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Introduction to Dynamic Sets Theory: Sprt-Elements and Their Applications to the Fhysics and Chemistry

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Abstract
There is a need to develop an instrumental mathematical base for new technologies, in particular for a fundamentally new type of neural network with parallel computing, in particular for creating artificial intelligence, but this is not the main task of a neural network, and not with the usual parallel computing through sequential computing. The task of the work is to create new approaches for this by introducing new concepts and methods. Significance of the article: in a new qualitatively different approach to the study of complex processes through new mathematical, hierarchical, dynamic structures, in particular those processes that are dealt with by Synergetics. In the articles [1-12] new mathematical structures and operators are constructed through one action - "containment". Here, the construction of new mathematical structures and operators is carried out with some generalization and some applications in the physics and chemistry.

Keywords: Hierarchical Structure (Dynamic Operator), Sprt-Elements, Tspr- Elements, Sprt-Self Structures

Sprt-Elements

Introduction

There is a need to develop an instrumental mathematical base for new technologies. The task of the work is to create new approaches for this by introducing new concepts and methods. Significance of the article: in a new qualitatively different approach to the study of complex processes through new mathematical, hierarchical, dynamic structures, in particular those processes that are dealt with by Synergetics.

We consider expression

$$ {}_{D}^{C}Sprt_{B}^{A} \ (*_1) $$

where A fits into B, D is forced out from C. The result of this process will be described by the expression

$$ {}_{D}^{C}Srt_{B}^{A} \ (*_2) $$

If A, B, D, C are taken as sets, then we will call ($*_1$) a dynamic set. The need ($*_1$) arose to describe processes in networks. Threshold element Sprt -- ${}_{\{qy\}}^{b}St(t)_{b}^{\{ax\}}$, b- artificial neurons of type Sprt (designation - mnSt) , x=(x_1,x_2,…x_n) are the values of the initial signals, a=(a_1,a_2,…,a_n) are the weights of Sit-synapses and the values of the output signals. It can be considered a simpler version of the dynamic set

$$ Sprt_{B}^{A} \ (**_1) $$

where set A fits into set B, the result of this process will be described by the expression

$$Srt_B^A \ (**_2)$$

or

$${}_A^B Sprt \ (***_1)$$

where set A is forced out from B, the result of this process will be described by the expression

$${}_A^B Srt \ (***_2)$$

We consider the measure: μ**(${}_D^b Sprt_b^A$)=$\frac{\mu(A)}{\mu(D)}$, where μ(A),μ(D) –usual measures of sets A, D.

Remark. One can consider some generalization for (*): ${}^{q_1(C)}_{D}Sprt^A_{q(B)}$, where A is contained into B through q, D is forced out from C through q_1, A, B, D, C are taken as sets. The result of this process will be described by the expression ${}^{q_1(C)}_{D}Srt^A_{q(B)}$ .Similarly, for ($**_1$): $Sprt^A_{q(B)}$, where A is contained into B through q, for ($***_1$): ${}^{q(B)}_{A}Sprt$, where D is displaced from C through q. The result of this process will be described by the expression ${}^{q(B)}_{A}Srt$.

We construct new mathematical objects constructively without formalism. By its contradiction, formalism may destroy this thry by Gödel's theorem on the incompleteness of any formal theory. But in the next monograph, we will give the formalism of the theory it's due: the proof of axioms and theorems. Let us introduce the concepts Cha, the capacity measure, and Cca, the measure of its content. Cca is the same as the number of capacity content items. Consider the compression ratios of the dynamic set: q_1=$Sprt_B^A$ answers I compression power of dynamic set A, q_2=$Sprt_B^{q_1}$ –II compression power of dynamic set A, …, q_{n+1}=$Sprt_B^{q_n}$ –n+1 compression power of dynamic set A. In contrast to the classical one-attribute set theory, where only its contents are taken as a set, we consider a two-attribute set theory with a set as a capacity and separately with its contents. We introduce the designations: CoQ—the contents of the capacity Q. Here, the axiom of regularity (A8) [13] is removed from the axioms of set theory, so we naturally obtain the possibility of using singularities in the form of self-sets, self-elements, which is exactly what we need for new mathematical models for describing complex processes. Instead of the axiom of regularity, we introduce the following axioms: Axiom R1. ∀B($Sprt_{CoB}^{CoB}$=B). Axiom R2. ∀B(∃B^{-1}).

1.2: Sprt - Elements

Definition 1.1. The set of elements $\{a\} = (a_1, a_2, \ldots, a_n)$ at one-point x of space X we shall call Sprt – element, and such a point in space is called capacity of the Sprt – element. We shall denote $Sprt_x^{\{a\}}$.

Definition 1.2. $Sprt_x^{\{a\}}$— dynamic set A at x.

Definition 1.3. An ordered set of elements at one point in space is called an ordered Sprt–element. It's possible to $Sprt_x^{\{a\}}$ correspond to the set of elements $\{a\}$, and the ordered Sprt - element - a vector, a matrix, a tensor, a directed segment in the case when the totality of elements is understood as a set of elements in a segment.

It’s allowed to sum Sprt – elements: $Sprt_x^{\{a\}}+Sprt_x^{\{b\}}=Sprt_x^{\{a\}\cup\{b\}}$. The operator $Sprt_x^{\{a\}\cup\{b\}}$ is not equal $\{a\}\cup\{b\}$, rather, it is dynamic — contraction of {a}∪{b} to the point x. Similarly, for $Sprt_x^{\{a\}\cap\{b\}}$. This is more suitable for using sets for energy space, for any objects. The operator Sprt is adapted for ordinary energies, using their property to overlap.

1.3: Capacity in Itself

Definition 1.4. The capacity A in itself of the first type is the capacity containing itself as an element. Denote S_1fA.

Definition 1.5. The capacity A in itself of the second type is the capacity that contains elements from which it can be generated. Denote S_2fA.

An example of the capacity in itself of the first type is a set containing itself. An example of capacity in itself of the second type is a living organism since it contains a program: DNA and RNA.

Definition 1.6. Partial capacity A in itself of the third type is the capacity A in itself, which partially contains itself or contains elements from which it can be generated in part or both. Let us denote S_3fA.

Let us introduce the following notations: A*B=Srt_B^A, A^2 = Self A =Srt_A^A, A^3 = $Self^2A$, …, A^{n+1} = $Self^nA$, … There is no commutativity here: A*B ≠ B*A. We can consider operator functions: $e^A=1+\frac{A}{1!}+\frac{A^2}{2!}+\frac{A^3}{3!}+\ldots$, $(A+B)^n=\sum_{k=0}^{n}\binom{n}{k}A^kB^{n-k}$, $(1+A)^n=1+\frac{Ax}{1!}+\frac{n(n-1)A^2}{2!}+\ldots$, etc.

You can consider a more “hard” option: A*B=$PSprt_B^A$, where $PSprt_B^A$ – operator, containing A in every element of B, A^2 = PSelf A =$PSprt_A^A$, A^3 = $PSelf^2A$, …, A^{n+1} = $PSelf^nA$, ….There is no commutativity here: A*B ≠ B*A. We can consider operator functions: $e^A=1+\frac{A}{1!}+\frac{A^2}{2!}+\frac{A^3}{3!}+\ldots$, $(A+B)^n=\sum_{k=0}^{n}\binom{n}{k}A^kB^{n-k}$, $(1+A)^n=1+\frac{Ax}{1!}+\frac{n(n-1)A^2}{2!}+\ldots$, etc.

All capacities in self-space are capacities in themselves by definition. Capacities in themselves can appear as Sprt -capacities and ordinary capacities. In these cases, the usual measures and methods of topology are used.

1.4: Connection of Sprt – elements with capacities in themselves

For example, $Srt_{g\{R\}}^{\{R\}}$ is the capacity in itself of the second type if $g\{R\}$ is a program capable of generating $\{R\}$. Consider a third type of capacity in itself [6,12]. For example, based on $Srt_x^{\{a\}}$, where $\{a\}=(a_1,a_2,\ldots,a_n)$, i.e. n - elements at one point, we can consider the capacity S_3f in itself with m elements from $\{a\}$, m<n, which is formed according to the form:

$$w_{mn}=(m,(n,1)) \quad (1.1)$$

that is, the structure $Srt_x^{\{a\}}$ contains only m elements. Form (1.1) can be generalized into the following forms:

$$w_{m,n,k}^1 = (k, (\begin{matrix}(n_1,1)\\ (\ldots)\\ (n_m,1)\end{matrix})) \quad (1.1.1)$$

or

$$w_{m,n,k}^2 = (k, (l, \begin{matrix}(n_1)\\ (\ldots)\\ (n_m)\end{matrix})) \quad (1.1.2)$$

$$w_{m,n,k,l}^3 = Q((\begin{matrix}d_1\\ \ldots\\ d_l\end{matrix}), (\begin{matrix}(n_1,1)\\ (\ldots)\\ (n_m,1)\end{matrix})) \quad (1.1.3),$$

where Q(x, y) – any operator, which makes a match between set $(\begin{matrix}d_1\\ \ldots\\ d_l\end{matrix})$ and set

$$(\begin{matrix}(n_1,1)\\ (\ldots)\\ (n_m,1)\end{matrix}) \text{ or}$$

$$w_{m,m_1,n_1,m_2,n_2,m_3,n_3}^4 = (m, ((m_1,n_1), ((m_2,n_2), (m_3,n_3)))) \quad (1.1.4),$$

or

(Q, R) (1.1.5),

where Q – any, R – any structure, R could be anything can be anything, not just structure. In this case, (1.1.5) can be used as another type of transformation from Q to R. Capacities in themselves of the third type can be formed for any other structure, not necessarily Srt, only by necessarily reducing the number of elements in the structure, in particular, using form

$$w_{m_1\cdots m_n} = (m_1, (m_2, (\ldots(m_n, 1)\ldots))) \quad (1.2)$$

Structures more complex than S_3f can be introduced. For example, through a form that generalizes (1.1):

$$w_{ABC} = (A, (B, C)) \quad (1.3)$$

Where A is compressed (fits) in C in the compression structure B in C (i.e., in the structure Srt_C^B); or through the more general form that generalizes (1.2):

$$w_{A_1A_2\ldots A_nC} = (A_1, (A_2, (\ldots(A_n, C)\ldots))) \quad (1.4)$$

The energy of self-containment in itself closes on itself.

1.5: Math Self

Let's consider Sprt arithmetic first:

1. Simultaneous addition of a set of elements $\{a\} = (a_1, a_2, \ldots, a_n)$ is carried out using $Sprt_x^{\{a+\}}$.
2. Similarly, for simultaneous multiplication: $Sprt_x^{\{a*\}}$: the notation of the set B with elements

$b_{i_1 i_2 \dots i_n} = (Sprt_x^{\{a_{1_{i_1}}*, a_{2_{i_2}}*, \dots, a_{n_{i_n}}\}})_R$ for any $\{i_1, i_2, \dots, i_n\}$ without repetitions, $x = Sprt_w^{\{K\}}$,K-set of any $\{k_1 *, k_2 *, \dots, k_n *\}$ without repeating them, k_i-any digit, i=1,2,…,n, R= , R is the index of the lower discharge (we choose an index on the scale of discharges):

Table 1: Index on the scale of discharges

index	discharge
n	n
…	…
1	1
,	0
-1	1st digit to the right of the point
-2	2nd digit to the right of the point
...	...

