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**SYNERGY OF THE FLOW OF THINKING**  
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*The main thing in solving a difficult problem  
 is to get abstracted from a number of  
 secondary issues related to it.*

O.V. Klymenyuk

**A.A. Kalyta, O.V. Klymenyuk. Synergy of the flow of thinking.** In the paper on the basis of a hypothetical method grounded on a number of assumptions, the authors advance a new theoretical-and-methodological construct allowing a scientific consideration of the problem of the individual's thinking self-development. The presentation of this construct is carried out with the use of verbal and graphical scientific tools, which, within the framework of classical maxims of similarity theory, make it possible to model the most important phenomena and mechanisms of their realization in the flow of thinking, viewed as a complex stochastically self-developing cognitive-and-synergetic system. The paper substantiates the elementary two-dimensional and spatial models of the self-development of human's flow of thinking, which, according to the criterion of dominance of the fractal actualization results of its attractor-structures' self-development, allowed the authors to single out four basic types of thinking: existential, mental, transcendental and logical ones, occurring in the corresponding spheres of a person's spiritual life. The paper also offers the energy models for qualitative and quantitative analyses of the synergism of speaking-and-thinking and thinking-and-acting processes advanced by the authors on the basis of methods and criteria of synergetic estimation, as well as the methodology for their practical application.

**Keywords:** chaos, communication, concept-notion, concept-thought, emotional-and-pragmatic potential, energy redistribution, existential, flow of thinking, instinct, logical, mental, modeling, psycho-physiological energy, self-development, slip of the tongue, synergism, tabooing, transcendental, types of thinking.

**A.A. Калита, О.В. Клименюк. Синергізм потоку мислення.** На основі гіпотетичного методу, базованого на низці припущень, авторами запропоновано нову теоретико-методологічну концепцію наукового розгляду проблеми саморозвитку мислення індивіда. Виклад концепції здійснено з використанням вербально-графічного наукового інструментарію, що дозволив у межах класичних положень теорії подібності змоделювати найважливіші явища й механізми їхньої реалізації в потоці мислення, що являє собою складну когнітивно-синергетичну систему, яка стохастично саморозвивається. В роботі обґрунтовано елементарні площинну і просторову моделі саморозвитку потоку мислення людини, які дозволяють за критерієм домінування фрактальної актуалізації результатів саморозвитку його структур-атракторів класифікувати чотири основних типи мислення: екзистенціальне, ментальне, трансцендентне і логічне, що протікають у відповідних сферах духовного буття індивіда. Запропоновано енергетичні моделі для якісного і кількісного аналізу синергізму процесів мислення під час породження мовлення і мисленнєвого проектування дій на основі розроблених авторами методів і критеріїв синергетичної оцінки, а також методології їх практичного застосування.

**Ключові слова:** екзистенціальний, емоційно-прагматичний потенціал, інстинкт, комунікація, концепт-думка, концепт-поняття, логічний, ментальний, моделювання, обмовка, перерозподіл енергії, потік мислення, психофізіологічна енергія, саморозвиток, синергізм, табування, типи мислення, трансцендентний, хаос.

**А.А. Калита, А.В. Клименюк. Синергизм потока мышления.** На основе гипотетического метода, базирующегося на ряде предположений, авторами предложена новая теоретико-методологическая концепция научного рассмотрения проблемы саморазвития мышления индивида. Изложение концепции осуществлено с использованием вербально-графического научного инструментария, позволившего в рамках классических положений теории подобия смоделировать важнейшие явления и механизмы их реализации в потоке мышления, представляющего собой сложную стохастически саморазвивающуюся когнитивно-синергетическую систему. В работе обоснованы элементарные плоскостная и пространственная модели саморазвития потока мышления человека, позволяющие по критерию доминирования фрактальной актуализации результатов саморазвития его структур-аттракторов классифицировать четыре основных типа мышления: экзистенциальное, ментальное, трансцендентное и логическое, протекающих в соответствующих сферах духовного бытия индивида. Предложены энергетические модели для качественного и количественного анализа синергизма процессов речемышления и мыследействия на основе разработанных авторами методов и критериев синергетической оценки, а также методологии их практического применения.

**Ключевые слова:** инстинкт, коммуникация, концепт-мысль, концепт-понятие, логический, ментальный, моделирование, оговорка, поток мышления, перераспределение энергии, психофизиологическая энергия, саморазвитие, синергизм, табуирование, типы мышления, трансцендентный, хаос, экзистенциальный, эмоционально-прагматический потенциал.

## 1. Introduction

Proceeding from the present-day division of problems into “difficult” ones, the solution of which does not produce a satisfactory result at this stage of science development, and “easy” ones, the adequacy of whose solutions can be confirmed experimentally, we can firmly state that the problem of synergism of thinking flow should be rather referred to the second type of problems.

In this regard, it is known that synergetics, or the theory of self-organization, as the most productive and popular at present interdisciplinary theoretical tool, provides researchers, as it was pointed out by Herman Haken [Haken 2004: XIII-IX], with two prospects. The first one lies in the possibility of studying within the limits of a certain science the mechanisms of emergence of new properties in the whole (i.e. a self-developing system), consisting of interacting objects (i.e. subsystems). The second prospect is oriented to the realization of a comprehensive study of the phenomena alike on the basis of similarity of their self-development patterns. However, its implementation requires a cooperation of specialists from different fields of scientific knowledge.

Generally speaking, one should also agree with the opinion of a number of leading experts in the field of a hypothetical development, based on current achievements of a synergetic approach, who rightly state (see, for example, [Bak 2014; Pinker 2004; Chalmers 1996; Penrose 2015]) that the most effective methodological tool that make it possible to develop an overall scientific picture of the world in general and a specific scientific linguistic picture of the processes of speaking-and-thinking activities in particular is modeling. From their works it is also evident that, firstly, for the formation of such models it is obligatory to have minimal interdisciplinary knowledge, synthesized on the basis of achievements in neurolinguistics, psychology and linguistics. Secondly, when constructing lingua-cognitive models, it is rational to proceed from the monistic understanding of thinking mechanisms (speaking-and-thinking and thinking-and-acting activities) with a dual consideration of the participation in these mechanisms of logical and emotional beginnings of a human psyche.

However, despite the existence of these prerequisites, linguists have so far paid little attention to a number of important issues concerning the possibilities of modeling the inherently synergetic processes of speaking-and-thinking and thinking-and-acting activities as well as to the issues of their further interdisciplinary study. Furthermore, even a well-known understanding of synergy and synergism itself (from the Greek *synergeia*, meaning *cooperation*, *commonwealth*) as a joint action or interaction of different potentials and types of energies in integral and identical processes of

speaking and thinking activities, unfortunately, did not lead to the additional stimulus for linguists to conduct a more profound study of the energetic essence of thinking processes.

Therefore, the **aim** of the undertaken theoretical search is the conceptual substantiation of the possibility of modeling the energy picture of an individual's thinking as a process of synergistic self-development of a non-equilibrium system.

## 2. Methodological grounds of a conceptual synergetic modeling

In the work [Klymenyuk 2017] we showed that, unlike the linear scheme of verbalization of dialectical thinking results, the individual's thought, arising in fact in the emotional sphere of the unconscious, is formed in the turbulent zone of subconsciousness and further self-develops polylectically [Klymenyuk 1998] as a certain verbal-and-logical structure.

It was emphasized that the self-development of thinking flow is limited by a multitude of factors that generally form the corresponding zones of an existential (ET), mental (MT), transcendental (TT) and logical (LT) taboo.

To consider the synergy of the thinking flow self-development, let us turn to the elementary two-dimensional model substantiated in the work [Klymenyuk 2017: 456], which we reproduce in Fig. 1.

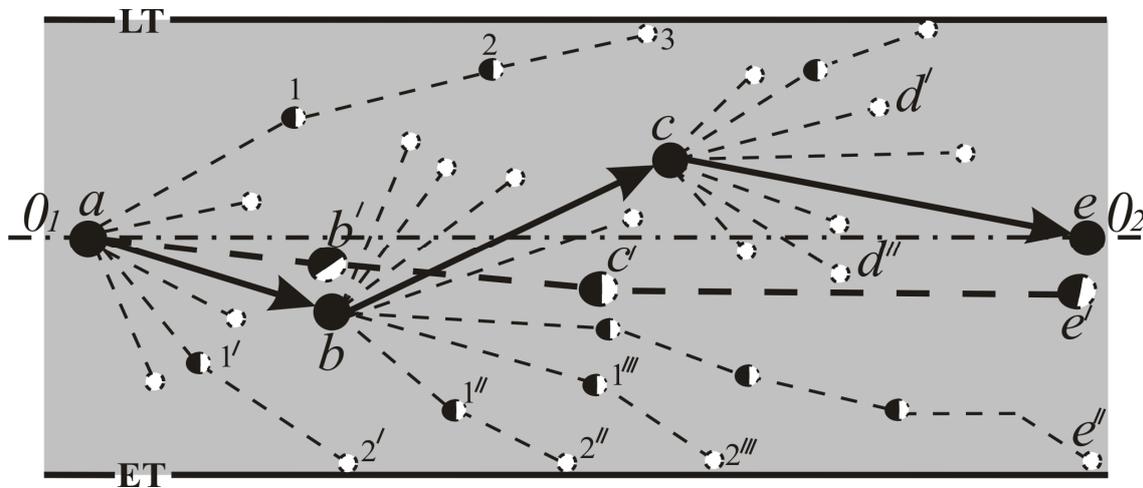


Fig. 1. Elementary two-dimensional model presenting the self-development of a person's thinking: ET – zone of an existential taboo, LT – zone of a logical taboo

We shall note here that along the vertical plane the model is limited with two lines interpreting the zones of logical (LT) and existential (ET) tabooing of the thinking flow self-development.

