both at interpersonal and international levels.

REFERENCES