Then $Sprt_x^{\{B+\}}$ gives the final result of simultaneous multiplication. Any system of calculus can be chosen, in particular binary. The most straightforward functional scheme of the assumed arithmetic-logical device for Sprt-multiplication:

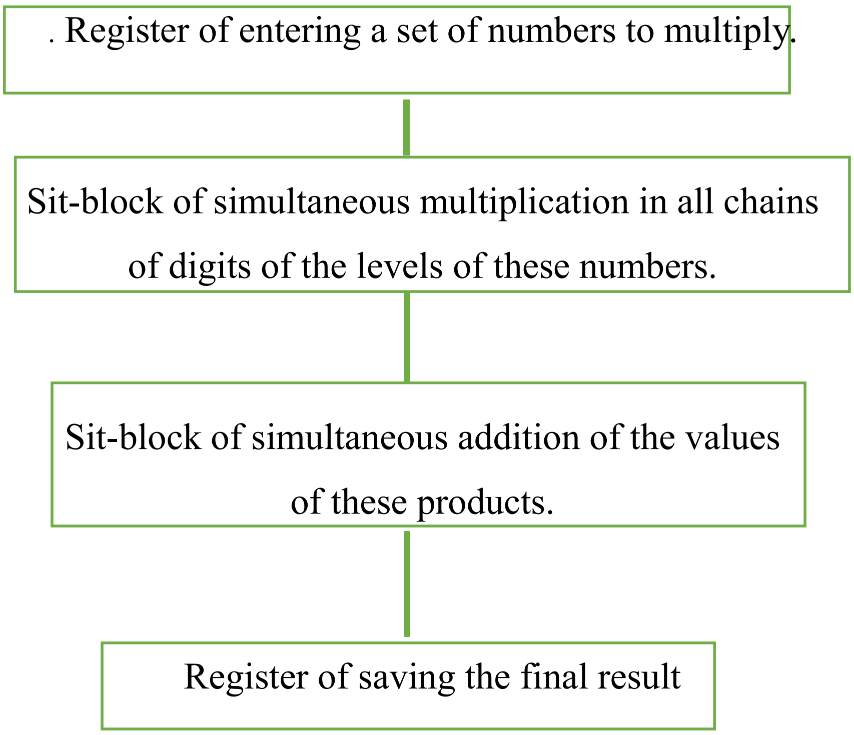

Figure 1: The straightforward functional scheme of the assumed arithmetic-logical device for Sprt-multiplication.

Remark. The algorithm for simultaneously multiplication of a set of numbers can also be implemented as the simultaneous addition of elements of a simultaneously formed composite matrix: a triangular matrix in which the elements of the first row are represented by multiplying the first number from the set by the rest: each multiplication is represented by a matrix of multiplying the digits of 2 numbers, taking into account the bit depth, the elements of the second rows are represented by multiplying the second number from the set by the ones following it, etc.

- Similarly, for simultaneous execution of various operations: $Sprt_x^{\{aq\}}$, where $\{q\} = (q_1, q_2, \ldots, q_n)$. q_i -an operation, i = 1, …, n.
- Similarly, for the simultaneous execution of various operators: $Sprt_x{}^{\{Fa\}}$, where $\{F\} = (F_1, F_2, \ldots, F_n)$. F_i is an operator, i = 1, …, n.
- The arithmetic itself for capacities in themselves will be similar: addition - $S_1 f\{a+\}$, (or $S_3 f\{a+\}$) for the third type), multiplication $S_1 f\{a*\}$, ($S_3 f\{a*\}$).
- Similarly, with different operations: $S_1 f\{aq\}$, ($S_3 f\{aq\}$) , and with different operators: $S_1 f\{Fa\}$, ($S_3 f\{Fa\}$).
- $Srt_B^A -$ the result of the containment operator. For sets A, B we have
- $Srt_B^A = \{A \cup B - A \cap B, D\}$, where D is self-set for $A \cap B$. There is the same for structures if it`s considereds as sets.
- 8. Sprt-derivative of f($x_{1,}, x_2, \ldots, x_n$) is $St_{f(x_1,,x_2,\ldots,x_n)}^{\left\{\frac{\partial}{\partial x_{1_i}}, \frac{\partial}{\partial x_{2_i}}, \ldots, \frac{\partial}{\partial x_{k_i}}\right\}}$, where $x=(x_{1_i}, x_{2_i}, \ldots x_{k_i})$- any set from ($x_{1,}, x_2, \ldots, x_n$). Let's designate Sprt- $\frac{\partial^k f(x)}{\partial x_{1_i} \partial x_{2_i} \ldots \partial x_{k_i}}$. Sprt-integral off ($x_{1,}, x_2, \ldots, x_n$) is Sprt$_{f(x_1,,x_2,\ldots,x_n)}^{\{\int () dx_{1_i}, \int () dx_{2_i}, \ldots, \int () dx_{k_i}\}}$, where $(x_{1_i}, x_{2_i}, \ldots x_{k_i})$- any set from ($x_{1,}, x_2, \ldots, x_n$). Let's designate Sprt-$\int \ldots \int \quad f(x) dx_{1_i} dx_{2_i} \ldots dx_{k_i}$ -k-multiple integral. Sprt-lim off ($x_{1,}, x_2, \ldots, x_n$) is $St_{f(x_1,,x_2,\ldots,x_n)}^{\left\{\lim\limits_{x_{1_i} \to a_{1_i}}, \lim\limits_{x_{2_i} \to a_{2_i}}, \ldots, \lim\limits_{x_{k_i} \to a_{k_i}}\right\}}$. Let's designate Sprt-$\lim\limits_{\substack{x_{1_i} \to a_{1_i} \\ \vdots \\ x_{k_i} \to a_{k_i}}} f(x_1, , x_2, \ldots, x_n)$. Self-$\lim\limits_{x \to a}$ $= Sprt_{\lim\limits_{x \to a}}^{\lim\limits_{x \to a}}$.
- In the case of self-derivatives, inclusions of multiple derivatives are obtained. The same is true for self-integrals: we get inclusions of multiple integrals.
- Let's denote self-(self-Q) through self^2-Q , fS(n,Q)= self-(self-(…(self-Q))) = self^n-Q for n-multiple self.

1.6:Operator-Itself

Definition 7. An operator that transforms $Sprt_x^{\{a\}}$ into any $S_i f_x^{\{b\}}, i = 2,3$; where $\{b\} \subset \{a\}$; is the operator itself.

Example. The operator contains the set in itself.

1.7Lim-Itself

Lim Sprt

For example, the double limit: $\lim_{\substack{x \to a1 \\ y \to a2}} G(x, y)$ corresponds to $\text{Sprt}_{(a_1 a_2)}^{\{G(x,y)\}}$.

Similarly, for lim Sprt with n variables

In the case of lim-itself, for example, form variables, it suffices to use the form (1.1) of lim Sprt for n variables (n>m). The same is true for integrals of variables m (for example, the double integral over a rectangular region is through the double limit).

The sequence of actions can be "collapsed" into an ordered Sprt element, and then translate it, for example, into $S_3 f -$ the capacity in itself. Take the receipt $\frac{\partial^2 u}{\partial x^2}$ as an example. Here is the sequence of steps 1)$\frac{\partial u}{\partial x}$→ 2)$\frac{\partial}{\partial x}(\frac{\partial u}{\partial x})$. "collapses" into an ordered $Sprt_x^{\left\{\frac{\partial u}{\partial x}, \frac{\partial}{\partial x}(\frac{\partial u}{\partial x})\right\}}$, which can be translated into the corresponding $S_1 f$. The differential operator $Sprt_x^{\left\{\frac{\partial}{\partial x}, \frac{\partial}{\partial x}(\frac{\partial}{\partial x})\right\}}$ - is interesting too.

Remark1.1 Sprt-displacement of A from B will be denote by ${}_A^B Sprt$. Then the notation ${}_D^C Sprt_B^A$ is both the Sprt-containment of A in B and Sprt-displacement of D from C simultaneously. Let's denote ${}_A^B Sprt_B^A$ through $TprS_B^A$, ${}_A^A Sprt_A^A - through\ TprS_A^A$. We can consider the concept of Sprt - element as $Sprt_B^A$, where A fits in capacity B. Then $Sprt_B^B$ it will mean S_1f B

1.8: About Sprt and S_3f Programming

The ideology of Sprt and S_3f can be used for programming. Here are some of the Sprt programming operators [5]:

- Simultaneous assignment of the expression $s\,\{p\} = (p_1, p_2, \ldots, p_n)$ to the variables $\{a\} = (a_1, a_2, \ldots, a_n)$. This is implemented via $Sprt_x^{\{\{a\}:=\{p\}\}}$.
- Simultaneous checking the set of conditions $\{f\} = (f_1, f_{2,} \ldots, f_n)$ for the set of expressions $\{B\} = (B_1, B_{2,} \ldots, B_n)$. Implemented via $Sprt_x^{IF\{\{B\}\{f\}\}\ then\ Q}$ where Q can be anything.
- Similarly, for loop operators and others.

$S_3 f$– software operators will differ only in that the aggregates $\{a\}, \{p\}, \{B\}, \{f\}$ will be formed from the corresponding Sprt program operators in form (1.1) and for more complex operators in the form (1.2). The OS (operating system), the computer's principles, and the modes of operation for this programming are interesting. But this is already the material for the following monographs.

Using elements of the mathematics of Srt [6], [12] we introduce the concept of Srt – the change in physical quantity B: $Srt_x^{\{\Delta_1 B,\dots,\Delta_n B\}}$. Then the mean Srt - velocity will be $v_{cpst}(t, \Delta t) = Srt_x^{\left\{\frac{\Delta_1 B}{\Delta t},\dots\frac{\Delta_n B}{\Delta t}\right\}}$and Srt-velocity at time t:$v_{st} = \lim_{\Delta t\to 0} v_{cpst}(t, \Delta t)$. Srt – acceleration $a_{st} = \frac{dv_{st}}{dt}$.

In normal use, simply $Sprt_x$ reduces to a sum at point x of space [6,12]. When using $Sprt_x$ with "target weights", we get, depending on the "target weights", one or another modification, namely, for example, the velocity v_{st}^f(with a "target weight"" f in the case when two velocities v_1, v_2 are involved in the set $\{v_1 f, v_2\}$ for $v_{st}^f = Srt_x^{\{v_1 f, v_2\}}$, f − instantaneous replacement we get an instantaneous substitution $v_1 by\ v_2$ at point x of space at time t_0. Consider, in particular, some examples: 1) $Sprt_{\{x_1,x_2\}}^e$ describes the presence of the same electron e at two different points x_1, x_2. 2) The nuclei of atoms can be considered as Sprt elements.

Similarly, the concepts of Sprt - force and Sprt - energy are introduced [6,12]. For example, $E_{st}^f = Sprt_x^{\{E_1 f, E_2\}}$ it would mean the instantaneous replacement of energy E_1 by E_2 at time t_0. Two aspects of Sprt–energy should be distinguished: 1) carrying out the desired "target weight" and 2) fixing the result of it. Do not confuse energy - Sprt (the node of energies) with Sprt – energy that generates the node of energies, usually with the "target weights." In the case of ordinary energies, the energy node is carried out automatically.

Remark1.2. Sprt – elements are all ordinary, but with "target weights," they become peculiar. Here you need the necessary energy to carry them out. As a rule, this energy is at the level of Self. This is natural since it's much easier to manage elements of the k level via the elements of a more structured k +1 level. Let us consider the concepts of capacities of physical objects in themselves. The question arises about the self-energy of the object. In particular, according to the results of the publication [6,12]: «Srt_B^B will mean S_1f B.». For example, $Sprt_{DNA}^{DNA}$ allows you to reach the level of DNA self-energy, $Sprt_Q^Q$ allows you to reach the level of self-energy Q. The law of self-energy conservation operates already at the level of self-energy. Also, in addition to capacities in themselves, you can consider the types of containment of oneself in oneself: the first type of the containment of oneself in oneself: the second type of the containment of oneself in oneself: potentially, for example, in the form of programming oneself, the third type is partial containment of oneself in themselves—for example, self-operator, self-action, whirlwind. A container containing itself can be formed by self-containment, i.e., containment in oneself. Let us clarify the concept of the term capacity in itself: it is a capacity containing itself potentially. Consider self-Q, where Q can be anything, including Q=self; in particular, it can be any action. Therefore, self-Q is when Q is made by itself; it makes itself. There is a partial self-Q for any Q with partial self-fulfillment. Let's consider several examples for capacities in themselves: ordinary lightning, electric arc discharge, and ball lightning.

A self-search of the solution of the equations $f_i(x)=0$, where $i=1,2,\ldots,n$, $x=(x_1,x_2,\ldots,x_n)$, will be realized in $Sprt_{a}^{\{f_1(x)=0?x, f_2(x)=0?x, \ldots, f_n(x)=0?x\}}$ or $Sprt_{?x}^{\{f_1(x)=0, f_2(x)=0, \ldots, f_n(x)=0\}}$. . x acquires more degree of liberty and in this is direct decision [6-12]. Self-equation for x has its decision for x in direct kind.