The model shows that the partial attractor of almost unconscious concept-idea, or concept-thought, having originated under the influence of emotions at the point of the first bifurcation ( $a$ ) of the process of thinking self-development, after emerging from chaos, heads to the point ( $b$ ). At this point, under the influence of a psycho-physiological energy of existential tabooing, incited by instincts and emotions, there develops the chaos of the second bifurcation. As a result of this chaos the attractor ( $b-c$ ) sharply swerves in the direction to logical concepts stored in the individual's memory and, having reached the energetic equilibrium with them, completes its development at the point ( $c$ ) of its third bifurcation. Further self-development of the flow of conceptual thinking is realized within the structure of the attractor ( $a-e$ ) in a similar way.

At the same time, at each point of the bifurcation, there occurs the emergence and parallel self-development of a number of other energetically less powerful attractor-structures (see:  $a-3$ ;  $a-2$ ;  $b-2''$ ;  $c-2''$ ;  $c-2'''$ ;  $a-e'$ ;  $b-e''$ ) as well as of some partial attractors that get into the scope of attraction of more powerful attractors being nearby (see:  $a-b$ ,  $b-c$ ,  $c-d$ ). In this case, less powerful attractor-structures complete their self-development as a result of energy dissipation at the points ( $3$ ;  $2'$ ;  $2''$ ;  $2'''$ ;  $e'$ ), taking place under the influence of corresponding energies of existential and logical tabooing.

As for the structure-attractor ( $a-e'$ ) of the energetically sufficiently charged thought, it can accompany the main idea ( $a-e$ ) in the flow of thinking up to the end of its self-development. However, at the moment of verbal materialization of the main thought in the form of an utterance or sentence, the consciousness completely suppresses the parallel thought ( $a-e'$ ) with its energy, and, having previously realized it in the form of inner speech, returns it, if necessary, to the memory in the spheres of subconscious or unconscious.

We shall focus here on one important circumstance, directly related in the work to the use of the notions “consciousness”, “cognition”, “awareness, or comprehension”. Leaving aside the continuous and rather broad discussion about the consciousness, in our search we are to talk about the following.

Firstly, the term “stream of consciousness”, which is often encountered in psychology, cognitive science and in a number of other humanitarian sciences, seems rather strange, since it is quite obvious that consciousness along with the unconscious, mental and transcendental is just one of the phenomena of human psyche that ensure the self-development of his/her thinking flow. Secondly, “cognition” should be considered as one of the particular cognitive processes (see, for instance, the attractor-structure  $a-e'$  or  $a-3$  in Fig. 1) that participate in the self-development of thinking flow (the attractor-structure  $a-e$ ). Thirdly, “awareness” of something, by its definition, must be considered as a cognitive result of the process of cognition as a specific pragmatically oriented flow of the individual’s thinking.

We have to emphasize that, on the one hand, consciousness, being the central element of cognition, is able to control both the original meaning of the stored in memory concept-ideas of different levels of complexity or abstractness, and the meaning of any of their analogues varying in nature, arising as a result of the repeated self-development of previous thinking flows connected with a particular form of the individual’s speaking-and-thinking and thinking-and-acting activities. On the other hand, the energetic potential of consciousness allows it not only to control the adequacy of verbal materialization of thinking results, but also to taboo logically contradictory, as well as ethically and aesthetically unsatisfactory concepts, inevitably activated by memory directly in the process of thinking.

In the model of Fig. 1 the cognitive tabooing occurs at final points ( $3$ ,  $2'$ ,  $2''$ ,  $2'''$  and  $e''$ ) of attractor-structures of the self-development of energetically less charged concept-thoughts ( $a-3$ ,  $a-2'$ ,  $a-2''$ ,  $a-2'''$  and  $b-e''$ ), flowing in parallel with the main idea ( $a-e$ ). At these points, the energy of taboo finally suppresses the self-development of energetically not powerful enough concept-thoughts, leading to a dissipation of psycho-physiological energy that ensures their development.

Such acts of cognitive control and tabooing of certain “illogical” concepts can take place within a wide range of emotions that develop in the individual’s psyche from a natural interest to a moderate stress [Klymenyuk 2017: 455].

It is quite clear, though, that apart from the energetically powerful orthodox taboos of consciousness that lead to the dissipation of energy of illogical for dialectical thinking concepts, there must also exist other mechanisms for their suppression. First of all, they should include the total energy potential of a number of anti-concepts (a kind of illogical concepts that are energetically sufficiently charged and are not suppressed by the consciousness at this stage of thinking self-development) that get into the scope of attraction of an energetically more powerful concept-thought controlled by consciousness. The potentials (concentration of energy) thus formed are capable of performing a kind of informal (unorthodox) taboo, providing a further suppression of the concepts previously admitted by consciousness into the process of thinking.

Along with this, in the thinking flow there can also occur a mechanism compensating the energies of separate concepts (for example,  $c-e$ ) by the energy of dialectically interconnected with them anti-concepts (for example,  $c-e''$ ), as a result of which their meanings are suppressed by consciousness and does not affect the subsequent self-development of thinking processes.

The mechanism of energetic resonance also poses some interest, due to which the potential accumulated by consciousness on the basis of meanings of a number of concepts, gets into the resonance with the energy of related emotions, and generates the energy considerably exceeding their sum and thus is capable of suppressing even powerful orthodox taboos produced by the consciousness itself.

We should add here that in a number of cases the energy of excessive emotions, giving rise to a sharp increase in the energetic potential of the unconscious (for example, in cases of strong or prolonged stress, as well as in the state of affect), can dramatically suppress the energy of logical or mental taboo.

Speaking about the considered above mechanisms of attraction, suppression, compensation, resonance and energy dissipation, we should not forget that, firstly, being difficult to predict in real communication, these mechanisms can be quite satisfactorily described retrospectively while studying physically materialized speech. Secondly, the energy potentials are formed due to the constant stochastic migration of psycho-physiological energy in the spiritual sphere of the individual [Kalyta & Klymenyuk 2004]. Such energetic potentials cannot only act as taboos for some concept-thoughts, but also ensure the overcoming of any taboos arising in the thinking flow on the levels of unconscious, subconscious and consciousness. Thirdly, under the psycho-physiological energy of a person one should understand the ability of his/her body, under the influence of emotional excitement, to perform the work of the mechanical movement of the body as well as the movement of electric charges in the nervous system.

On the basis of the stated above, we get every reason to assert that the specificity of the stochastic self-development of thinking activities in the subconscious sphere of the person's psyche, including the acts of his/her mental and transcendental beings, is the attainment of maximal entropy (or the measure of disorder) of thinking processes, characterized by a sharp increase in the intensity of chaos development and a corresponding sharp increase of psycho-physiological energy consumption by the individual's organism. Besides, in the process of thinking, the so-called increase in brain entropy causes the maximum number of connections between neurons, which leads to a sharp growth in the number of potentially possible interactions in the neural network. It quite agrees with the conclusions obtained on the basis of introspective retrospection that the process of uttering a word is accompanied by the emergence of ten new thoughts [Rerih 2011: 162-163; Penrose 2015: 333]. It also agrees with the idea that a thought originates not from another thought, but from a motivating sphere of consciousness that embraces our drives and needs, our affects and emotions [Vygotskij 1982: 379-380]. Similar ideas are presented in a number of other works, whose authors, unfortunately, operate with the notion of "stream of consciousness".

Turning to the two-dimensional model (Fig. 1), that comprises the projections of a set of attractor-structures on the frontal plane of the human thinking flow, it is easy to see that it does not provide a comprehensive picture of self-developing thinking processes. But, being an elementary model, it contains their most important structural elements, whose understanding and comprehension is the minimum requirement to continue the undertaken conceptual search.

Viewing this as our methodological basis for constructing a generalized spatial (three-dimensional) energetic model depicting the dynamics of self-development of the individual's thinking flow, we followed three main conditions: (a) the adequacy of the model to the phenomenon under study; (b) the consistency of a new hypothetical knowledge applied for its description with the existing linguistic, psychological and physical scientific knowledge; (c) the ability of the model to accurately reflect the change in qualitative characteristics and quantitative values of the parameters of simulated processes.

As it was mentioned before [Klymenyuk 2017], the idea of modeling the self-development of the human's thinking process was based on its similarity to a sufficiently studied physical process of a turbulent flow of liquid or gas in a pipe, since these objects (the flow of thinking as a natural

phenomenon and the flow of fluid as a model) are identical from the point of their theoretical study [Guhman 1973: 230-245].

With a propaedeutic aim to increase the effectiveness of understanding the presented material, let us first consider the structure of the space modeling the self-development of the human's thinking flow, shown in Fig. 2.

