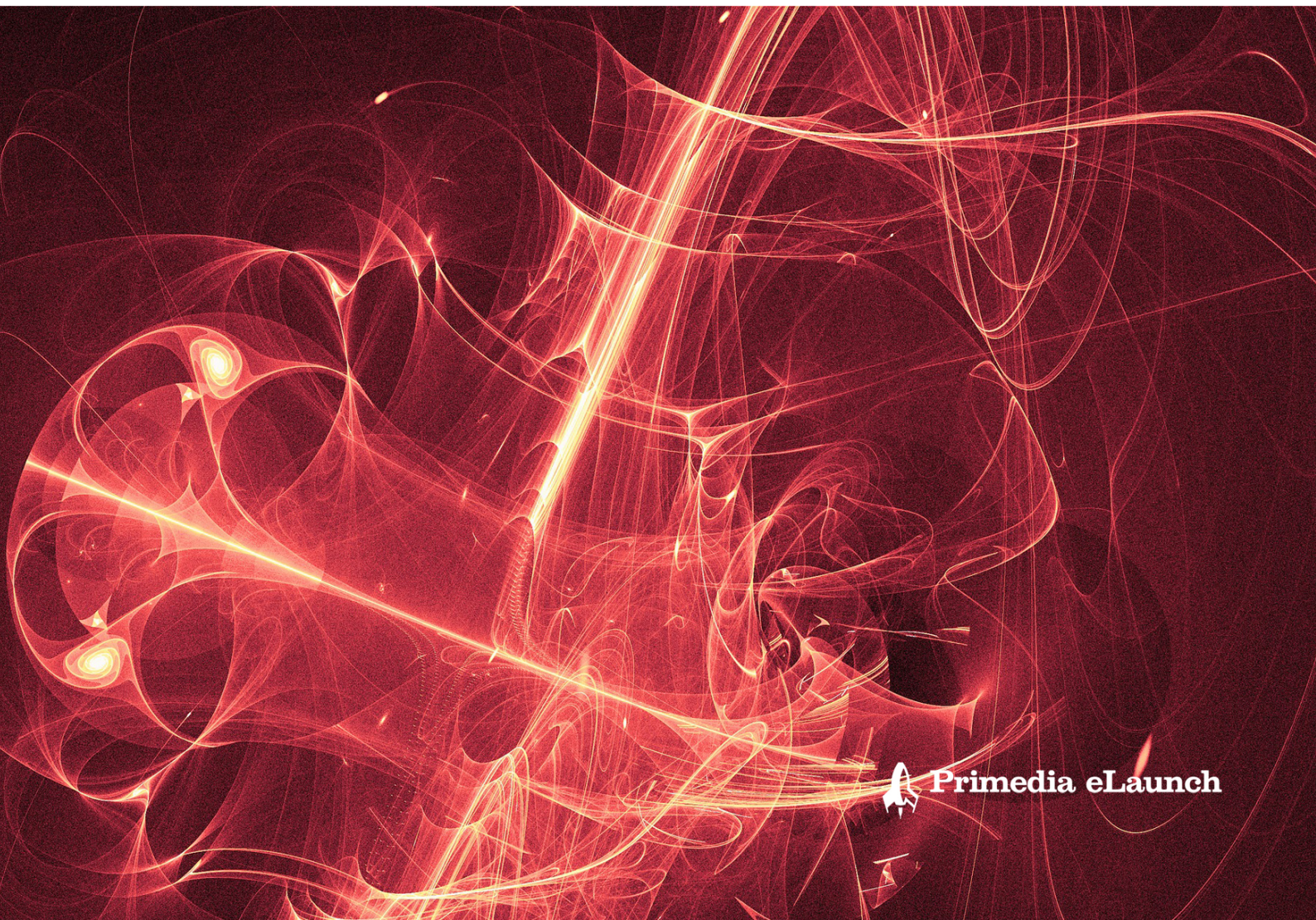


Illia Danilishyn, Oleksandr Danilishyn

# **HIERARCHICAL DYNAMIC MATHEMATICAL STRUCTURES (MODELS) THEORY**

Monograph



Primedia eLaunch

Illia Danilishyn, Oleksandr Danilishyn

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Monograph

Edited by *Volodymyr Pasynkov*

Shawnee, USA  
Primedia eLaunch LLC  
2024

## Epigraph:

Mathematics is on the border of science (knowledge), so it is she who is able to make major breakthroughs beyond this border.