The same for $Sprt_{?x}^{\{tasks(x)\}}$. Self-task for x has its decision for x in direct kind. Self-question has its answer for x in direct kind. $Sprt_{(o,x)}^{\{t\}}$, where $\{t\}$- time points set, (o,x)- object o in point x from space X, give to enter in necessary time moments. The same for $Sprt_{o}^{\{t\}}$. $Sprt_{\alpha}^{\{God-father, God-son, Holy\ Spirit\}}$ is three-concept representation, where α is a point in the connectedness space. Sprt is also great for working with structures, for example: 1) $Sprt_{B}^{strA}$--the structure A that fits into B, where B can be any capacity, another structure etc. 2) $Sprt_{R}^{str_Q}$-- embedding structure from Q into R. Similarly, for displacement: 1) ${}_{strA}^{B}Sprt$--displacement of structure A from B, 2) ${}_{str_Q}^{B}Sprt$--displacement of the structure Q from B. To work with structures, you can introduce a special operator Cprt: $Cprt_{B}^{strA}$ structures B with the structure A, $Cprt_{R}^{str_Q}$ structures R with the structure from Q, ${}_{strA}^{B}Cprt$ destructors B from the structure A, ${}_{str_Q}^{B}Cprt$ destructors B from the structure that structures Q.

Definition 1.8. A structure with a second degree of freedom will be called complete, i.e., "capable" of reversing itself concerning any of its elements explicitly, but not necessarily in known operators; it can form (create) new special operators (in particular, special functions).

In particular, $Cprt_{strA}^{strA}$, Crt_{strA}^{strA} are such structures.

Similarly, for working with models, each is structured by its structure; for example, use Sprt-groups, Sprt-rings, Sprt-fields, Sprt-spaces, self-groups, self-rings, self-fields, and self-spaces. Like any task, this is also a structure of the appropriate capacity.

Self-H (self-hydrogen), like other self-particles, does not exist in the ordinary, but all self-molecules, self-atoms, and self-particles are elements of the energy space.

Remark1.3. The concept of elements of physics Sprt is introduced for energy space. The corresponding concept of elements of chemistry Sprt is introduced accordingly. Examples: 1) $SprtE_{\mathrm{D}}^{\{a_1 \mathrm{q}, a_2\}}$ – the energy of instantaneous substitution a_1 by a_2, where a_1, and a_2 are chemical elements, q is instant replacement. Similarly, one can consider for the node of chemical reactions $Sprt_{reaction}^{\{chemical\ elements\ with\ "target\ weights"\}}$. The periodic table itself can also be thought of as the Srt – element: $Srt_{Mendeleev\ table}^{\{list\ of\ chemical\ elements\}}$ The ideology of Sprt elements allows us to go to the border of the world familiar to us, which allows us to act more effectively.

2.: Dynamic Sprt -Elements

2.1: Dynamic Sprt -Elements

We considered stationary Sprt – elements earlier. Here we consider dynamic Sprt – elements .

Definition 2.1. The process of fitting a set of elements $\{a(t)\} = (a_1(t), a_2(t), \ldots, a_n(t))$ into one point x of space X at time t will be called a dynamic Sprt – element. We will denote $Sprt(t)_x^{\{a(t)\}}$.

Definition 2.2. Fitting an ordered set of elements into one point in space is called a dynamic ordered Sprt–element .

It is allowed to sum dynamic Sprt – elements:

$Sprt(t)_x^{\{a(t)\}} + Sprt(t)_x^{\{b(t)\}} = Sprt(t)_x^{\{a(t)\} \cup \{b(t)\}}$.

2.2: Dynamic Containment of Oneself

Definition 2.3. Dynamic capacity Q(t) is fitting into Q(t).

Definition 2.4. Dynamic Sit-capacity $Sprt(t)_{Q(t)}^{R(t)}$ is the process of embedding R(t) into Q(t).

Definition 2.5. The dynamic capacity A(t) containing itself as an element of the first type is the process of containing A(t) in A(t). Denote $S_1 f(t) A(t)$.

Definition 2.6. Dynamic capacity C(t) in itself of the second type is the process of containing elements from which it can be generated. Let's denote $S_2 f(t) C(t)$.

Definition 2.7. Dynamic partial capacity B(t) in itself of the third type is a process of partial containment of B(t) in itself or elements from which it can be generatedpartially or both at the same time. Denote $S_3 f(t) B(t)$.

All dynamic capacities in themselves in a dynamic self-space are, by definition, capacities in themselves. Dynamic capacity itself can manifest itself as dynamic Sprt-capacity and ordinary dynamic capacity. In these cases, the usual measures and methods of topology are used.

2.3: Connection of Dynamic Sprt – Elements with Dynamic Containment of Oneself

Consider third type of dynamic partial containment of oneself. For example, based on $Sprt(t)_x^{\{a(t)\}}$, where

$\{a(t)\} = (a_1(t), a_2(t), \dots, a_n(t))$, i.e. n – elements at one-point x, we can consider the dynamic capacity in itself $S_3f(t)$ with m elements from $\{a(t)\}$, m<n, which is process formed according to the form (1.1), that is, only m elements from $\{a(t)\}$ are in the structure $Sprt(t)_x^{\{a(t)\}}$.

Dynamic containment of oneself of the third type can be formed for any other structure, not necessarily Sprt, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). It is possible to introduce structures more complex than $S_3f(t)$.

2.4: Dynamic Math Itself

- The process of simultaneous addition of a set of elements $\{a(t)\} = (a_1(t), a_2(t), \dots, a_n(t))$ are realized by $Sprt(t)_x^{\{a(t)+\}}$.
- By analogy, for simultaneous multiplication: $St(t)_x^{\{a(t)*\}}$.
- 3. Similarly, for simultaneous execution of various operations: $Sprt(t)_x^{\{a(t)q(t)\}}$, where $\{q(t)\} = (q_1(t), q_2(t), .., q_n(t))$. $q_i(t)$-an operation, i = 1, …, n.
- Similarly, for the simultaneous execution of various operators: $Sprt(t)_x^{\{F(t)a(t)\}}$ where $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$. $F_i(t)$ is an operator, i = 1…,n.
- Dynamic arithmetic itself for containments of oneself will be similar: dynamic addition - $S_1f(t)\{a(t)+\}$, (or $S_3f(t)\{a(t)+\}$ for the third type), dynamic multiplication $S_1f(t)\{a(t)*\}$, $(S_3f(t)\{a(t)*\})$.
- Similarly, with different operations: $S_1f(t)\{a(t)q(t)\}$, $(S_3f(t)\{a(t)q(t)\})$ and with different operators: $S_1f(t)\{F(t)a(t)\}, (S_3f(t)\{F(t)a(t)\})$.
- $7. Srt(t)_{B(t)}^{A(t)} -$ gives the result
- $Srt_{B(t)}^{A(t)} = \{A(t) \cup B(t) - A(t) \cap B(t), D(t)\}$ for sets A(t), B(t) , where D(t) is self-set for $A(t) \cap B(t)$. The same is true for structures if they are treated as sets.
- Similarly, for dynamic Sprt-derivatives, dynamic Sprt-integrals, dynamic Sprt-lim, dynamic self-derivatives, dynamic self-integrals
- Denote dynamic self-(dynamic self-Q(t)) through dynamic self^2-Q(t) , fS(t)(n,Q(t))= dynamic self-(dynamic self-(…(dynamic self-Q(t)))) = dynamic self^n-Q(t) for n-multiple dynamic self.

Remark 2.1. The dynamic Sprt-displacement of A(t) from B(t) will be denote by ${}_{A(t)}^{B(t)}Sprt(t)$. Then the notation ${}_{D(t)}^{C(t)}Sprt(t)_{B(t)}^{A(t)}$ is dynamic Sprt-containment of A(t) in B(t) and dynamic Sprt-displacement of D(t) from C(t) simultaneously. Denote ${}_{A(t)}^{B(t)}Sprt(t)_{B(t)}^{A(t)}$ by $TprS(t)_{B(t)}^{A(t)}$, ${}_{A(t)}^{A(t)}Sprt(t)_{A(t)}^{A(t)} - through$ $TprS(t)_{A(t)}^{A(t)}$. We can consider the concept of dynamic Sprt - element as $Sprt(t)_{B(t)}^{A(t)}$, where A(t) fits in dynamic capacity B(t). Then $Sprt(t)_{B(t)}^{B(t)}$ will mean S_1f(t) B(t). Denote S $prt(t)_{B(t)}^{B(t)}$ by pL(t)(B(t)). ${}_{A(t)}^{A(t)}Sprt(t)$ denotes the dynamic expelling A(t) oneself out of oneself, ${}_{A(t)}^{A(t)}Sprt(t)_{A(t)}^{A(t)}$—simultaneous dynamic containment A(t) of oneself in oneself and dynamic expelling A(t) oneself out of oneself. ${}_{A(t)}^{A(t)}Srt$ will be called dynamic anti-capacity from oneself. For example, “white hole” in physics is such simple anti-capacity. The concepts of white hole” and “black hole” were formulated by the physicists based on the subject of physics –the usual energies level. Mathematics allows you to deeply find and formulate the concept of singular points in the Universe based on the levels of more subtle energies. The experiments of the 2022 Nobel laureates Asle Ahlen, John Clauser, Anton Zeilinger correspond to the concept of the Universe as a capacity in itself. The energy of self-containment in itself is closed on itself [5].

Hypothesis: the containment of the galaxy in oneself as a spiral curl and the expelling out of oneself defines its existence. A self-capacity in itself as an element A is the god of A, the self-capacity in itself as an element the globe—the god of the globe, the self-capacity in itself as an element man-- the god of the man, the self-capacity in itself as an element of the universe-- the god of the universe, the containment of A into oneself is spirit of A, the containment of the Earth into oneself is is spirit of Earth, the containment of the man into oneself is spirit of the man (soul), the containment of the universe into oneself is spirit of the universe. We may consider the following axiom: any capacity is the capacity of oneself. This is for each energy capacity.

2.5: About Dynamic Sprt and S_3f(T) Programming

The ideology of dynamic Sprt and S_3f(t) can be used for programming [5]:

1. The process of simultaneous assignment of the expressions $\{p\} = (p_1, p_2, \dots, p_n)$ to the variables $\{a\} = (a_1, a_2, \dots, a_n)$ is implemented through $Sprt(t)_x^{\{\{a\}:=\{p\}\}}$.

2. The process of simultaneous check the set of conditions $\{f(t)\} = \big(f(t)_1, f_{2,}(t) \dots, f(t)_n\big)$ for a set of expressions $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$ is implemented through $Sprt(t)_x^{IF\{\{B(t)\}\{f(t)\}\}\,then\,Q(t)}$ where Q(t) can be any.

3.Similarly for loop operators and others.

$S_3f(t)-$ software operators will differ only in that the aggregates $\{a\}, \{p\}, \{B(t)\}, \{f(t)\}$ will be formed from corresponding processes Sprt(t) for the above-mentioned programming operators through form (1.1) or form (1.2) for more complex operators.

Remark 2.2. With the help of dynamic Sprt-elements, the concepts of dynamic Sprt - force, dynamic Sprt – energy are introduced. For example, $E(t)_{sprt}^{f} = Sprt(t)_{x(t)}^{\{E_1(t)f, E_2(t)\}}$ will mean the process of instantaneous replacement f of energy $E_1(t)$ by $E_2(t)$ at time t. Similarly, using $S_i f(t)$, the concepts of $S_i f(t)$-force, $S_i f(t)$-energy, i=1,2,3, and etc are introduced.

Remark 2.3. It is the containment of oneself in oneself that can “give birth” to the capacities in itself – that is what self-organization is.

Remark 2.4. $Sprt(t)_{St(t)_{B(t)}^{B(t)}}^{St(t)_{B(t)}^{B(t)}}$ can increase self- level of B(t).

Remark 2.5. For example, the operator itself [3],[4] is $S_1 f(t)$.

Remark 2.6. May be considered the following derivatives: $\frac{dSprt(t)_{B(t)}^{A(t)}}{dt}$, $\frac{d_{A(t)}^{B(t)}Sprt(t).}{dt}$, $\frac{d_{D(t)}^{C(t)}Sprt(t)_{B(t)}^{A(t)}}{dt}$, $\frac{d\mathrm{Sif(t)}}{dt}$, i=1,2,3.