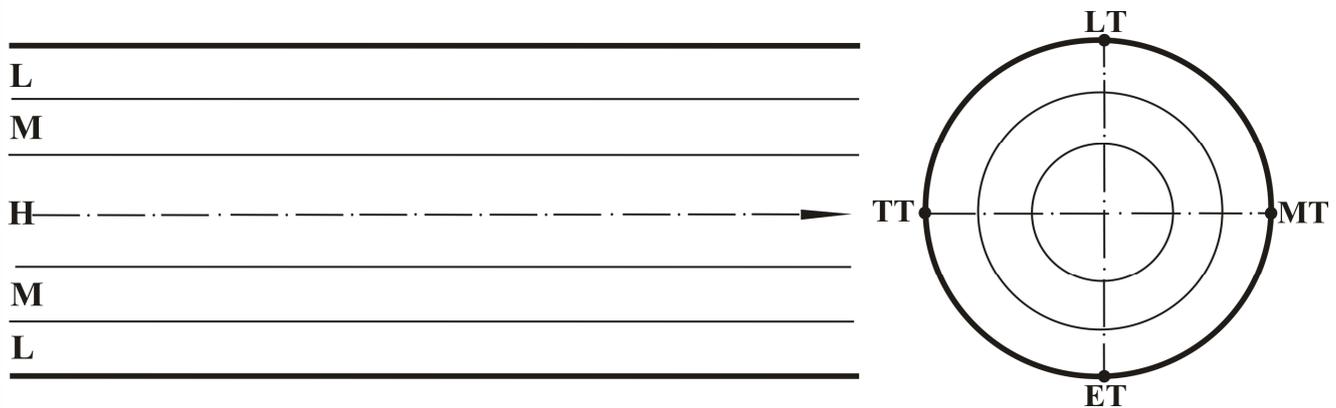


Fig. 2. Structure of the space modeling the self-development of the human's thinking flow

It can be seen from the figure that the modeling space is represented in the form of a pipe section as the shell of a system separating a stochastically self-developing flow of thinking from the environment, which is an information field external to the individual's psyche. In accordance with the generally known laws of hydro- and aerodynamics, the maximum velocity of flow in any similar space takes place in its central zone (**H**), which, according to the modeling conditions, corresponds to a high level of the emotional-and-pragmatic potential of the modeled thinking flow, limited on the projection to the right by a small circle in its center. Similarly, on the projection there is a circle that demarcates the mid (**M**) and low (**L**) levels of the emotional-and-pragmatic potential actualization in the process of self-development of the individual's thinking flow.

The shell of the model also performs an additional function, consisting in tabooing energetically insufficiently powerful concepts, leading to the partial suppression or complete dissipation of their psycho-physiological energy. In view of the fact that taboo processes can take place during the self-development of thinking processes in any of the four known spheres of the individual's spiritual existence (existential, mental, transcendental and the sphere of consciousness), the points of a maximum concentration of their tabooing potentials are indicated on the projection as follows: **LT** – logical taboo, **ET** – existential taboo, **MT** – mental taboo, **TT** – transcendental taboo.

Such a supplementary introduction of parametric factors into the initial model, as is well known from the similarity theory, opens up additional possibilities within the framework of interdisciplinary research. They consist in the fact that the localization of the final points of self-development of concept-thoughts of any nature and level of complexity can be described by a number of new cognitive-synergistic concepts. In our case, it is sufficient to designate the upper half of the projection as a sector of the logical taboo, and consider the lower one as a sector of existential tabooing. Then it is logical to term the left half of the projection as the sector of transcendental tabooing, and the right one – as the sector of mental taboo.

In turn (see Fig. 2), the occurrence of the final point of any attractor in the sector covered by the **LT-MT** arc, can be treated as the completion of self-development of thinking flow in the zone of a logical-and-mental taboo. The actualization of such a point in the sector of the **MT-ET** arc will demonstrate its entry into the zone of a mental-and-existential tabooing. The localization of a final point of the attractor in the **ET-TT** sector will show that the self-development of thinking ended in the zone of existential-and-transcendental tabooing. And, finally, the localization of this point in the

sector of the **TT-LT** arc can be interpreted as the completion of the attractor-structure of the thought self-development in the zone of logical-and-transcendental tabooing.

In other words, the upper half of the perpendicular section of the flow of thinking model (see the right-hand side of Fig. 2) can be viewed as a sector of conscious thinking, while the lower half can be regarded as a sector of the unconscious. Herewith, the left half of this section will reflect the cognitive processes taking place in the transcendental sphere of the individual's psyche, while the right half will reflect the processes occurring in the mental sphere of his/her thinking.

However, one should remember that, firstly, with a chaotic self-development of the thinking flow, it is difficult to predict the real directions of its thoughts development on the trajectories of not only partial attractors but also on the scale of complete attractor-structures. Secondly, there can be no doubt that any of the attractors can develop between the nearest points of concentration of taboo energies in a definite or opposite direction. To put it simply, the real directions of a reverse self-development of attractors can be designated by such pairs as the mental-and-logical trajectory and the opposite logical-and-mental one; the existential-and-transcendental trajectory can be opposed by the transcendental-and-existential one, etc.

### 3. Cognitive classification of the individual's thinking types

As can be easily seen, the artifact generated by the introduction of an additional parameter (i.e. the reversibility of self-development directions) into the model allows us to create a comprehensive classification of individual's thinking types by the dominance of the flows of its self-development in a specific sphere of spiritual being (Fig. 3).

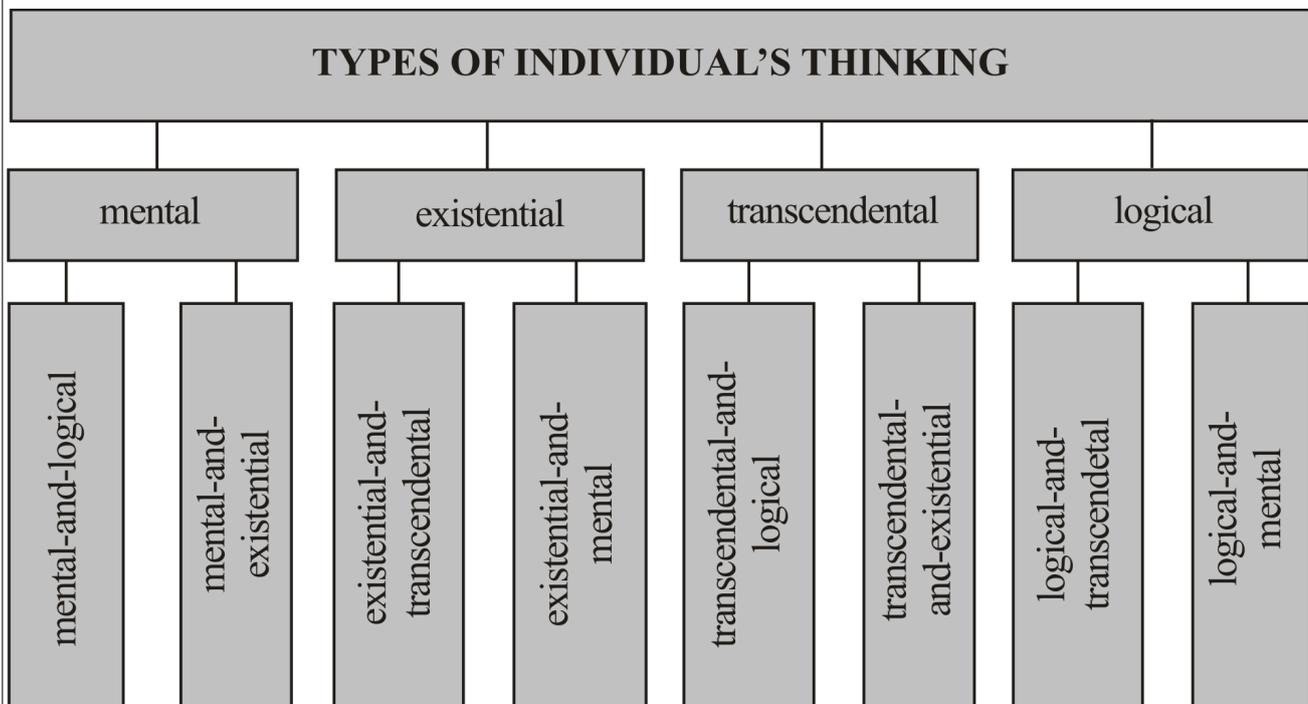


Fig. 3. Classification of the types of individual's thinking by the dominance of the flows of its self-development in a specific sphere of spiritual being

Cognitivists are well-aware of the fact that the final points of the attractor-structures formalized in the geometric form of self-development models of similar non-equilibrium stochastic systems, a typical example of which being the process of individual's thinking, are usually represented in the form of certain geometric figures, known as fractals in synergetics. Herewith, the interdisciplinary research has established [Arshinov & Budagov 2002: 87; Vedenova 2002] that in the case of the above mentioned (geometric) interpretation the overwhelming majority of the final points of

elementary processes occurring in the flows of the particular phenomena under study most often take the form of a torus or of its certain part.

Therefore, the next logical step seems to be the possibility to theoretically predict a finite number of variants of patterns of the dominant fractal actualization of the results of self-development of the individual's thinking attractor-structures. For this, it is sufficient to accentuate the fact that under the influence of strictly orthodox types of thinking, the localization of points (the set of which forms specific fractals) should be the most frequent in the corresponding sectors of arcs described above (Fig. 2): LT-MT, MT-ET, ET-TT, TT-LT.

Fragments of a number of thus projected patterns of the dominant fractal actualization of the results of self-development of the individuals' concept-thoughts attractor-structures are shown in Fig. 4.