---

## Reviewer: Volodymyr PASYNKOV

*PhD of physic-mathematical science, assistant professor of applied mathematics and calculated techniques department of «National Metallurgical Academy», Ukraine*

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New mathematical elements were introduced: Dynamic operator, self-capacity, self-set, hierarchical dynamic structure, dynamic set, self-containment and mathematical apparatus for their use. All this was caused by the need to construct fundamentally new neural networks based on the principles of functioning of the central nervous system of living organisms. Our constructive approach to set theory differs from the construction of constructive sets by A. Mostowski: we construct completely different types of constructive sets. Here, the axiom of regularity (A8) 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. Our mathematics is unusual for a mathematician, because here the fulcrum is the action, and not the result of the action as in classical mathematics. Therefore, our mathematics is adapted not only to obtain results, but also to directly control actions, which will certainly show its benefits on a fundamentally new type of neural networks with directly parallel calculations, for which it was created. Any action has much greater potential than its result. Significance of the article: in a new qualitatively different approach to the study of complex processes through new mathematical hierarchical parallel dynamic structures, in particular those processes that are dealt with by Synergetics. Our approach is not based on deterministic equations that generate self-organization, which is very difficult to study and gives very small results for a very limited class of problems and does not provide the most important thing - the structure of self-organization. We are just starting from the assumed structure of self-organization, since we are interested not so much in the numerical calculation of this as in the structure of self-organization itself, its formation (construction) for the necessary purposes and its management. Although we are also interested in numerical calculations. Nobel laureates in physics 2023 Ferenc Kraus and his colleagues Pierre Agostini and Anna Lhuillier used a short-pulse laser to generate attosecond pulses of light to study the fuzzy dynamics of electrons in matter. According to our Theory of singularities of the type synthesizing, its action corresponds to singularity  $\uparrow I \downarrow_h^q$ , which allows one to reach the upper level of subtle energies to manipulate lower levels. In April 2023, we proposed using a short-pulse laser to achieve the desired goals by a directly parallel neural network. We then proposed the fundamental development of this directly parallel neural network. The significance of our monograph is in the formation of the presumptive mathematical structure of subtle energies, this is being done for the first time in science, and the presumptive classification of the mathematical structures of subtle energies for the first time. The experiments of the 2022 Nobel laureates Asle Ahlen, John Clauser, Anton Zeilinger and the experiments in chemistry Nazhipa Valitov eloquently demonstrate that we are right and that these studies are necessary. Be that as it may, we created classes of new mathematical structures, new fuzzy mathematical singularities, i.e., made a contribution to the development of mathematics.

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#### **Competing interest:**

There are no competing interests. All sections of the monograph are executed jointly.

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The contribution of the authors is the same, we will not separate.

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## **Foreword:**

There is a long overdue need for the use of singular hierarchical structures, in particular self-sets, to describe complex processes, in particular to describe unusual states of consciousness and pathological conditions in medicine. The experiments of Nobel laureates in 2022-year Asle Ahlen, Clauser John, Zeilinger Anton correspond to the concept of the Universe as its self-containment in itself. The monograph aims to create new constructive hierarchical mathematical objects for new technologies, particularly for a fundamentally new type of neural network with parallel computing and not the usual parallel computing through sequential computing.

Ukraine  
August 2024  
**Volodymyr Pasynkov**

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## Part I. Sit – elements and their applications numprint

### 1. Sit – elements

#### 1.1 Introduction

There is a need to develop an instrumental mathematical base for new technologies. The objective of the monograph is to create new approaches for this by introducing new concepts and methods. The significance of the monograph: in a new, qualitatively different approach to studying complex processes through new mathematical, hierarchical, dynamic structures, in particular for studying those processes that are dealt with by synergetics.

We consider expression

$${}_D^C St_B^A (*)$$

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

$$St_B^A (**)$$

where set A fits into set B, or

$${}_A^B St (***)$$

where set A is forced out of B. We consider the measure:  $\mu^{**}({}_D^b St(t)_b^A) = \frac{\mu(A)}{\mu(D)}$ , where  $(\mu(A), \mu(D))$  -usual measures of sets A, D.

Remark. One can consider some generalization for (\*):  ${}_{q_1(C)}^{q_1(B)} St_{q(B)}^A$ , where A is contained into B through q, D is forced out of C through  $q_1$ , A, B, D, C are taken as sets. Similarly, for (\*\*):  $St_{q(B)}^A$ , where A is contained into B through q, for (\*\*\*) :  ${}_A^{q(B)} St$ , where D is displaced from C through q.