Remark 2.7. It is the containment of oneself in itself as an element that can be interpreted as dynamic capacities in itself.

Remark 2.8. Not every capacity containing itself as an element will manifest itself as a sedentary capacity or capacity.

3.1 Sprt – Elements for Continual Sets

Earlier, we considered finite-dimensional discrete Sprt-elements and self-capacities in itself as an element. Here we believe some continual Sprt-elements and continual self-capacities in themselves as an element.

Definition 3.1. The set of continual elements $\{a\} = (a_1, a_2, \ldots, a_n)$ at one point x of space X will be called continual Sprt – element, and such a point in space will be called capacity of the continual Sprt – element. We will denote $Sprt_x^{\{a\}}$.

Definition 3.2. An ordered set of continual elements at one point in space is called an ordered continual Sprt–element.

It’s allowed to sum continual Sprt – elements: $Sprt_x^{\{a\}} + Sprt_x^{\{b\}}$ =$Sprt_x^{\{a\}\cup\{b\}}$, where some or any elements may be ordered elements.

Definition 3.3. The continual self-capacity A in itself as an element of the first type is the capacity containing itself as an element. Denote $S_1 f A$.

Definition 3.4. The ordered continual self-capacity A in itself as an element of the first type is the ordered capacity containing itself as an element. Denote $\overrightarrow{S_1 f A}$.

For example, S_∞^+=_sin∞ is of this type. It denotes continual ordered self-capacities in itself as an element of following type—the range of simultaneous “activation” of numbers from [-1,1] in mutual directions: $\uparrow \mathrm{I} \downarrow_{-1}^{1}$. Also consider the following elements: S_∞^-=sin(-∞)--$\downarrow \mathrm{I} \uparrow_{-1}^{1}$, T_∞^+=_tg∞--$\uparrow \mathrm{I} \downarrow_{-\infty}^{\infty}$, T_∞^-=tg(-∞)-- $\downarrow \mathrm{I} \uparrow_{-\infty}^{\infty}$, don’t confuse with values of these functions. Such elements can be summarized. For example: aS_∞^++bS_∞^-=(a-b)$S_\infty^+ = (b-a)\, S_\infty^-$.

Definition 3.5. The continual self-capacity A in itself, as an element of the second type, is the capacity containing elements from which it can be generated. Let's denote $S_2 f A$.

An example of continual self-capacity in itself as an element of the second type is a living organism since it contains the programs: DNA and RNA.

Definition 3.6. Partial continual self-capacity in itself as an element of the third type is called continual self-capacity in itself as an element that partially contains itself or contains elements from which it can be generated in part or both simultaneously. Denote S_3f.

Also, may be considered operators for them. For example:

$$fS_{\infty}^{+}(t\text{-}t_0) = \begin{cases} S_{\infty}^{+}, t = t_0 \\ 0, t \neq t_0 \end{cases}$$

You can set the self- vector: $\uparrow \begin{pmatrix} q \\ d \\ c \end{pmatrix} \downarrow$

All continual capacities in self-space are continual self-capacities in itself as an element by definition. The continual self-capacities in itself as an element may appear as continual Srt- capacities and usual continual capacities. In these cases, there are used typical measure and topology methods.

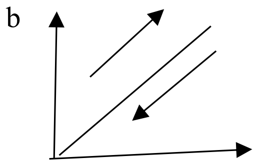

Figure 2: Self-Vector $\underset{\leftarrow}{\overset{\rightarrow}{[(0,0),(a,b)]}}$

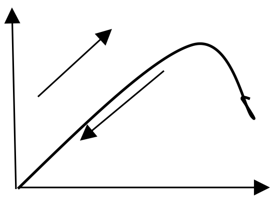

Figure 3: Self-Ordered Curve

3.2 The Connection of Continual Sprt – Elements with Continual Self-Capacities in Themselves as An Element

Consider a third type of continual self-capacity in itself as an element. For example, based on $Sprt_x^{\{a\}}$, where $\{a\} = (a_1, a_2, \dots, a_n)$, i.e. a_i - continual elements at one point, i=1, 2, …, n. The continual self-capacity in itself as an element with m continual elements from $\{a\}$, at m<n, can be considered as S_3f, which is formed by the form (1.1), i.e., only m continual elements are located in the structure $St_x^{\{a\}}$. Continual self-capacities in itself as an element of the third type can be formed for any other structure, not necessarily Sit, only by obligatory reducing the number of continual elements in the structure. In particular, using the form (1.2). Structures more complex than S_3f can be introduced.

3.3 Mathematics itself for Continual Elements

- Simultaneous addition of the continual elements of the set $\{a\} = (a_1, a_2, \ldots, a_n)$ is implemented using $Sprt_x^{\{a\cup\}}$.
- By analogy, for simultaneous multiplication: $Sprt_x^{\{a\cap\}}$.
- 3. Similarly, for simultaneous execution of various operations: $Sprt_x^{\{aq\}}$, where $\{q\} = (q_1, q_2, \ldots, q_n)$. q_i -an operation, i = 1, …, n.
- Similarly, for the simultaneous execution of various operators: $Sprt_x{}^{\{Fa\}}$, where $\{F\} = (F_1, F_2, \ldots, F_n)$. F_i is an operator, i = 1, …, n.
- 5. For continual self-capacities in themself as an element will be similar: addition - $S_1f\{a+\}$, (or $S_3f\{a+\}$) for the third type), multiplication $S_1f\{a*\}$, ($S_3f\{a*\}$).
- Similarly, with different operations: $S_1f\{aq\}$, ($S_3f\{aq\}$), and with different operators: $S_1f\{Fa\}$, ($S_3f\{Fa\}$).
- $Srt_B^A -$ is the result of the containment operator. For sets A, B we have

$Srt_B^A = \{A \cup B - A \cap B, D\}$, where D is self-set for $A \cap B$. The same is true for structures if they are treated as sets.

Remark 3.1. Sprt-displacement of A from B will be denoted by ${}_A^BSprt$. Then the notation ${}_D^CSprt_B^A$ is Sit-containment of A in B and Sit-displacement of D from C simultaneously. Denote ${}_A^BSprt_B^A$ by $TprS_B^A$, ${}_A^ASprt_A^A - through\ TprS_A^A$. Three in one is $Sprt_\propto^{\{\infty\ in\ itself,\ an\ element\ that\ is\ not\ anyone's\ element,\ 0\ out\ oneself\}}$, α- point space connectedness.

We can consider the concept of a continual Sprt - element as $Sprt_B^A$, where A fits in continual capacity B. Then $Sprt_B^B$ will mean S_1f B.

1) These elements are used for Sprt-coding, Sprt translation, coding self, and translation self for networks], which is suitable for electric current of ultrahigh frequency. More complex elements can be considered as continual sets of numbers with their " activation " in mutual directions. For example, ranges of function values, particularly those representing the shape of lightning. Differential geometry can be applied here. Also, n-dimensional elements can be considered. The space of such elements is Banach space if we introduce the usual norm for functions or vectors. We call this space-- Selb-space. Then we introduce the scalar product for functions or vectors and get the Hilbert space. We call this space Selh-space. In particular, one can try to describe some processes with these elements by differential equations and use methods from [14]. You can also try to optimize and research some processes with these elements using the techniques from [15]. Let's introduce operators for transforming capacity to self-capacity in itself as an element: $Q_1S(A)$ transforms A to f_1SA, $Q_0S(A)$ transforms A to ${}_A^ASprt$, SO(A) transforms A to↑ A ↓ ,↑ A ↓ -- ordered self-capacity in itself as an element of simultaneous "activation"

of all elements of A in mutual directions. For example, SO([-1,1])= = S_{∞}^{+}, SO([1,-1])= S_{∞}^{-} , SO([-∞,∞])= T_{∞}^{+}, SO([∞,-∞])= T_{∞}^{-}. The operator $(Q_1S(A))^2$ increases self-level for A: it transforms Self-A= f_1SA to self^2-A, $(Q_1S(A))^n$ → self^n-A, $e^{Q_1S(A)}$ → $e^{\text{self}} - A$. Let us introduce the following notations: ${}_{A}^{\{\}}Sprt$ by os({ } →)elf, ${}_{(A,A)}^{A}Sprt$ by 2oself-A, $Sprt_{A}^{(A,A)}$ by 2self-A, $Sprt_{(A,A)}^{A}$ by 1/2self-A, $Sprt_{q(A)}^{A}$ by qself-A, ${}_{q(A)}^{A}Sprt$ by q()oself-A, q-any operator, ${}_{(q_1,\ldots,q_N)}^{A}Sprt$ by Noself-A, q_i= A, i= 1, …, N; ${}_{A}^{A}Sprt_{A}^{A}$ by self-A- oself-A, ${}_{q_3(A)}^{q_2(A)}Sprt_{q_1(A)}^{A}$ by $q_1$self-A- $\binom{q_3()}{q_2()}$oself-A, ${}_{(A,A)}^{A}Cprt$ by 2Coself-A, $Cprt_{A}^{(A,A)}$ by 2Cself-A, $Cprt_{(A,A)}^{A}$ by 1/2Cself-A, $Ct_{q(A)}^{A}$ by qCself-A, ${}_{q(A)}^{A}Cprt$ by q()Coself-A, q-any operator, ${}_{(q_1,\ldots,q_N)}^{A}Cprt$ by NCoself-A, q_i= A, i= 1, …, N; ${}_{A}^{A}Cprt_{A}^{A}$ by Cself-A- Coself-A, ${}_{q_3(A)}^{q_2(A)}Cprt_{q_1(A)}^{A}$ by q_1Cself-A- $\binom{q_3()}{q_2()}$Coself-A, $S2prt_{A}^{A}$= (self-A, self-A), $SNprt_{A}^{A}$= (q_1, …, q_N), q_i= self-A, i= 1, …, N. self($Sprt_{B}^{A}$)= $St_{Sprt_{B}^{A}}^{Sprt_{B}^{A}}$. Can be considered Q(${}_{A}^{A}Sprt_{A}^{A}$), Q-any operator.

4. Dynamic Continual Sprt – Elements

4.1 Dynamic Continual Sprt – Elements

Definition 4.1. The process of containing the set of continual elements $\{a(t)\} = (a_1(t), a_2(t), \ldots, a_n(t))$ at one-point x of the space X at time will be called the dynamic continual Sprt – element. We will denote $Sprt(t)_{x}^{\{a(t)\}}$.

Definition 4.2. The process of containing an ordered set of continual elements at one point in space is called dynamic continual ordered Sprt – element.

It is allowed to sum dynamic continual Sprt – elements:

$Sprt(t)_{x}^{\{a(t)\}} + Sprt(t)_{x}^{\{b(t)\}} = Sprt(t)_{x}^{\{a(t)\}\cup\{b(t)\}}$.

4.2 Dynamic Continual Containment of Oneself in Oneself as an Element

Definition 4.3. The dynamic continual capacity Q(t) is called the process of embedding in Q(t).

Definition 4.4. The dynamic continual Sprt-capacity $Sprt(t)_{Q(t)}^{R(t)}$ is called the process of embedding R(t) in Q(t).

Definition 4.5. The dynamic containment continual A(t) of oneself of the first type is the process of putting A(t) into A(t). Denote $S_1 f(t)A(t)$.

Definition 4.6. The dynamic containment continual C(t) of oneself of the second type embedding contains the continual elements from which it can be generated. Denote $S_2 f(t)C(t)$.

Definition 4.7. The partial dynamic containment continual B(t) of oneself of the third type is the process of partial embedding continual B(t) into oneself or continual elements from which it can be generated in part or both simultaneously. Denote $S_3 f(t)B(t)$.

4.3 The Connection of Dynamic Continual Sprt – Elements with Dynamic Containment of Oneself In Oneself As An Element

Let us consider the partial dynamic continual containment of oneself in oneself as an element of the third type. For example, based on $Sprt(t)_x^{\{a(t)\}}$, where $\{a(t)\} = (a_1(t), a_2(t), \ldots, a_n(t))$, i.e. n - continual elements at one point x, one can consider the dynamic containment $S_3 f(t)$ of oneself in oneself as an element with m continual elements from $\{a(t)\}$, m<n, which is a process that is necessary form according to the form (1.1), i.e. only m continual elements from $\{a(t)\}$ are located in the structure $Sprt(t)_x^{\{a(t)\}}$. Dynamic continual containments of oneself in oneself as an element of the third type can be formed for any other structure, not necessarily Sprt, only by necessarily reducing the number of continual elements in the structure. In particular, with the help of form (1.2). It is possible to introduce structures more complex than $S_3f(t)$.