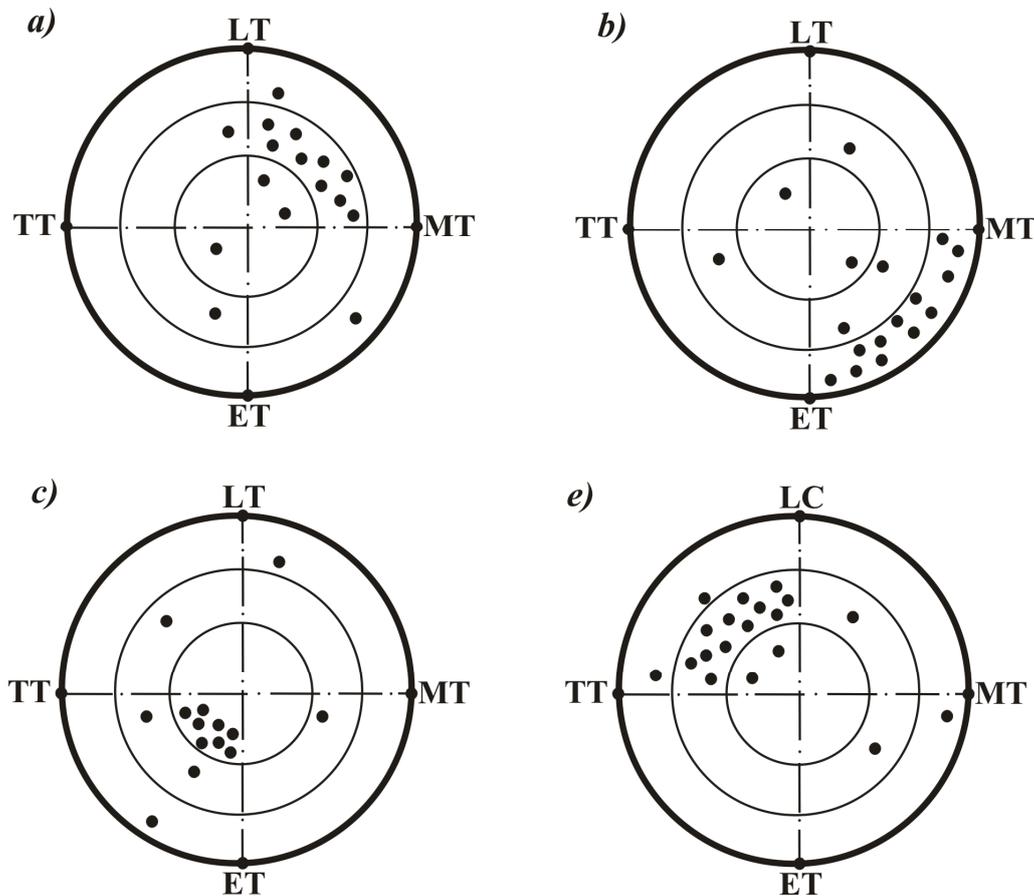


Fig. 4. Fragments of patterns of the dominant fractal actualization of the results of self-development of the attractor-structures of individuals' thinking

Let us consider in outline the location of the final points (see Fig. 4a) of the actualization of certain concept-thoughts realized by the speaker while describing some recent events (for example, impressions from meeting his sister's group-mates). From the context of the example, it is quite obvious that in the speaker's spiritual sphere the assessment of the behavior and intellectual level of each of them is based primarily on the logical and mental prototypes of concept-thoughts, fixed in his memory in the process of acquiring communicative experience. At the same time, due to the fact that the mentioned conflict-free meeting did not leave any strong positive or negative emotional trace in his memory, the final points of the self-development of concept-thoughts' attractor-structures are mainly realized at the middle level of emotional-and-pragmatic potential. The actualization of these points in the sector of logical-mental thinking is caused by the fact that the speaker, as is known from the context, is a professional mathematician brought up in the traditional ethnic environment.

As for the pattern shown in Fig. 4*b*, it can fairly be considered as a fractal figure of actualization of the interrelated set of concept-thoughts as the results of mental-and-existential thinking of a representative of a certain religious denomination during the evening service, whose verbal materialization takes place at a low level of emotional-and-pragmatic potential.

A somewhat different pattern (see Fig. 4*c*) can occur when a politician on the basis of existential-and-transcendental thinking expresses non-standard ideas at a high level of emotional-and-pragmatic potential, while having a discussion with communicants having orthodox conservative views.

The fractal figure of the fourth pattern (see Fig. 4*d*) fully corresponds to the speech of the individual, who on the basis of a transcendental-and-logical thinking introduces some convincing facts in support of his own theory to the members of a scientific community and performs it at the middle level of emotional-and-pragmatic potential.

Addressing the second level of the classification elements (Fig. 3), we will see that according to the dominant localization of points forming typical fractals, there can exist only eight patterns of subtypes, or forms of individuals' thinking self-development in the spheres of their spiritual beings. Upon that, we should not forget that the subtypes of fractal actualization 4*a* and 4*d*, as stated above, are alternatives to the logical type of thinking. In contrast to them, the common feature that unites the subtypes of fractal actualization 4*b* and 4*c* is their belonging to the existential (emotional) type of thinking.

Fractal actualizations of the final points of attractor-structures of the main thoughts' self-development, combining the subtypes 4*c* and 4*d* (localization in the sectors of arcs of ET-TT and TT-LT), indicate a transcendental type of thinking of the individual, whilst their dominant concentration in the sectors of LT-MT arcs (subtype 4*a*) and MT-ET arcs (subtype 4*b*) reflects the mental type of thinking.

Therefore, we may safely predict that in communication there are four main types of fractal patterns of the results of attractor-structures of thinking self-development classified by logical, mental, existential and transcendental types.

However, in real communication, when it is viewed on the scale of partial attractors, there are also more complex subtypes of self-development flows of the individual's speaking and thinking activities, as shown in Figures 4*a*-4*d* with the points not included into their local fractal patterns.

Therefore, when presenting the results of fractal research, one should not forget about the necessity to describe such complex subtypes of self-development flows of individual's thinking attractors as logical transcendental-and-mental and logical mental-and-transcendental ones, some of the cognitive processes of which are localized in the upper half of the projection of Fig. 2, known as the zone of logical thinking.

Similarly, in the zone of existential (emotional) thinking, there can also be subtypes of self-development of thinking, such as emotional transcendental-and-mental and emotional mental-and-transcendental ones.

In the left part of the projection (see Fig. 2, LT-TT and TT-ET sectors), i.e. in the zone of transcendental thinking, the transcendental logical-existential and transcendental existential-logical subtypes of thinking processes self-development can be actualized.

In the same way we obtain the demarcation of the mental logical-and-existential and mental existential-and-logical subtypes of thinking self-development in the right-hand side of the projection in Fig. 2.

In cases of migration of partial attractors from the TT-LT arc sector to the ET-MT arc sector, the variants of their self-development should be described as a subtype of the transition of the transcendental-and-logical self-development of the partial attractor of the thinking process to the existential-and-mental one. In the opposite case, we can talk about the transition of existential-and-mental thinking to the transcendental-and-logical one.

In accordance with this logic, we can talk about such variants of transitions: logical-and-mental thinking into existential-and-transcendental one and existential-transcendental thinking into the logical-and-mental one.

#### 4. Mechanisms of transitions of thinking into adjacent spheres of individual's spiritual being

Generalizing the picture thus obtained, let us turn to Fig. 5 and focus our attention on the fact that in real communication, if considered synergistically at the level of attractor-structures, it is possible to distinguish four basic types of self-development of individual's thinking (mental, existential, transcendental, and logical) as well as eight subtypes of a vector-like directed self-development of these flows of thinking (logical-and-mental, mental-and-logical; mental-and-existential, existential-and-mental; existential-and-transcendental, transcendental-and-existential; transcendental-and-logical, logical-and-transcendental).

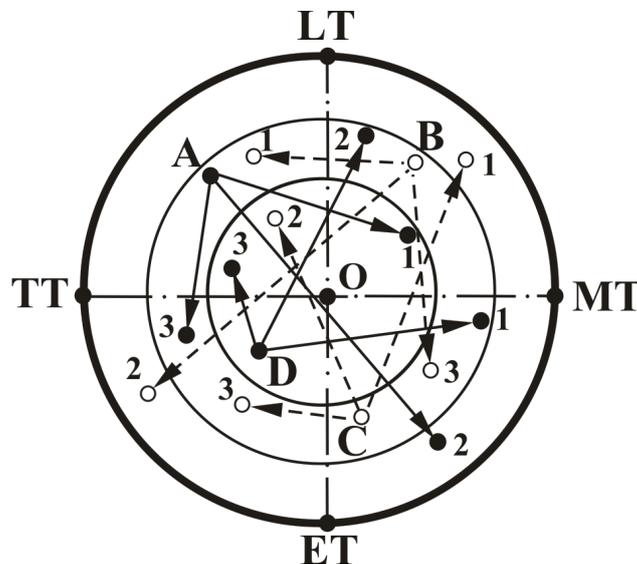


Fig. 5. Types of vector transitions of thinking (i.e. of the attractors of concept-thoughts' self-development) into adjacent spheres of individual's spiritual being

At the level of partial attractors (see Fig. 5), we are most likely to have to consider twelve complex subtypes of a vector self-development of concept-thoughts in adjacent spheres of individual's spiritual being (logical transcendental-and-mental – see vector A1, logical-and-existential transcendental-and-mental – vector A2, transcendental logical-and-existential – vector A3; logical mental-and-transcendental – vector B1, logical-and-existential mental-and-transcendental – vector B2; mental logical-and-existential – vector B3; mental existential-and-logical – vector C1, existential-and-logical mental-and-transcendental – vector C2, existential mental-and-transcendental – vector C3; existential transcendental-and-mental – vector D1, existential-and-logical transcendental-and-mental – vector D2, transcendental existential-and-logical – vector D3) and the four variants of their reciprocal transitions (A, B, C, D).