4.4 Dynamic Continual Mathematics Self

- The process of simultaneous addition of the set of continual elements $\{a(t)\} = (a_1(t), a_2(t), \ldots, a_n(t))$ is realized by $Sprt(t)_x^{\{a(t)\cup\}}$.
- By analogy, for simultaneous multiplication: $Sprt(t)_x^{\{a(t)\cap\}}$.
- Similarly, for simultaneous execution of various operations: $Sprt(t)_x^{\{a(t)q(t)\}}$, where $\{q(t)\} = (q_1(t), q_2(t), .., q_n(t))$. $q_i(t)$-an operation, i = 1, …, n.
- Similarly, for the simultaneous execution of various operators: $Sprt(t)_x^{\{F(t)a(t)\}}$ where $\{F(t)\} = (F_1(t), F_2(t), \ldots, F_n(t))$. $F_i(t)$ is an operator, i = 1…,n.
- The dynamic arithmetic self for the dynamic continual containments of oneself will be similar: dynamic addition - $S_1 f(t)\{a(t)\cup\}$, (or $S_3 f(t)\{a(t)\cup\}$ for the third type), dynamic multiplication $S_1 f(t)\{a(t)\cap\}$, ($S_3 f(t)\{a(t)\cap\}$).
- Similarly with different operations: $S_1 f(t)\{a(t)q(t)\}$, ($S_3 f(t)\{a(t)q(t)\}$), and with different operators: $S_1 f(t)\{F(t)a(t)\}$, ($S_3 f(t)\{F(t)a(t)\}$).
- $Sprt(t)_{B(t)}^{A(t)}$ – gives the result $Srt_{B(t)}^{A(t)} = \{A(t) \cup B(t) - A(t) \cap B(t)\,, D(t)\}$ for continual sets A(t), B(t), where D(t) is self-set for $A(t) \cap B(t)$. The same is true for structures if they are treated as sets.
- Similarly, for dynamic Sprt-derivatives, dynamic Sprt-integrals, dynamic Sprt-lim, dynamic self-derivatives, dynamic self-integrals
- Denote dynamic continual self-(dynamic continual self-Q(t)) through dynamic continual self^2-Q(t), fS(t)(n,Q(t))= dynamic continual self-(dynamic continual self-(…(dynamic continual self-Q(t)))) = dynamic continual self^n-Q(t) for n-multiple dynamic continual self.

Remark 1.1. Dynamic continual Sprt-displacement of A(t) from B(t) will be denote through ${}^{B(t)}_{A(t)}Sprt(t)$. Then the notation ${}^{C(t)}_{D(t)}Sprt(t)^{A(t)}_{B(t)}$ is dynamic continual Sprt- embedding of A(t) in B(t) and dynamic continual Sprt-displacement of D(t) from C(t) simultaneously. Denote ${}^{B(t)}_{A(t)}Sprt(t)^{A(t)}_{B(t)}$ by $TprS(t)^{A(t)}_{B(t)}$, ${}^{A(t)}_{A(t)}Sprt(t)^{A(t)}_{A(t)} - through\ TprS(t)^{A(t)}_{A(t)}$.

We can consider the concept of dynamic continual Sprt - element as $Sprt(t)^{A(t)}_{B(t)}$, where A(t) fits in dynamic continual capacity B(t). Then $Sprt(t)^{B(t)}_{B(t)}$ it will mean S_1f(t) B(t). Denote Spr$t(t)^{B(t)}_{B(t)}$ by pL(t)(B(t)). ${}^{A(t)}_{A(t)}Sprt(t)$ denotes the dynamic continual displacement of A(t) from itself, ${}^{A(t)}_{A(t)}Sprt(t)^{A(t)}_{A(t)}$— simultaneous dynamic continual containment of oneself A(t) in oneself A(t) and dynamic continual expelling oneself A(t) out of oneself A(t). ${}^{A(t)}_{A(t)}Sprt$ will be called dynamic continual anti capacity from itself.

4.5 Connection of Dynamic Continual Sprt – Elements with Target Weights with Dynamic Continual Containment of Oneself with Target Weights

Consider a third type of dynamic partial containment of oneself with target weights g(t) [4,5]. For example, based on $Sprt(t)^{\{a(t)\mathrm{g}(t)\}}_{x}$, where $\{a(t)\} = (a_1(t), a_2(t), \dots, a_n(t))$, i.e. n - continual elements with target weights{g(t)} at one point x, we can consider the dynamic containment $S_3 f(t)\mathrm{g}(\mathrm{t})$ of oneself with target weights with m continual elements with target weights{g(t)} from $\{a(t)\}$, m<n, which is the process of formation according to the form (1.1), i.e., only m continual elements with target weights{g(t)} from $\{a(t)\}$ are located in the structure $S_3 f(t)\mathrm{g}(\mathrm{t})$. Dynamic containments of oneself with target weights of the third type can be formed for any other structure, not necessarily Sit, only by reducing the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than $S_3 f(t)\mathrm{g}(\mathrm{t})$ can be introduced.

Definition 4.8. The dynamic embedding of continual A(t) into itself with target weights {g(t)} of the first type is the process of embedding A(t) into A(t) with target weights. Denote $S_1 f(t)A(t)\mathrm{g}(\mathrm{t})$.

Definition 30. The dynamic containment of continual C(t) itself into itself with target weights{g(t)} of the second type is the process of containment of the continual elements from which it can be generated. Let's denote $S_2 f(t)C(t)\mathrm{g}(\mathrm{t})$.

Definition 4.9. Partial dynamic containment of continual B(t) itself into itself with target weights {g(t)} of the third type is the process of partial containment of continual B(t) into itself or continual elements from which it can be generated partially, or both at the same time. Denote $S_3 f(t)B(t)\mathrm{g}(\mathrm{t})$.

5. The Usage of Sprt-Elements for Networks

5.1 The Usage of Sprt-Elements for Networks

A. Galushkin's comprehensive monograph covers all aspects of networks, but traditional approaches go through classical mathematics, mainly through the usual correspondence operators [16]. Here we consider a different approach - through a new mathematical process with containment operators, which, although they can be interpreted as the result of some correspondence operators, are not themselves correspondence operators. Containment operators are more convenient for networks. Also, the main emphasis was placed on using processors operating using triodes, which are generally not used in Sprt-networks. Sprt-networks(Smnst) are a Sprt-structure that can be built for the required weights. Sprt-OS (Sprt operating system) uses Sprt-coding and Sprt-translation. In the first one, coding is carried out through a 2-dimensional matrix-row (a, b), where the number b is the code of the action, and the number a is the code of the object of this action. Sprt-coding (or self-coding) is implemented through a matrix consisting of 2 columns (in the continuous case, two intervals of numbers). Here, the source encoding is used for all matrix rows simultaneously. Sprt-translation is carried out by inversion. In this case, self-coding and self-translation will be more stable. The target weights f_i in $Sprt_a^{\{\mathrm{fx}\}}$ are chosen for necessary tasks. We will not touch on the issues of applications, or network optimization. They are described in detail by Galushkin [16]. We will touch on the difference of this only for hierarchical complex networks. The same simple executing programs are in the cores of simple artificial neurons of type Sprt (designation - mnSprt) for simple information processing. More complex executing programs are used for mnSprt nodes. Sprt-threshold element –sgn($Sprt_b^{\{\mathrm{ax}\}}$), b- mnSprt, $x=(x_1,x_2,...x_n)$ – source signals values, $a=(a_1,a_2,\ldots,a_n)$ – Sprt-synapses weights. The first level of mnSprt consists of simple mnSprt. The second level of mnSprt consists of $Sprt_D^{\{\mathrm{mnSprt}\}}$ – Sprt-node of mnSprt in range D, D- capacity for mnSprt node. The third level of mnSprt consists of $Sprt_D^{\{St_D^{\{\mathrm{mnSt}\}}\}}$ - Sprt^2- node of mnSprt in range D, thus D becomes capacity of itself in itself as an element for mnSprt. For our networks, it is sufficient to use Sprt^2- nodes of mnSprt, but self-level is higher in living organisms, particularly Sprt^n-, $n \geq 3$. The target structure or the corresponding program enters the target unit using alternating current. After that, all networks or parts of them are activated according to the indicative goal. It may appear that we are leaving the network ideology, but these networks are a complex hierarchy of different levels, like living organisms.

Remark 5.1. Traditional scientific approaches through classical mathematics make it possible to describe only at the usual energy level. Here we consider an approach that makes describing processes with finer energies possible. mnSprt contains $Sprt_{\mathrm{mnSprt}}^{\{\mathrm{eprograms}\}}$, eprogram $-$executing program in Sprt- OS. Sprt-OS (or Self-OS) is based on Sprt-assembly language (or Self-assembly language), which is based on assembly language through Sprt-approach in turn, if the base of elements of Sprt-networks is sufficient. The eprograms are in Sprt-programming environments (or Self-programming environments), but this question and Sprt-networks base will be considered in the following monographs. In particular, eprograms may contain Sprt- programming operators. In mnSprt cores, the constant memory Sprt with correspondent eprograms depending on mnSprt.

The OS (operating system) and the principles and modes of operation of the Sprt-networks for this programming are interesting. But this is already the material for the next publications.

Here is developed a helicopter model without a main and tail rotor based on Sprt – physics and special neural networks with artificial neurons operating in normal and Sprt-modes. Let's denote this model through SmnSprt. To do this, it's proposed to use mnSprt of different levels; for example, for the usual mode, mnSprt serves for the initial processing of signals and the transfer of information to the second level, etc., to the nodal center, then checked. In case of an anomaly - local Sprt–mode with the desired "target weight" is realized in this section, etc., to the center. In the case of a monster during the test, Smnsprt is activated with the desired "target weight." Here are realized other tasks also. To reach the self-energy level, the mode $Sprt_{\mathrm{Smnsprt}}^{\mathrm{Smnsprt}}$ is used. In normal mode, it's planned to carry out the movement of Smnsprt on jet propulsion by converting the energy of the emitted gases into a vortex to obtain additional thrust upwards. For this purpose, a spiral-shaped chute (with "pockets") is arranged at the bottom of the SmnSprt for the gases emitted by the jet engine, which first exit through a straight chute connected to the spiral one. There is drainage of exhaust gases outside the SmnSprt. SmnSprt is represented by a neural network that extends from the center of one of the main clusters of Sprt - artificial neurons to the shell, turning into the body itself. Above the operator's cabin is the central core of the neural network and the target block, responsible for performing the "target weights" and auxiliary blocks, the functions and roles of which we will discuss further. Next is the space for the movement of the local vortex. The unit responsible for SmnSprt's actions is below the operator's cab. In Sprt – mode, the entire network or its sections are Sprt – activated to perform specific tasks, in particular, with "target weights." In the target, block used Sit-coding, Sprt-translation for activation of all networks to "target weights" simultaneously, then –the reset of this Sprt-coding after activation. Unfortunately, triodes are not suitable for Sprt -neural networks. In the most primitive case, usual separators with corresponding resistances and cores for eprograms may be used instead triodes since there is no necessity to unbend the alternating current to direct. The Sprt-operative memory belt is disposed around a central core of SmnSprt. There are Sprt-coding, Sprt-translation, and Sprt-realize of eprograms and the programs from the archives without extraction, Sprt-coding and Sprt-translation may be used in high-intensity, ultra-short optical pulses laser of Nobel laureates 2018-year Gerard Mourou, Donna, Strickland. Sprt – structure or an eprogram if one is present of needed «target weight» are taken in target block at Sprt – activation of the networks. $Sprt_{activation}^{\mathrm{SmnSprt},f}$ derives SmnSprt to the self-level boundary with target weight f. It's used an alternating current of above high frequency and ultra-violet light, which can work with Sprt – structures in Sprt–

modes by its nature to activate the networks or some of its parts in Sprt–modes and locally using Sprt–mode. Above high frequently alternating current go through mercury bearers. That's why overheating does not occur. The power of the alternating current above high frequently increases considerably for the target block. The activation of all networks is realized to indicate "target weights."

6 .Variable Hierarchical Dynamical Structures (Models) for Dynamic, Singular, Hierarchical Sets

In contrast to the classical one-attribute set theory, where only its contents are taken as a set, we consider a two-attribute set theory with a set as a capacity and separately with its contents. We simply use a convenient form to represent the singularity of a set. Articles [1-5,10,11] use the following methodology for

permanent structures:

1. Cancellation of the axiom of regularity
2. attributes for the set: capacity and its content
3. Compression of a set, for example, to a point
4. "turning out" from one another, particularly from a capacity, we pull out another capacity, for example, itself, as its element.
5. The simultaneity of one (compression) and the other ("eversion")
6. Own capacities
7. Qualitatively new programming and Networks.

Here we will consider variable structures (models), both discrete and continuous: a) with variable connections, b) with the variable backbone for links, c) generalized version; in particular, in variable structures (models), for example,

$$ {}_{D}^{C}Sprt(t)_{B}^{A} = \begin{cases} {}_{D}^{C}Sprt, \quad q_2 \geq t \geq q_1 \\ {}_{D}^{B}S^1t_{B}^{A}, q_3 \geq t > q_2 \\ {}_{D}^{C}Sprt_{B}^{A}, q_4 \geq t > q_3 \quad (*_{6.1}), \\ Sprt_{B}^{A}, q_5 \geq t > q_4 \\ {}_{D}^{\{\}}Sprt, \quad t > q_5 \\ \quad \dots \end{cases} $$

${}_{D}^{B}S^1t_{B}^{A}$ is considered in [3]. In particular, ${}_{D}^{B}Sprt_{B}^{A}$ can be interpreted as a game: player 1 fits A into B, and the other pushes D out of B at the same time.

Can be considered N-hierarchical structure: 1-level - elements; level 2 - connections between them, level 3 - relationships between elements of level 2, etc. up to level N+1. N-hierarchical structure: 1-level - A; 2-level -B, 3-level - C, etc. up to (N+!)- level, where A, B, C, … can be any in particular, by actions, sets, and others.

$$ {}_{D}^{C}Sprt_{B}^{A} : \left\langle \begin{matrix} A \to B \\ A, B \end{matrix} \middle| \begin{matrix} D \leftarrow C \\ C, D \end{matrix} \right\rangle \to \begin{pmatrix} self(A \to B) \\ A, B \end{pmatrix} $$

$$ {}_{D}^{C}Sprt_{B}^{A} : \left\langle \begin{matrix} A \to B \\ A, B \end{matrix} \middle| \begin{matrix} D \leftarrow C \\ C, D \end{matrix} \right\rangle \to \begin{pmatrix} oself(D \leftarrow C) \\ C, D \end{pmatrix} $$

Can be considered discrete hierarchical structure, continuous hierarchical structure, and discrete-continuous hierarchical structure [9], $Sprt_x^{\text{N-hierarchical structure}}$

The example

Let $Sprt_x^{\text{i-level of hierarchical structure}}$, then

QHSpr=H$Sprt_x^{\left[\begin{matrix} Sprt_x^{\text{N-level of hierarchical structure}} \\ \ldots \\ Sprt_x^{\text{i-level of hierarchical structure}} \\ \ldots \\ Sprt_x^{\text{1-level of hierarchical structure}} \end{matrix}\right]}$ -- N-hierarchical structure compression into point x.

Let f(N, QHSpr)= $\text{QHSpr}^{\left.\text{QHSpr}^{\text{QHSpr}^{\cdots \text{QHSpr}}}\right\}\text{-N levels}}$

It can be considered self- QHSpr, f(y, QHSpr) for any y, f(QHSpr, QHSpr).

Compression Hierarchy Examples:

1) $Sprt^{\begin{matrix} Sprt_{()}^{()} \\ Sprt_{()}^{()}+B \end{matrix}} = \begin{pmatrix} Sprt^{\begin{matrix} Sprt_{()}^{()} \\ Sprt_{()}^{()} \end{matrix}} \\ Sprt_B^{Sprt_{()}^{()}} \end{pmatrix}$

2) ${}_{D+{}_{()}^{()}Sprt_{()}^{()}}^{C+{}_{()}^{()}Sprt_{()}^{()}} S_1 t_{B+{}_{()}^{()}Sprt_{()}^{()}}^{A+{}_{()}^{()}Sprt_{()}^{()}} = \begin{pmatrix} {}_{{}_{()}^{()}Sprt_{()}^{()}}^{{}_{()}^{()}Sprt_{()}^{()}} S_1 t_{{}_{()}^{()}Sprt_{()}^{()}}^{{}_{()}^{()}Sprt_{()}^{()}} \\ {}_D^C S_1 t_B^A \end{pmatrix}$

The example of variable hierarchy

$$ {}_D^C Sprt(t)_B^A = \begin{cases} \left\{\begin{matrix} Q + {}_{D-D\cap C}^{\{\}}Sprt \\ (C-D\cap C)-(D-D\cap C) \end{matrix}\right\}, & q_2 \geq t \geq q_1 \\ \left(\begin{matrix} S^{1e}{}_0 fB * \\ {}_{Q-B}^{B}S^1 t_B^{A-B} \end{matrix}\right), & q_3 \geq t > q_2 \\ \left(\begin{matrix} S_{01}^{et} fB \\ {}_{C-B}^{C-B}S_1 t_B^{A-B} \\ {}_{D-C-B}^{C-B}S_1 t_B^{A-B} \end{matrix}\right), & q_4 \geq t > q_3 \\ \left(\begin{matrix} R \\ A\cup B - A\cap B \end{matrix}\right), & q_5 \geq t > q_4 \\ {}_D^{\{\}}Sprt, & t > q_5 \\ \ldots \end{cases} \qquad (*_{6.2}), $$

where Q is oself-set for $(D\cap C - Co(D\cap C))$ [4], R is self-set for $A\cap B$ [6], [12], $S_{01}^{et}fB$, ${}_{C-B}^{C-B}S_1 t_B^{A-B}$, ${}_{D-C-B}^{C-B}S_1 t_B^{A-B}$ are considered in [8], ${}_{Q-B}^{B}S^1 t_B^{A-B}$ is considered in [3].

7. Applications Dynamic Sets Theory to Physics and Chemistry

Objects of physics and chemistry have an energy structure, which can be tried to be represented in the form of a hierarchical energy structure: the upper level of subtle self-energy and the lower level, which is manifested in the form of objectivity.Ordinary types of energy are manifestations of a lower level from these structures. If we represent an amorphous body with a mathematical structure of self-object $Sprt^{A_0+E_s}_{A_0+E_s}$, where $Sprt^{A_0}_{A_0}$ - level of objectivity of an amorphous object, ($Sprt^{A_0}_{A_0+E_s} + Sprt^{A_0+E_s}_{A_0}$) - the energy of connections between the level of subtle energy $Sprt^{E_s}_{E_s}$ and the level of objectivity.

Thus, one can try to conventionally represent the mathematical model of the energy structure of an amorphous object as a hierarchical dynamic operator $\underset{Sprt^{A_0}_{A_0}}{\overset{Sprt^{E_s}_{E_s}}{(Sprt^{A_0}_{A_0+E_s} + Sprt^{A_0+E_s}_{A_0})}}$ (7.1).

In particular, the magnetic field and spin belong to the second level in (7.1).

The next level of objectivity responds to a crystal. We represent a crystal with a mathematical structure

$Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}$ (7.2).

Thus, one can try to conventionally represent the mathematical model of the energy structure of a crystal as a hierarchical dynamic operator (7.2). The next level of objectivity responds to a living crystal, for example, the bone of a living organism, a nail, viruses, DNA, RNA and etc. When there is no nutrient medium and energy, it behaves like a crystal: ${}^{Sprt^{\{\}}_{\{\}}}_{Sprt^{\{\}}_{\{\}}}Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}$, a nutrient medium appears and the necessary energy: ${}^{Sprt^{B_0+E_q}_{B_0+E_q}}_{Sprt^{B_0+E_q}_{B_0+E_q}}Sprt^{Sprt^{B_0+E_q}_{B_0+E_q}}_{Sprt^{B_0+E_q}_{B_0+E_q}}$, its structure is transformed into a mathematical structure

${}^{Sprt^{B_0+E_q}_{B_0+E_q}}_{Sprt^{B_0+E_q}_{B_0+E_q}}Sprt^{Sprt^{A_0+E_s+B_0+E_q}_{A_0+E_s+B_0+E_q}}_{Sprt^{A_0+E_s+B_0+E_q}_{A_0+E_s+B_0+E_q}}$. The division of DNA into two DNAs after sufficient accumulation of bases and energy - this minimal division into only two duplicates corresponds to the law of conservation of living energy and minimization of the entropy of the system.

Next comes the level of living organisms:

$${}^{{}^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}}_{{}^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}}Sprt^{{}^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}}_{{}^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}Sprt^{Sprt^{A_0+E_s}_{A_0+E_s}}_{Sprt^{A_0+E_s}_{A_0+E_s}}}.$$

Next comes the level of Globe, where the role of living cells (molecules in the case of a crystal) is played by living organisms. Next comes the level of Universe, where the role of living cells (molecules in the case of a crystal) is played by planets inhabited by living beings. You can try to represent these levels through more complex mathematical models, there are options for going beyond the level of objectivity for objects with energy structures of a sufficiently high level, but this is already material for subsequent publications.

${}^{A(t)}_{A(t)}Sprt$ will be called dynamic anti-capacity from oneself. For example, “white hole” in physics is such simple anti-capacity. The concepts of “white hole” and “black hole” were formulated by the physicists based on the subject of physics –the usual energies level. Mathematics allows you to deeply find and formulate the concept of singular points in the Universe based on the levels of more subtle energies. The experiments of the 2022 Nobel laureates Asle Ahlen, John Clauser, Anton Zeilinger and the experiments in chemistry Nazhipa Valitov correspond to the concept of the Universe as a capacity in itself as the element. They experimented with connections for elements of the microworld, and since here the connections are self-connections, then when the object component of self-connections is removed, its higher level remains, which was manifested in their experiments. The electron spin belongs to the second level - above the level of objectivity. The energy of self-containment in itself is closed on itself.

Remark1. From the point of view of our theory of dynamic operators and sets, we can interpret the energy effect of a thermonuclear reaction as the result of the “collapse” of two self-objects: for example,1) ${}^{3}_{2}He$, ${}^{3}_{2}He$ and the formation of one self-object ${}^{4}_{2}He$, 2) ${}^{3}_{2}He$, ${}^{2}_{1}H$ and the formation of one self-object ${}^{4}_{2}He$. As a result, the energy of the collapse of the lost part of the self is released.

Remark2. To gain access to object transformation, just go to the level lS=$\frac{2}{\pi}arctg(1+Ɛ)$, Ɛ may be quite small.

Examples of transformation:

1) $Sprt_q^q \rightarrow Sprt_{St_q^q}^{St_q^q} \rightarrow Sprt_{St_c^b}^{St_c^b}$

2) $Sprt_q^q \rightarrow$ S₃f(self(q)) $\rightarrow Sprt_r^r$

This is a rather conditional interpretation, because in fact, the lS of the “vessel” (energy cocoon) of the object may turn out to be greater than $\frac{2}{\pi}arctg(1)$. This is taken for initiation: we build a theory of this, starting from this stage of interpretation. After experiments, the next stage may begin.

Self A =$Sprt_A^A$ can be transformed into any D if µl(D) = µl ($Sprt_A^A$), µl(x) - level measure of self for x, in particular, into $Sprt_A^{any\,C}$ or $Sprt_{any\,C}^A$, and also an object R into any object Q or any energy U. The transformations of this type will be called stransformations. Self^N A can transform itself into any D if N ≥2; to realize this we need an even larger quantity N.

Example of a parallel-serial program statement

$$Sprt^{if\,\{g\}Sprt^{s:=Sprt^{C}_{Sprt^Q_A}}_{Sprt^R_A}}_{for\,w\,Sprt^{Sprt_E^{af:=}}_{Sprt_J^{if\,C}}}$$

Each self-field can automatically rebuild the self-program to the desired.

Self^N- OS and is designed for such transformations, and it itself can be transformed at N≥1, or it itself can be transformed at N ≥2.