This implies another important artifact that requires an explanation of the difference in nature and the mechanisms of smooth and jump-like transitions of partial attractor-structures in the processes of initiation of the self-development of thought at the logical level (level of consciousness) and its completion at the existential level (level of emotional thinking) and vice versa. In this regard, attention should be paid to the fact that, firstly, a smooth transition is characterized by the fact that the partial attractor, which circumscribes it, crosses the horizontal axis of the projection (see Fig. 2), while the jump-like transition cannot be realized in any other way than that when the trajectory of the partial attractor crosses the adjacencies of the point O of the projection center (the zone of a high emotional-and-pragmatic potential), where the rate of its development is maximal. Secondly, the meaningful load of concepts-notions being located on the horizontal axis of projection and playing the role of elements of thinking, indicates the possibility of their simultaneous attribution to both logical and emotional beginnings of the individual's psyche. The smoothness of the transition is evident here by definition.

A jump-like transition is entirely different one. At the moment of its performance (when the attractor intersects the point O, which is the origin of the projection coordinates) there occurs either interruption or complete suppression of the result of the previous meanings interaction, since at this point the meaningful load of any concept-notion equals zero, basically it is absent, which prompts the brain to resume thinking on antinomial conditions.

Therefore, we believe that in order to implement the jump-like transition of individual's thinking we need to use the psychic energy of the affect state resulting from the annihilation of the emotional and logical potentials of concept-thoughts or taboos caused by a sharp contradiction to their sense and meaning.

Generally speaking, the processes occurring in the flow of thinking can be viewed on various scales (attractor-structure, partial attractor, and bifurcation point) as well as on any segment of the thought (speech, text) generated by it. The logic of modeling, shown in Fig. 2, gives us the opportunity to define typical fractal actualizations of thinking flow on two main scales: on the scale of any partial attractor as well as on the scale of the entire attractor-structure. The typical fractals, obtained in this way, are likely to be one of the objective psycho-communicative characteristics of individual's speech. Thanks to this, linguists, psychologists, sociologists, philosophers and cyberneticians will get an opportunity of a deeper scientific description of the phenomenon of the dominance of certain forms (or fractal models) of individual's actualization of typical thought flows, related to a particular communicative situation or to the problem which the individual is currently thinking through.

### 5. Energetic specificity of self-development of the main thought attractor-structure in the flow of individual's thinking

With a view to getting a deeper understanding of methodological possibilities of a practical description of the results of an experimental study of the thinking flow synergy, let us examine typical spatial models of its attractor-structures self-development. To do this, we shall remind you that in real communicative situations, there are practically no utterances [Kalyta 2007] actualized at a low level of emotional-and-pragmatic potential, since there is no absolutely emotionally neutral speech. Therefore, typical models include only two types of partial spatial models of the self-development of attractor-structures at the middle and high levels of emotional-and-pragmatic potential actualization as well as a complete model of their self-development on all three levels of emotional-and-pragmatic potential.

Thus, having singled out the individual's main idea according to the results of the experiment, we can consider (see Fig. 6) the spatial energetic model of its self-development at all levels of the emotional-and-pragmatic potential actualization of the thinking flow.

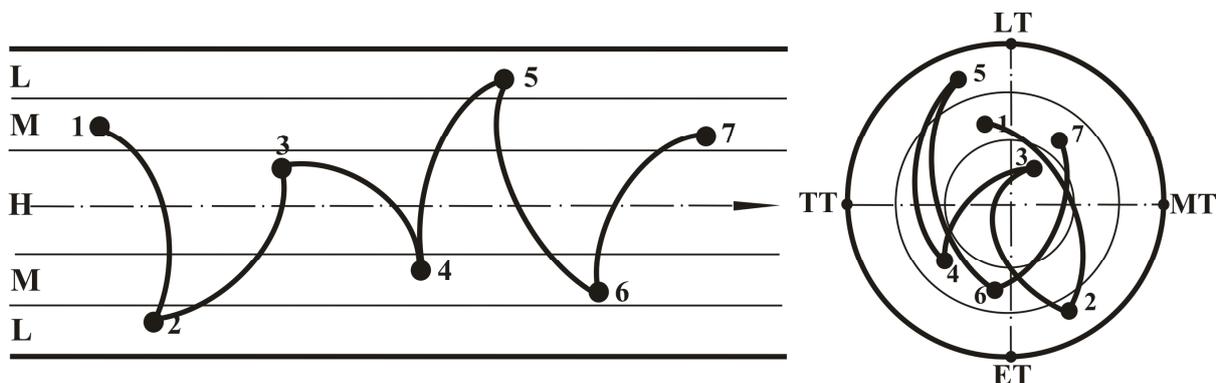


Fig. 6. Spatial energetic model of self-development of the attractor-structure of the main idea at three levels of the emotional-and-pragmatic potential of the human's thinking flow

It can be seen from the model that, having originated at the point (1), the partial attractor of the main thought actualization completes its self-development at the point (2) at a low level of emotional-and-pragmatic potential. We can see from the projection (see the right-hand part of Fig. 6) that the trajectory of the partial attractor (1-2), starting in the sector of logical-and-transcendental thinking, further develops in the sector of logical-and-mental thinking and, moving smoothly further completes its self-development in the mental-and-existential sector.

Self-development of the next partial attractor is characterized by the transfer of thinking energy from a low level of emotional-and-pragmatic potential (point 2) to its high level (point 3). At the same time, having originated in the mental-and-existential sector, the concept-idea smoothly passes into the existential-and-transcendental one and completes its development at the point of the third bifurcation (3) located in the mental-and-logical sector.

The attractor (3-4), originating at a high level of emotional-and-pragmatic potential (point 3), finishes its development at the middle level. The trajectory of the self-development of this attractor begins in the mental-and-logical sector and, passing through the transcendental-and-logical one, ends in the transcendental-and-existential sector.

The development of a partial attractor (4-5) begins at the middle level of the emotional-and-pragmatic potential in the transcendental-and-existential sector and ends at the point of bifurcation (5) at a low level of its potential in the logical-and-transcendental sector of the individual's thinking.

The direction of self-development of the partial attractor (5-6) is the opposite of the previous one: it starts with a low level of emotional-and-pragmatic potential in the logical-and-transcendental sector of thinking and ends with a middle level potential in the transcendental-and-existential sector.

The final partial attractor (6-7) of the general attractor-structure (1-7) develops at the middle level of the emotional-and-pragmatic potential from the existential-and-transcendental sector to the mental-and-logical one of the individual's thinking.

We shall point out that in the example described, the attractors (4-5) and (5-6), which indicate the formation of thoughts by the consciousness in the transcendental-existential-and-logical and transcendental-logical-and-existential sectors, respectively, refer to the described above complex subtypes of the individual's concept-thoughts self-development. However, even more complex processes are reflected by the trajectories of the remaining attractors, whose self-development, as it has been described above, is carried out in at least three sectors. With an in-depth analysis of complex thoughts, it is natural to expect the appearance of an even broader range of alternatives to hierarchically lower groups of subtypes, since, as evidenced by lingua-cognitive experience, the alternativeness of variations of thinking by different individuals is practically infinite.

Let us also consider a typical example of the spatial energetic model of the attractor-structure of a thought self-development at the middle level of the emotional-and-pragmatic potential of the individual's thinking (Fig. 7).

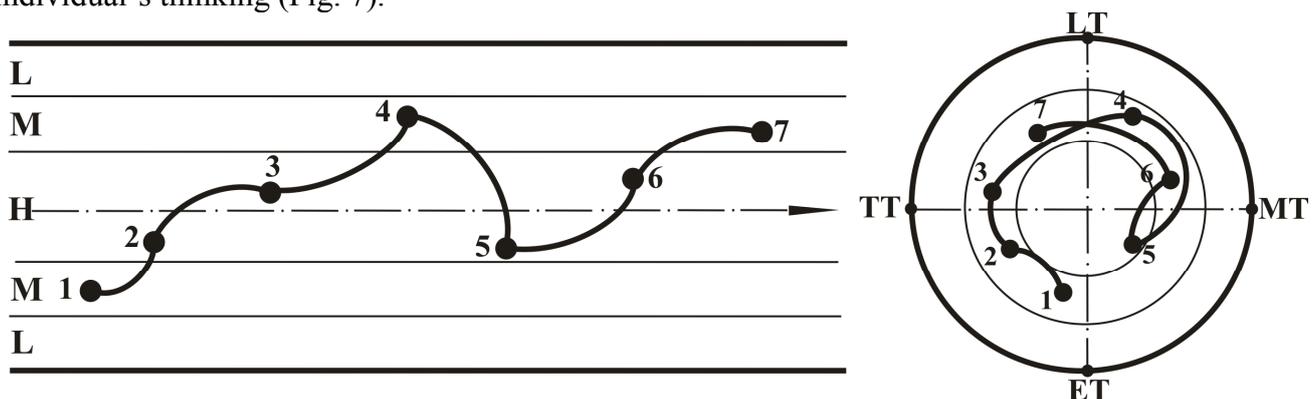


Fig. 7. Spatial energetic model of self-development of the attractor-structure of the main idea at the middle level of the emotional-and-pragmatic potential of the human's thinking flow

Focusing on the projection (the right-hand part of Fig. 7), we can see that the self-development of the attractor-structure of the main idea, originating in the sector of individual's existential-and-transcendental thinking (point 1), is carried out, mainly, at the middle level of the emotional-and-pragmatic potential of his/her thinking flow. Further, passing through the zone of transcendental-and-logical thinking, the main idea (attractor-structure 1-7), continuing its development in the logical-and-mental and mental-and-existential (i.e. mental-and-emotional) zones, completes it in the logical-and-transcendental zone (point 7). We shall remark here that the situation in which the researcher is shaping the initial hypothesis of the object under study functioning can serve as a vivid example of such a type of thinking self-development.