Remark3. Hypothesis: equations for real processes in a non-trivial form can be used to fully or partially interpret the self-level of the process, replacing the equal signs with identification signs, and solutions to these equations as a manifestation of this level on the level of objectivity and ordinary energies. That is, equations for real processes serve as a definition of the self-level of the process, the definition of self-values (self-characteristics) of the process through the identification sign, i.e. they are defined (expressed) through themselves. In particular, forms (1.1) - (1.4) can be used as forms of identification. Each such singularity creates its own field, the process, the object etc. Much more effective than science for working with these singularities will be special Dynamic programming, which we are currently working on to create. Identification at the lower levels of a hierarchical dynamic structure of type (7.1) will lead to the upper level. You can also try to use it for full or partial interpretation of the self-level of chemical reactions, but here there will be a trivial identification and determination of the self-level will be much simpler. For example, a type w ≡ 2w singularity at the top level of the structure of a mathematical simplified model of DNA generates a field for DNA division. A rather complex type of singularity at the upper level of the structure of a simplified mathematical model generates an electromagnetic field through identification in Maxwell's equations.

Remark4. Parallel operator $Sprt_{places\,for\,symbols}^{symbols}$ corresponds to theoretical science, parallel operator $Sprt_{x}^{objects}$ corresponds to technology, x – the space "point" (space place).

Remark5. Let self-energy of A looks like $Sprt_{C_A+\Delta C}^{C_A+\Delta C} = Sprt_{C_A}^{C_A} + Sprt_{C_A}^{\Delta C} + Sprt_{\Delta C}^{C_A} + Sprt_{\Delta C}^{\Delta C}$, $Sprt_{C_A}^{C_A}$ corresponds to objectivity of A,

$$Sprt_{C_A}^{\Delta C} = E_A \quad (7.3),$$

E_A - usual energy of A. ΔC determined from (7.3) through C_A and then we can determine the complete self-energy of A.

Remark6. Let us consider an analogue of the Schrödinger equation for networks operating on electromagnetic energy

$$\frac{\partial w}{\partial x} = [w, \mu S(H)]$$

w- measure of self: μS(Q), $\mu S(H)$ - measure of self for H, H = H(μS(p), μS(q),t) - an analogue of the Hamiltonian in the space of actions of artificial neurons in a neural network, q is the operator of an artificial neurons action result, p is the operator of an artificial neurons action impulse.

Remark7. The self-space of a higher level contains many self-energetic fibers, collecting into appropriate sets that can be accessed by the corresponding self-spaces of lower levels. That's right, for example. This assembly point on the human cocoon can carry out this, in particular, access to our self-space with objects.

Remark8. It is quite possible to try to build up the levels of objects and processes; change something at these levels.

Remark9. One can try to conventionally represent the mathematical model (7.1) of the atom (molecule) as a hierarchical dynamic operator.

Remark10. Here, self-action is understood as action on oneself (i.e., to the same action), while physicists understand self-action, for example, as the absorption of one elementary particle by another of the same type.

Appendix 1

We consider measure of self: μS(Q), which gives a numerical value for the self of the Q from the interval [0,1], where 0 corresponds to "no self", and 1 corresponds to the "self". Let an object A from the class of objects B. The measure μS (A) is a unique real function defined on B that satisfies three conditions (axioms of selfhood)

- μS (A) ≥ 0 for any object A from B
- μS (A) = 1 for self-object A
- μS ($A_1 \cup A_2 \cup \ldots$) = μS (A_1) + μS (A_2) + … for any finite or infinite sequence of pairwise inconsistent objects A_1, A_2, …

From axioms 1), 2), 3) it follows that 0 ≤ μS (A) ≤ 1, in particular, if O is an impossible object, then μS (O) =0. It is important to note that the equalities μS (A) = 1 or μS (A) = 0 do not imply whether A is self-object or an impossible object. Let us introduce axiom 4: the measure for dependent A, B μS(A*B) = μS(A)* μS(B/A) = μS (B)* μS (A/B), where μS (B/A)- conditional self of B at A, μS (A/B) - conditional self of A at B. The measure μS(A/B) undefined if μS(A/B).

Then for joint A, B: μS (A+B) = μS (A)+ μS (B)- μS (A*B) + μSS(D), D-

self- from A*B, μSS(x)- the value of $(\text{self})^2$ from x; for dependent A, B: μS(A*B) = μS(A)* μS(B/A)= μS (B)* μS (A/B), where μS (B/A)- conditional self of B at A, μS (A/B)- conditional self of A at B. Adding measures of self of inconsistent A,B: μS(A+B)= μS(A)+ μS(B). The formula of complete self: μS(A)=$\sum_{k=1}^{n} \mu S(B_k) * \mu S(A/B_k)$, $B_1, B_2 \ldots, B_n$-full basis group: $\sum_{k=1}^{n} \mu S(B_k)$=1("self").

Sprt-μS for set A={$A_1, A_2, \ldots, A_n$}: $Sprt_x^{\{\mu S(A_1),\, \mu S(A_2),\ldots,\mu S(A_n)\}}$, $Sprt_x^{\{\mu S(A_1),\, \mu S(A_2),\ldots,\mu S(A_n)\}}$- Sprt- μS for it. It is possible to consider the self $S_3 A$ with m elements from A, at m<n, which is formed by the form (1.1), that is, only m elements from A are located in the structure $Sprt_x^A$. The same for self $S_3\{\mu S(A_1), \mu S(A_2), \ldots, \mu S(A_n)$.

Dynamical containments of oneself of the third type can be formed for any other structure, not necessarily Sit, only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2).Structures more complex than S_3µS(t) can be introduced.

Consider The Following Characteristics:

SM(X)= $\sum_{i=1}^{n} x_i$ µs_i , µs_i = µS(X=x_i), i=1,2, …, n, x_i – a state of X at time t_i; properties:

- SM(C) = C, C – const
- SM(CX) = CSM(X)
- SM(X_1+ X_2) = SM(X_1) + SM(X_2)
- SM(X_1* X_2) = SM(X_1) * SM(X_2)

SD(X) = SM((X- SM(X))^2), SD(X) = SM(X^2)- (SM(X))^2

Properties:

- SD(C) = 0
- SD(CX) = CSD(X)
- SD(X_1+ X_2) = SD(X_1) + SD(X_2)

Sσ(X) = $\sqrt{\mathrm{SD(X)}}$

Sα_k(X) = SM(X^k)= $\sum_{i=1}^{n} x_i^k$ µs_i

Sµ$_k$(X) = SM((X- SM(X))^k).

Function of self for estimating the unknown parameter α of the state distribution

X: a) in a discrete case L(x_1,x_2, …, x_n, α) = µs((x_1, α) µs((x_2, α)… µs((x_n, α), where µs((x_k, α) = µS(X=x_k)

b) in an absolutely continuous case L(x_1,x_2, …, x_n, α) = f((x_1, α) f((x_2, α)… f((x_n, α), where f((x, α) – a density of the state distribution X.

Stropy of the self-levels distribution for x

$$SH(x) = \{ \begin{matrix} SM\left(log_2 \frac{1}{\mu S(x)}\right) =-\sum_x \mu S(x) log_2 \mu S(x), \\ SM(log_2 \frac{1}{\varphi\, \mu S(x)} = -\int_{-\infty}^{\infty} \varphi\, \mu S(x) log_2 \varphi\, \mu S(x) dx \end{matrix}$$

SH(x) is the measure of no self for value x.

Appendix 2

If we introduce for the energy of a chemical element the concept self-energy (the concept of a chemical element was introduced earlier [6], [12]): $Sprt_R^R$, R=Q+D, Q- internal energy, D is the energy of its interaction with the external environment.

$Sprt_R^R$=$Sprt_{\mathrm{Q+D}}^{\mathrm{Q+D}}$=$Sprt_{\mathrm{Q+D}}^{\mathrm{Q}}$+$Sprt_{\mathrm{Q+D}}^{\mathrm{D}}$=$Sprt_{\mathrm{Q}}^{\mathrm{Q}}$+$Sprt_{\mathrm{D}}^{\mathrm{Q}}$+$Sprt_{\mathrm{Q}}^{\mathrm{D}}$+$Sprt_{\mathrm{D}}^{\mathrm{D}}$, $Sprt_{\mathrm{Q}}^{\mathrm{Q}}$- internal self-energy, $Sprt_{\mathrm{D}}^{\mathrm{D}}$-the external self-energy, $Sprt_{\mathrm{D}}^{\mathrm{Q}}$- object component of a chemical element, $Sprt_{\mathrm{Q}}^{\mathrm{D}}$- usual energy component of a chemical element. We describe the usual chemical reactions for the $Sprt_{\mathrm{D}}^{\mathrm{Q}}$-component using the $Sprt_{\mathrm{Q}}^{\mathrm{D}}$-component. A self-molecule (self-atom, self-(elementary particle))) as a capacity can have the following types of self: self-set, self-structure, self-hierarchy or its elements that generates this self-molecule (self-atom, self-(elementary particle))).Self-power is force that is applied to oneself or its elements that generates this self-power.

You can try to consider the equations: Srt_x^x=a, x(a) - ?, $Srt_b^x = a, x(a,b) - ?$, Srt_x^q=a, x(a, q)- ?.
Supplement for Quantum Mechanics and Classical statistical Mechanics through Sprt-elements:
Hamilton operator $\widehat{H} = \widehat{H}_0 + \widehat{W}_0$, $\widehat{H}_0$ -considered quantum system energy, consisting of two or more parts, without their interaction with each other, $\widehat{W}_0$ is the energy of their interaction, $\hat{\rho}$-statistical operator [18]. Self-energy $Sprt_{\widehat{H}}^{\widehat{H}}$= $Sprt_{\widehat{H}_0+\widehat{W}_0}^{\widehat{H}_0+\widehat{W}_0}$= $Sprt_{\widehat{H}_0+\widehat{W}_0}^{\widehat{H}_0} + Sprt_{\widehat{H}_0+\widehat{W}_0}^{\widehat{W}_0} = Sprt_{\widehat{H}_0}^{\widehat{H}_0} + Sprt_{\widehat{W}_0}^{\widehat{H}_0}$+$Sprt_{\widehat{H}_0}^{\widehat{W}_0}$+$Sprt_{\widehat{W}_0}^{\widehat{W}_0}$, $Sprt_{\widehat{H}_0}^{\widehat{H}_0}$-considered quantum system self-energy, $Sprt_{\widehat{W}_0}^{\widehat{W}_0}$ is self-energy of their interaction, $Sprt_{\widehat{W}_0}^{\widehat{H}_0}$--object manifestation of the energy of the system in an external field., $Sprt_{\widehat{H}_0}^{\widehat{W}_0}$- the manifestation of the energy of the system in the energy interaction with the external field. Variants of the Schrödinger equation $\frac{\partial\acute{\hat{\rho}}}{\partial t} +$ $[\acute{\widehat{W}}, \acute{\hat{\rho}}]$=0 of the form S_2f, S_3f are possible, using the form (1.1) or form (1.2). The carrier of the measure of objectivity-mass should be objectivity - elementary particle graviton, look like $Srt_{objectivity}^{objectivity}$, therefore it is a self-particle and is not an element of the level of objectivity, but is an element of the level self. Therefore, it cannot be found at our level. In fact, the theory of Sit-elements helps to form a unified field theory on a qualitative level, because it is not possible to create a quantitative unified field theory.
Supplement for string theory: May be to try represent elementary particles in the form of continual self-elements of the type S_{∞}^{-}=sin(-∞)--↓ I $\uparrow_{-1}^{1}$, T_{∞}^{+}=_tg∞--↑ I $\downarrow_{-\infty}^{\infty}$, T_{∞}^{-}=tg(-∞)--↓ I $\uparrow_{-\infty}^{\infty}$, f↑I↓g for any f, g etc.
We consider Sprt-logic: consider the functional f(Q), which gives a numerical value for the truth of the statement Q from the interval [0,1], where 0 corresponds to "no," and one corresponds to the logical value "yes." Then for joint statements A, B: f(A+B)=f(A)+f(B)-f(A*B)+fS(D), D- self-statement from A*B, fS(x)- the value of self-truth for self-statement x; for dependent statements: f(A*B)=f(A)*f(B/A)=f(B)*f(A/B), where f(B/A)- conditional truth of the statement B at statement A, f(A/B)- dependent truth of statement A at the statement B. Adding the truth values of inconsistent propositions: f(A+B)=F(A)+f(B). The formula of complete truth: f(A)=$\sum_{k=1}^{n} f(B_k) * f(A/B_k)$, B_1, B_2, .., B_n-full group of hypotheses-statements: $\sum_{k=1}^{n} f(B_k)$=1("yes"). Remark. A statement can be interpreted as an event, and its truth value as a probability.

Sprt- statement for set of statements A={A_1, A_2, …, A_n}: $Sprt_x^{\{A1, A2,..., An\}}$, $Sprt_x^{\{f(A1),f(A2),...,f(An)\}}$- Sprt-truth for these statements. It is possible to consider the self-statement S_3A with m statements from A, at m<n, which is formed by the form (1.1), that is, only m statements from A are located in the structure $Sprt_x^A$. The same for self- truth $S_3\{f(A_1), f(A_2), ..., f(A_n)$: $Sprt_x^{\{f(A1),f(A2),...,f(An)\}}$.

One can introduce the concepts of Sprt-group: $Sprt_x^A$, A is usual group, $Sprt(t)_B^A$, where A, B- usual groups, self-group: f_iA, i=1,2,3 [2], A is usual group.

Definition A: A structure with a second degree of freedom will be called complete, i.e., "capable" of reversing itself concerning any of its elements clearly, but not necessarily in known operators; it can form (create) new special operators (in particular, special functions). In particular, $Cprt_{strA}^{strA}$, Crt_{strA}^{strA} are such structures. Similarly, for working with models, each is structured by its structure; for example, use Sprt-groups, Sprt-rings, Sprt-fields, Sprt-spaces, self-groups, self-rings, self-fields, and self-spaces. Like any task, this is also a structure of the appropriate capacity. Since the degree of freedom is double, it is clear that the form of the self-equation contains a solution or structures the inversion of the self-equation concerning unknowns, i.e., the structure of the self-equation is complete. The transition process in the form of ${}_D^CSprt_B^A$ is switched on during the transition from one world A (spatial variables, which we denote by X1, and temporal variables, through T1) to another B (spatial variables, which we denote by X2, and temporal variables, through T2). It is accompanied by spatial variables in form (T1, X1), and temporary - T3.

Supplement

Connection Sprt – Elements with Usual Functionals and Operators

We consider functional g(x): X→g, x∈ X, g—numerical value of functional g(x). It is specific capacity for X. $Sprt_{\{g(x)\}}^{\{g(x)\}}$ made from her the self-capacity in itself as an element f_1S{g(x)}, {g(x)}—all functional for all X. In particular, probability p(X) –is such functional, X—an event. Here $Sprt_{p(X)}^{p(X)}$ is f_1Sp(X), denote it through pS(X). Usual event is dynamical capacity.

Definition B. Sprt-probability of events A, B is p(St_B^A), denote Sp_B^A. In particular,

Sp_B^A for joint A, B: Sp_B^A= p(St_B^A)=p({A∪B-A∩B, D})= p(A)+p(B) –p(AB)+pS(D), D-- the self-consistency in itself as an element from A∩B, pS(D)—probability self of D of next level—self level. The probability for stochastic value X is capacity. We represent its distribution in the kind of Sprt-element:

$$Sprt(t)_X^{\{(x_1,p_1),(x_2,p_2),...,(x_n,p_n)\}} \quad (*)$$

Here interest represent partial distribution self from (*) by form (1.1) or (1.2) with value self of stochastic value X for some subset {x$x_{1_1}, x_{2_1}, ..., x_{j_1}$} ∈{$x_1$, x_2, …, x_n} with probabilities self {pS_1,pS_2,…,pS_j}.

For operator $X_1 \underset{\rightarrow}{F} X_2$: $\underset{\rightarrow}{F}$ X_2 is capacity for X_1. $Sprt_{\underset{\rightarrow}{F} X2}^{\underset{\rightarrow}{F} X2}$ -- self- capacity in itself as an element for X_1.

More complex for implicit operator: $F(X_1, X_2)=0$. Then $St_{F(X1,X2)=0}^{F(X1,X2)=0}$ forms self- capacity in itself as an element for X_1 relatively of X_2 or for X_2 relatively of X_1. x obtains more power of the liberty and in this is direct decision (i. e. self-consistency in itself as an element for x). Self-equation for x has its decision for x in direct kind. Self-task for x has its decision for x in direct kind. Self-question has its answer for x in direct kind. x acquires more degree of liberty and in this is direct decision.

We consider $Sprt_D^D$, D-block over execution subject in S_{mnst} for networks. Then we have self-consistency in itself as an element D, where full realization requires correspondent self-energy. $Sprt_{Smnst}^{Smnst}$ increase self-level of S_{mnst} and may made no visual its.

Conclusion

New concepts and new processing methods of information based on them and new software operators were introduced. We have a fairly non-classical section of mathematics, so the presentation of the material is a bit non-classical to emphasize this. Classical science reaches the horizon and beyond the horizon through chance, while we immediately start from the horizon. We have found a way to construct some mathematical class of complex processes with which classical science can work through chance at best. Classical science proceeds from the objective components, while we immediately start from the wave ones, bypassing the objective ones. Further development is associated with changing the structure of the arithmetic-logical device, the corresponding software and application for new technologies, in the light of the new approach. The entire neural network as instantaneous simultaneous RAM in Sit-elements and self- elements.$self^{self^{\cdots^{self}}}$, $f1\downarrow I \uparrow_{-1}^{1} f_2^{\,f1\downarrow I\uparrow_{-1}^{1} f_2,^{\cdots^{f1\downarrow I\uparrow_{-1}^{1} f_2,}}}$, $sin\infty^{sin\infty^{\cdots^{sin\infty}}}$.When activated in a neural network, the entire neural network becomes a working memory. Use of self-energy as activation or from outside. $Q_0= Sprt^{Sprt_{activation}^{S_{mnSprt}}}_{Sprt_{activation}^{S_{mnSprt}}} \rightarrow$ self-RAM, $Q_{00}={}^{{}^{S_{mnSprt}}_{activation}Sprt}_{{}^{S_{mnSprt}}_{activation}Sprt}Q_0$, $Q_{01}={}^{Sprt_{activation}^{S_{mnSprt}}}_{Sprt_{activation}^{S_{mnSprt}}}Q_0$.

Q_0,Q_{00},Q_{01}-coding,translation,realization eprograms, Q_0,Q_{00},Q_{01}-S_{mnSprt}, Q_0,Q_{00},Q_{01}-Assembler.

References

1. Oleksandr Danilishyn, Illia Danilishyn (2023) Dynamical Sets Theory: S2t-Elements and Their Applications. J Math Techniques Comput Math 2: 479-498. https://www.opastpublishers.com/open-access-articles/dynamical-sets-theory-s2telements-and-their-applications.pdf
2. Danilishyn I, Danilishyn O (2023) Dynamic Sets Set and Some of Their Applications to Neuroscience, Networks Set New Advances in Brain & Critical Care 4: 66-81. https://doi.org/10.33140/NABCC.04.02.02
3. Oleksandr Danilishyn, Illia Danilishyn (2023) Dynamic Sets S1et and Some of their Applications in Physics. Science Set Journal of Physics 1-11. 815-_ article1695707465.pdf (mkscienceset.com)
4. I Danilishyn, O Danilishyn (2023) Dynamic Sets Se, Networks Se. Advances in Neurology and Neuroscience 6: 278-294. https://www.opastpublishers.com/open-access-articles/dynamic-sets-se-networks-se.pdf
5. I Danilishyn, O Danilishyn (2023) Program Operators Sit, tS, S1e, Set1. Journal of Sensor Networks and Data Communications [ISSN: 2994-6433] 3: 138-143. https://www.opastpublishers.com/table-contents/jsndc3
6. Danilishyn I V, Danilishyn O V (2023) THE USAGE OF SIT-ELEMENTS FOR NETWORKS. IV International Scientific and Practical Conference "GRUNDLAGEN DER MODERNEN WISSENCHAFTLICHEN FORSCHUNG ", Zurich, Switzerland. https://archive.logos-science.com/index.php/conference-proceedings/issue/view/9
7. Danilishyn I.V. Danilishyn O.V. tS – ELEMENTS. Collection of scientific papers «ΛΌГOΣ» with Proceedings of the V International Scientific and Practical Conference, Oxford, June 23, 2023. Oxford-Vinnytsia: P.C. Publishing House &

European Scientific Platform, 2023.Theoretical and empirical scientific research: concept and trends. pp.156-161, DOI 10.36074/logos-23.06.2023.42, https://archive.logos-science.com/index.php/conference-proceedings/issue/view/12

8. Danilishyn I V, Danilishyn O V (2023) SET1 – ELEMENTS. INTERNATIONAL SCIENTIFIC JOURNAL GRAIL OF SCIENCE with the proceedings of the:Correspondence International Scientific and Practical Conference SCIENCE IN MOTION: CLASSIC AND MODERN TOOLS AND METHODS IN SCIENTIFIC INVESTIGATIONS held on June 9 th, 2023 by NGO European Scientific Platform (Vinnytsia, Ukraine) LLC International Centre Corporative Management (Vienna, Austria), pp. 239-254. https://archive.journal-grail.science/index.php/2710-3056/issue/view/09.06.2023
9. Danilishyn I V, Danilishyn O V (2023) DYNAMICAL SIT-ELEMENTS. IV International Scientific and Practical Conference "GRUNDLAGEN DER MODERNEN WISSENCHAFTLICHEN FORSCHUN Zurich, Switzerland. https://archive.logos-science.com/index.php/conference-proceedings/issue/view/9
10. Danilishyn I V, Danilishyn O V (2023) SOME APPLICATIONS OF SIT- ELEMENTS TO SETS THEORY AND OTHERS. Scientific practice: modern and classical research methods: Collection of scientific papers «ΛΌΓΟΣ» with Proceedings of the IV International Scientific and Practical Conference, Boston, Boston-Vinnytsia: Primedia eLaunch & European Scientific Platform, 2023, pp.166-171. https://archive.logos-science.com/index.php/conference-roceedings/issue/view/11
11. Danilishyn I V, Danilishyn O V (2023) SOME APPLICATIONS OF SIT- ELEMENTS TO CONTINUAL VALUED LOGIC AND OTHERS. Features of the development of modern science in the pandemic's era: a collection of scientific papers «SCIENTIA» with Proceedings of the IV International Scientific and Theoretical Conference Berlin, Federal Republic of Germany: European Scientific Platform, pp.79-84. https://previous.scientia.report/index.php/archive/issue/view/19.05.2023
12. Danilishyn I., Danilishyn O. DYNAMIC SETS THEORY: SIT-ELEMENTS AND THEIR APPLICATIONS. Preprint. Research Square. https://doi.org/10.21203/rs.3.rs-3217178/v1Dynamic Sets Theory: Sit-elements and Their Applications | Research Square www.researchsquare.com/article/rs-3217178/v
13. Thomas J Jech (1971) LECTURES IN SET THEORY WITH PARTICULAR EMPHASIS ON THE METHOD OF FORCING. SPRINGER-VERLAG Berlin. Heidelberg. New-York.
14. Krain S G (1967) Linear differential equations in Banach space. M.,Science,(in Russian).
15. A L Dontchev (1983) .Perturbations, approximations and sensitivity analysis of optimal control systems. Spting-er-Verllag, Berlin, New York.
16. Galushkin A (2010) Networks: principles of the theory. Hot line-Telecom. M.. (in Russian).
17. Danilishyn I, Danilishyn O (2023) VARIABLE HIERARCHICAL DYNAMICAL STRUCTURES (MODELS) FOR DYNAMIC, SINGULAR, HIERARCHICAL SETS AND THE PROBLEM OF COLD THERMONUCLEAR FUSIONThe driving force of science and trends in its development: collection of scientific papers «SCIENTIA» with Proceedings of the IV International Scientific and Theoretical Conference. Coventry, United Kingdom: European Scientific. Pp.113-119. Platform.https://previous.scientia.report/index.php/archive/issue/view/14.07.2023
18. D I Blokhintsev (1981) Quantum Mechanics Lectures on Selected Topics. Moscow, Atomizdat.