Let us also consider the case of self-development of the attractor-structure of the main idea at a high level of the emotional-and-pragmatic potential of the human's thinking flow, whose model is presented below in Fig. 8.

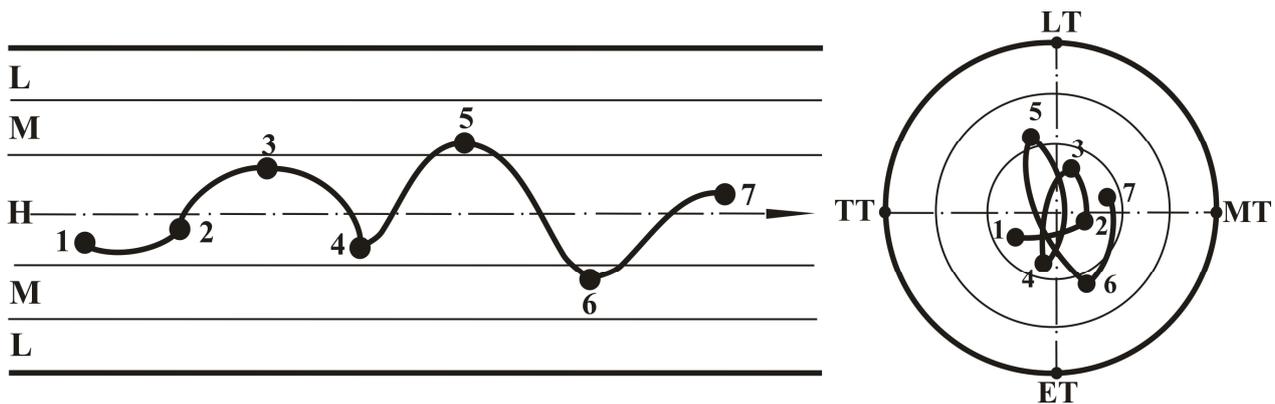


Fig. 8. Spatial energetic model of self-development of the attractor-structure of the main idea at the high level of emotional-and-pragmatic potential of the human's thinking flow

Unlike the previous model, such a type of self-development of the human's thinking flow (Fig. 8) occurs at a high level of emotional-and-pragmatic potential. The self-development of attractor-structure of the main idea depicted in this model can characterize the excited state of the psyche of the individual trying to convince the interlocutor of something on the basis of the prevalence of common for them mental-and-logical and mental-and-existential views.

The models considered above obviously reveal methodological possibilities of their practical application for describing the results of a multitude of lingua-cognitive processes. The use of such a description in psycholinguistic scientific research is of a particularly interest.

We shall turn now to an equally important issue, i.e. the use of the methodological potential of the considered models by analogy with the capabilities of the chosen physical prototype model (the motion of a liquid or gas in the pipe) allowing to solve a number of problems relating to the quantitative assessment of the distribution of the rates of actualization of the partial attractors' energies according to the levels of emotional-and-pragmatic potentials in the flow of human's thinking (Fig. 9).

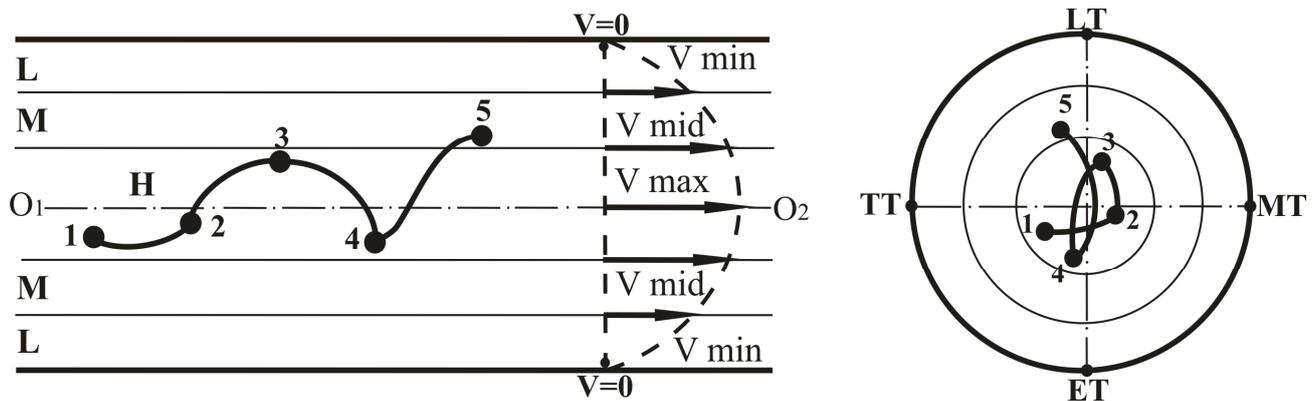


Fig. 9. Regularities of distribution of the rates of the partial attractors' energies according to the levels of emotional-and-pragmatic potentials in the flow of human's thinking

From the stated above two facts are quite obvious. First, at the boundary of the liquid or gas flow and the pipe wall (in the case of our model this is the boundary of the thinking flow and the walls of the taboo) forming the shell of the system, the velocities of the flowing particles in it, as well as the rates of actualization of the energies of partial attractors, are equal to zero. Secondly, in both cases, the maximum velocity of the particles and points that form the trajectories of attractors, as well as the motion of particles of liquid or gas, is achieved on the central axis (O1-O2) of the model. Consequently, nothing prevents us from using a known in physics [Chugaev 1982: 85-88, 152-160; Smyslov 1979: 157-169] distribution diagram of velocities of the motion of particle flows in a pipe as a direct analogy for a graphical interpretation and a corresponding quantitative assessment of the rates of the main idea self-development and the distributions of the rates of actualization of partial attractors' energies that unambiguously correlate with them.

We have to remind here that the experimental instrumental recording of the uttered thoughts is also carried out along the time vector, whose scale of flow is marked in milliseconds. Due to this, taking the O1-O2 axis as a time scale, we obtain a complete analogy that allows us to carry out an objective quantitative assessment of fluctuations in the velocities and energies of attractors' self-development in the phenomena that constitute the human's thinking flow.

Here, incidentally, the question arises about the energy intensity of speech segments actualization in the process of their oral materialization, since it is quite natural for the researcher to have a quantitative criterion for its evaluation. Such an intensity indicator is easy to obtain by calculating the total value of the maxima of the utterance emotional-and-pragmatic potential in units of the *K*-criterion [Kalyta & Taranenko 2012] and its subsequent division on the duration axis of the utterance itself (or any analyzed speech segment).

This will also allow us to consider the phenomena of subliminal impact migration according to the language levels. For this it is only necessary to break down the intensity of the utterance emotional-and-pragmatic potential actualization (high, medium, low) into three conventional zones by means of any language level or communication and consequently mark three corresponding levels of a subliminal influence realized by these means. In the coordinates "intensity-subliminal influence" thus formed, it becomes possible to search for a correlation between the intensity and a subliminal influence, as well as perform the advanced study of the effects of resonance, dissonance, extinguishment, oppression, dissipation or redistribution of energy flows of the utterance emotional-and-pragmatic potential.

Thus, we arrive at the issue of a practical use of the model as a central methodological tool for the maximum permissible qualitative and quantitative description of the phenomena whose synergism ensures the dynamic self-development of the individual's thinking flow. In other words, now we can build a three-dimensional psycho-energygram depicting the dynamics of the main idea self-development in the human's flow of thinking. For this purpose (see Fig. 9), having a time scale

(O1-O2 axis), it is sufficient (see Fig. 2 and 9) to take the radius of the modeling space for the thinking flow self-development as a vector scale of the level of thought's (or utterance) emotional-and-pragmatic potential actualization, graded in units of the *K*-criterion (see [Kalyta & Taranenko 2012] for more details) and directed towards the center of the flow.

It is appropriate to mention here that, firstly, the existing medical apparatus allows recording the dynamics of changes in basic electrophysiological indices of the phenomena occurring in the human body as a result of thinking processes in his/her psyche. Secondly, the present-day level of computerization of research technologies makes it possible to develop the appropriate software for automatic construction of spatial psycho-energygrams of the individual's self-development of thinking flow.

But this is potentially the nearest prospect. Today, in order to present an exhaustive comprehensive description of the dynamics of thinking flow self-development and of the processes of verbal actualization of the idea in the form of an utterance or any other speech segment, we can use the substantiated two-dimensional models (see Fig. 6-10). To do this, provided they have a time axis (O<sub>1</sub>-O<sub>2</sub>) on them, by analogy with the scale of the velocity distribution diagram (Fig. 9), it is necessary to place the *K*-criterion scale (the criterion of actualizing the utterance emotional-and-pragmatic potential) vertically.

Now, proceeding from the broad functional capabilities of the justified models, let us consider one more difficult issue – the problem of a qualitative modeling of the phenomenon of the person's comprehension of the content of the main idea formed as a result of the self-development of the chaos in his/her thinking flow. From the methodological point of view, the following circumstances can serve as the key to its solution within the framework of conceptual ideas being developed in this paper. According to the existing experimentally reliable information [Libet et al. 1979; Upravlenie real'nost'ju 2014; Mozg Chelovaka 2015] the individual is able to become aware of the decision taken by his/her brain only in 0.5 seconds. It is clear at the same time that the human being can fully comprehend only the content of already completed thought, as if taking an outside view at it. This means that all the given above spatial energetic models of the self-development of the main idea attractor-structure, being very effective for a retrospective study of the majority of cognitive phenomena, should also allow the description of hypothetical ideas about the energetic mechanism of the individual's comprehension of his/her thinking results.

Having emphasized the energetic side of the process of human comprehension of the results of his/her brain work, we will use the model shown in Fig. 10 for its description.

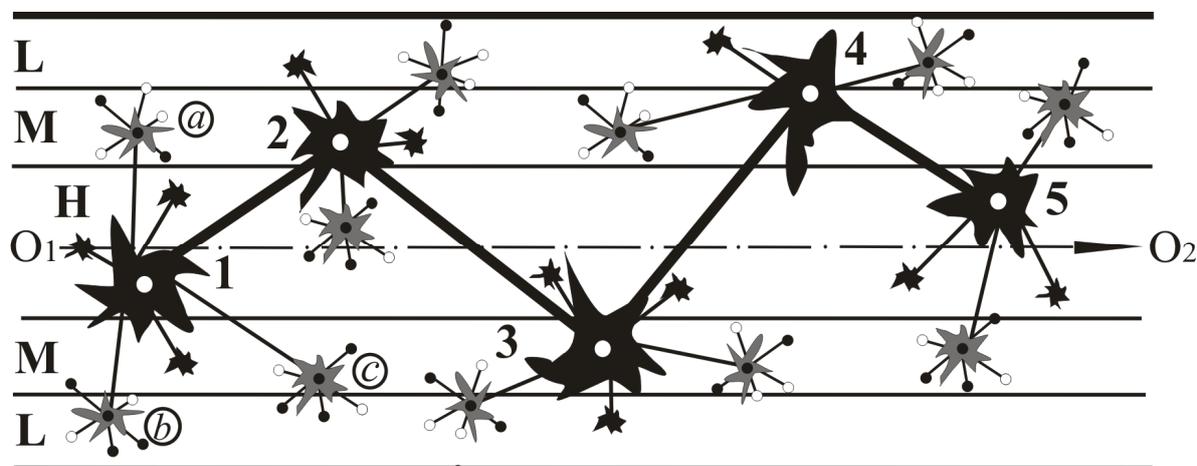


Fig. 10. Energetic model of the individual's comprehension of his/her thinking results

On this figure the energetic picture of the main idea, formed as a result of the cognitive work of the unconscious and subconscious under the strict control of consciousness, is depicted by the attractor-

structure 1-5. It can be seen from the figure that at each particular bifurcation point (1, 2, 3...) after the cognitive system emergence from the chaos, there is an accumulation of a certain energetic potential of the concept-notions, which is the result of the self-development of a dialectical interaction of the energies of logical and emotional beginnings in the individual's psychic sphere.

At present it is known that from a physical point of view this potential has an electromagnetic nature, and, consequently, can be accumulated in the form of similar fields as a result of the flow of completely material electrostatic and dissociative processes occurring in the human's body. Another logical point is that it is a semantic potential that, unambiguously correlating with the mentioned energetic potential, forms a pre-verbal concept-notion which is decoded by the consciousness of a thinking person in a verbal form. In other words, the identity of mechanisms for the emergence of energetic and semantic potentials realizing cognitive processes is obvious. Therefore, we can consider (see Fig. 10) that a complex energetic potential of the chaos self-development at the bifurcation point (1), which creates the content of a complex verbal concept-notion in the person's subconsciousness, is formed by means of integrating the energies of simpler concepts excited by the individual's memory – *a*, *b* and *c* (auditory, tactile, visual, olfactory, gustatory), which enter into the cone of its attraction. The mechanism of such a polylectic interaction is described in detail in the following paper [Klymenyuk 1998].

Proceeding from the above mentioned fact of a person's comprehension of a thought as a certain complete whole, it is not difficult to understand that the energetic result of its final pre-verbal formation is similar to a flash of lightning (i.e. a coronary discharge), for the comprehension of whose meaning a person needs, as shown above, 0,5 seconds. This is the very energetic result that can be kept by the short-term memory for a specific time. Otherwise, there is a failure of consciousness, leading to the impossibility of verbalization of a thought, produced by the psychic sphere.

Consequently, the human's consciousness is given two possibilities: either to accept and justify the results of the cognitive work of his/her brain, or by increasing the energy expenditure, taboo them as non-logical. The situation of tabooing is by no means simple for the individual's psyche, since tabooing by the consciousness of a single illogical concept-thought before its verbal materialization can be complete and incomplete. In general, a complete tabooing leads to the suppression of a separate contradictory or illogical pre-verbal concept-notion, being a part of the general structure of concept-thought. Further on, the consciousness, replacing the contradictory pre-verbal concept with the closest one, not contradicting to the logic of the idea formed by the subconscious, materializes it verbally in the form of an utterance.

In cases of incomplete tabooing by the consciousness of a single contradictory thought energetically powerful concept-notion, there appear slips or incomplete slips of the tongue, whose generation mechanism is modeled in Fig. 11.

The model shows the joint flow of the main (attractor-structure 1-5) and competing, energetically less powerful (structure-attractor *a-f*) thoughts in the individual's thinking flow.

The very mechanism generating the slips of the tongue will be considered in a toned zone marked with a dashed oval (Fig. 11). As we can see, there takes place the situation of approximation of complex energetic potentials of a pre-verbal concept-notion of the main idea (3) with the potential of the concept-notion of a competing thought (*b*) at a high level of their energies fluctuations in the sphere of the individual's emotional thinking (ET).

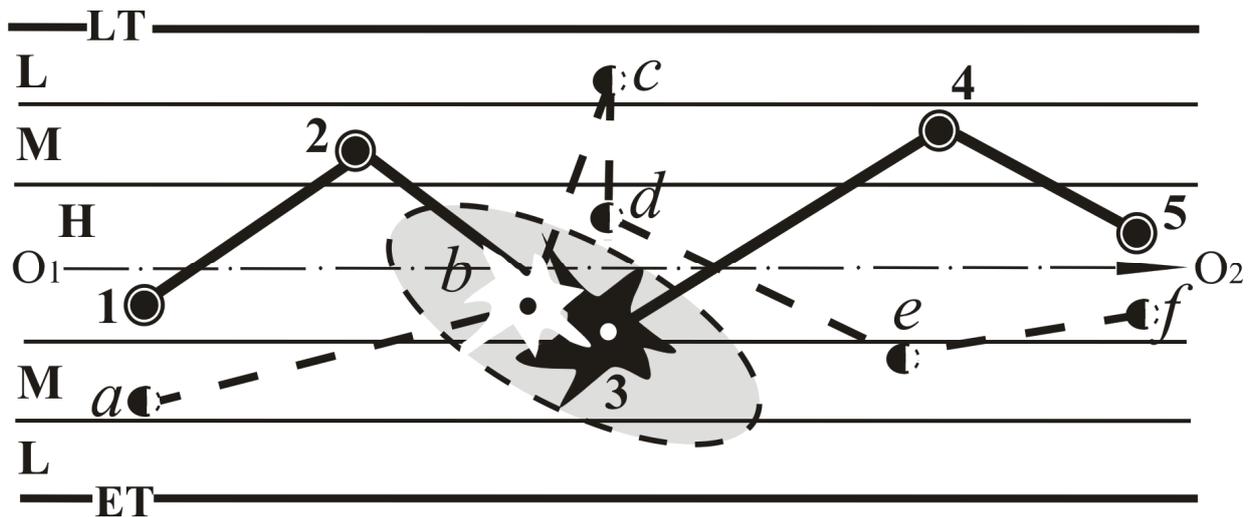


Fig. 11. Model of the energetic mechanism generating the slips of the tongue

Naturally, in such a situation the influence of the logical taboo (LT) is practically insignificant. Therefore, in such cases, provided that the energetic potential of the concept-notion *b* (highlighted in Fig. 11 by a white flash) of the competing thought exceeds the potential of the main thought 3 (a black flash), there occurs a corresponding substitution of the conceptual content of the concept-notion 3 by a competing concept-notion *b*, i.e. there originates, according to Z. Freud, a complete slip of the tongue. Cases with a smaller difference in the similar interaction of potentials lead to incomplete slips of the tongue (or half-slips). We shall note here that the energetic mechanism for the generation and verbalization of offensive concept-words is adequate to the formation mechanism of the slips of the tongue. However, if the total potential of competing emotional energies is exceeded due to the same mechanism, the individual finds him/herself in a situation that forces them to interrupt communication, which is called “the lack for words”.

Here we are compelled to make a remark, since if we are to consider the phenomenon of a communication break in a comprehensive manner, it is necessary to pay attention to the following. It is known that in a micro diachronic plane the human brain does not tolerate an absolute break in communication, and therefore, after a temporary suspension, it usually continues communication in the form of a virtual dialogue between the hemispheres of the brain during his/her sleep or in the processes of repeated remembrances.

It is illogical, in our opinion, to leave aside one more important for cognitive studies possibility, potentially resulting from the above-mentioned fact, by act of which a person needs, according to different sources, no less than 1,5-2,0 seconds to comprehend the thought expressed by the interlocutor, analyze it and make a decision whether to react to it in the form of response or readdress it into the short-term memory (see, for example [Deeke at al. 1976: 99; Penrose 2015: 377]).

We do not deny the fact that due to this genetic circumstance, we can experimentally prove the existence of a certain “golden rule of communication”, according to which in order to achieve maximum subliminal influence or a corresponding memorizing efficiency, the speaker, after the prosodic accentuation of the main idea, as well as after highlighting semantic centers in any speech segment, should make a pause, which exceeds from 1.4 to 1.6 times the actualization time of these speech segments.

Let us also dwell on another interesting phenomenon, which can manifest itself both in pre-verbal thinking and in the individual’s inner speech. Here and further on, we will consider the inner speech as a result of a subconscious dialogue of the brain hemispheres, apt to verbalization. Naming this phenomenon as a “taboo loop”, we shall describe a typical mechanism for its actualization in the flow of thinking, using a two-dimensional model of Fig. 12.

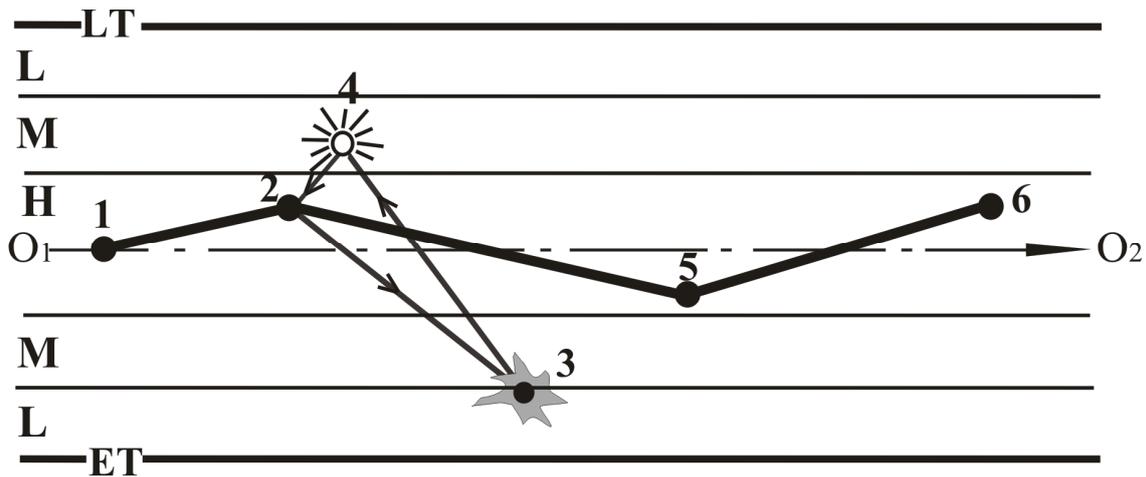


Fig. 12. Model presenting the emergence of a taboo loop in the individual's inner speech

As it can be seen from the figure, the concept-thought, having originated at the point of the first bifurcation (1) and continuing its self-development along the trajectory of the partial attractor 1-2, reaches the point of its second bifurcation (2). As a result of the emergence from the chaos of the second bifurcation, the self-development of a concept-thought rushes to the point of the third bifurcation (3) (we emphasize here that it is no longer an issue of a pre-verbal concept-word, but of a larger cognitive unit – the concept-thought).

The reason for such a sharp deviation of the partial attractor 2-3 into the zone of existential (emotional) thinking may well be a transformation of the logical concept-thought (see the partial attractor 2-3), formed at the point 2, into an analog of the energetically more powerful concept-prototype (3), generated, as a rule, by the interaction of emotions and instincts. It is known that the prototypes of such pre-verbal concept-thoughts are usually fixed in the emotional (existential) memory of an individual who went through great stress in the previous communicative experience.

Further, after reaching the bifurcation point (3), another chaos arises in the flow of thinking, whose self-development is characterized by the inevitable energetic interaction of the concept-thought with a dialectically contradictory to it existential taboo (in Fig. 12 this is clearly demonstrated by the approximation of point 3 to the ET boundary). As a result of the interaction of polar energies of taboo and the concept-thought, the partial attractor 3-4 sharply deflects into the zone of logical thinking and enters the bifurcation point (4). At this point, as a result of logical tabooing, the energy of the concept-thought is almost completely suppressed (to be more precise, there occurs a complete energy dissipation), and thinking as a self-developing system is forced to return in the given situation to the nearest starting point, i.e. to the concept-thought formed in the chaos of the second bifurcation point (2).

Having thus made a "loop" (see the sequence of partial attractors 2-3-4), the system continues to strive to the achievement of its functioning goal at the point (5), and then at the final point (6) the attractor-structure (1-6) of the main clearly controlled by the consciousness thought completes the general process of self-development of the individual's thinking flow.

Here it is necessary to pay attention to the fact that it is the mechanism of the formation of taboo loop that also lies at the basis of the process of generating slips of the tongue, that is, the mechanism of failure in thinking (i.e. the appearance of the taboo loop) and the actualization of tongue slips is the same.

Estimating the processes that are being modeled in whole, we cannot but pay attention to the fact that the general regularity of self-development is an oscillatory motion of bifurcation points in the flow of thinking. Since the law or the principle of pendulum is well known from a number of psychological sources, we have the right to speak about the existence of a universal principle of self-development of the human's flow of thinking – the principle of the "logical-and-emotional

pendulum of thinking”, whose amplitude of oscillations can be realized only within the limits of genetically regulated (ET and LT) as well as socially acquired on the basis of a communicative experience (MT and TT) taboo.

### **6. Methodological stipulations for the experimental study of phenomena affecting the synergy of individual’s flow of thinking**

Summarizing the stated ideas, let us recall a number of methodological statements, which the conceptual idea elaborated above is based on. First of all, we proceeded from the fact that due to the interaction of instincts and emotions in the human body the psycho-physiological energy is excited, leading to the emergence of a certain emotional-and-pragmatic potential in the spiritual sphere of his/her psyche. The emotional-and-pragmatic potential is aimed at both actualizing the speaking-and-thinking or thinking-and-acting activities and the potential of a physiological energy, which implements the person’s muscular activity.

A related property of the synergism of an individual’s flow of thinking lies in the fact that synergy, being the phenomenon of a combined action of psychic and muscular energies, different by their nature but aimed at achieving a common goal, is realized through a chaotic redistribution and interaction of the potentials of these energies (suppression, compensation, integration, resonance, etc.).

At the same time, being flared up almost instantly, the energetically powerful pre-verbal thought is realized quite quickly. Yet we must not forget that its self-development in the sphere of unconsciousness is incomparably more prolonged, and its results, having reached subconsciousness in the long run, can quite successfully be distorted by the consciousness.

The pre-verbal and verbal state of the concepts of thinking can be fundamentally different, since the pre-verbal thinking is limited to a number of different kinds of taboos, while verbalization of a thought, in general, is always controlled by the consciousness. Therefore, to analyze the results of thinking of the sender and the recipient, it is expedient to resort to taboos existing in the sphere of a spiritual being of each of them (consciousness, subconsciousness, unconscious).

Moreover, we believe that similarly to the meaningful load of cognitive processes of speaking-and-thinking and thinking-and-acting activities, which is a super-system that includes elements of the concept sphere, a synchronous to it set of excited energetic fields is also structured as a similar super-system of a functional unity of hierarchically strictly subordinate local energetic fluctuations that promote the self-development of the acts of reducing abstract concepts in the individual’s mind to their more specific sub-concepts. This ability might be either an intrinsic genetic or acquired property of the operating system of the human psyche.

Besides, considering communication as an open self-developing super-system, it is methodologically essential to understand that in each phrase of a spoken dialogue, as well as of inner one, there must be an element of feedback. Upon closer examination of its phono-energetics there appears a possibility to define or predict the answer expected by the person producing subliminal influence.

It is also important that while carrying out and describing the results of a cognitive interdisciplinary research, it is necessary to fulfill two main methodological conditions: 1) to give as an exhaustive characteristic as possible of the supervention [Chalmers 1996] of the considered processes of the individual’s thinking-and-speaking activities from the position of influence on their self-development of a number of factors resulting in complex effects of these processes; 2) to carry out a theoretical or experimental justification for the role of minor or secondary factors capable of radically changing the trajectory of self-development of the attractor-structure in the chaos of individual’s speaking-and-thinking and thinking-and-acting activities.

### **7. Conclusion**

We believe that the stated above should be regarded as a next step in the inevitable process of natural conventional unification of notions and terminology of a cognitive science, since, as practice

shows, without a philosophical interpretation of the corresponding methodology, the majority of attempts to transfer methods and conceptual apparatus of related sciences into it, have been and unfortunately remain unproductive.

The results of the carried out research give us every reason to speak about broad *prospects* of a scientific and practical application of the advanced methodology and strategy of heuristic consideration of the individual's thinking processes serving in fact as a systemic basis that can ensure the development of an unlimited number of new directions within cognitive interdisciplinary studies which allow adequate obtaining qualitative and quantitative data on the degree of influence of a set of factors on the self-development of speaking-and-thinking and thinking-and-speaking activities in the addresser and recipient's psyche.

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