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:  $q_1 = St_B^A$  answers I compression power of dynamic set A,  $q_2 = St_B^{q_1}$  –II compression power of dynamic set A,  $\dots$ ,  $q_{n+1} = St_B^{q_n}$  –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) [1] 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.  $\forall$  set B we have:  $St_B^B$  is an element of itself.  $St_B^B$  will be denoted by selfB. Axiom R2.  $\forall B(\exists (\text{selfB})^{-1})$ .

### 1.2 Sit - elements

Definition 1.1. The set of elements  $\{A\} = (A_1, A_2, \dots, A_n)$  at one point x of space X we shall call Sit - element, and such a point in space is called capacity of the Sit - element. We shall denote  $St_x^{\{A\}}$ .

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

Definition 1.3. An ordered set of elements at one point in space is called an ordered Sit-element.

It's possible to  $St_x^{\{a\}}$  correspond to the set of elements {a}, and the ordered Sit - 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 Sit - elements:  $St_x^{\{a\}} + St_x^{\{b\}} = St_x^{\{a\} \cup \{b\}}$ . The operator  $St_x^{\{a\} \cup \{b\}}$  is not equal  $\{a\} \cup \{b\}$ , rather, it is dynamic — contraction of  $\{a\} \cup \{b\}$  to the point x. Similarly, for  $St_x^{\{a\} \cap \{b\}}$ . This is more suitable for using sets for energy space, for any objects. The operator Sit 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  $S_1 f A$ .

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  $S_2 f A$ .

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  $S_3 f$ .

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

### 1.4 Connection of Sit – elements with capacities in themselves

For example,  $St_{g\{R\}}^{\{R\}}$  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 [2]. For example, based on  $St_x^{\{A\}}$ , where  $\{A\} = (A_1, A_2, \dots, A_n)$ , 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  $St^{\{\}} St_x^{\{A\}}$  contains only m elements.

Capacities in themselves of the third type can be formed for any other structure, not necessarily Sit, only by necessarily reducing the number of elements in the structure, in particular, using form

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

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  $St_C^B$ ); or through the more general form that generalizes (1.2):

$$w_{A_1 A_2 \dots A_n C} = (A_1, (A_2, (\dots (A_n, C) \dots))) \quad (1.4)$$

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

### 1.5 Math self

Let's consider Sit arithmetic first [2]:

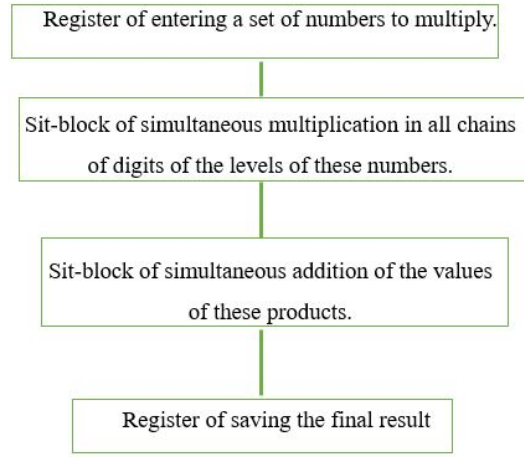
1. Simultaneous addition of a set of elements  $\{A\} = (A_1, A_2, \dots, A_n)$  is carried out using  $St_x^{\{A+\}}$ .
2. Similarly, for simultaneous multiplication:  $St_x^{\{A*\}}$ : the notation of the set B with elements  $b_{i_1 i_2 \dots i_n} = (St_x^{\{A_{i_1} *, A_{i_2} *, \dots, A_{i_n} *\}})_R$  for any  $\{i_1, i_2, \dots, i_n\}$  without repetitions,  $x = St_A^{\{K\}}$ , K-set of any  $\{k_1 *, k_2 *, \dots, k_n *\}$  without repeating them,  $k_i$ -any digit,  $i=1, 2, \dots, n$ ,  $R = St_A^{\{i_1 +, i_2 +, \dots, i_n +\}}$ , 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 |

|       |           |
|-------|-----------|
| index | discharge |
| ...   | ...       |

Then  $St_w^{\{B+\}}$  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 Sit-multiplication:



**Fig. 1** The straightforward functional scheme of the assumed arithmetic-logical device for Sit-multiplication.

3. Similarly for simultaneous execution of various operations:  $St_x^{\{aq\}}$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $St_x^{\{F\}}$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic itself for capacities in themselves will be similar: addition -  $S_1 f^{\{a+\}}$ , (or  $S_3 f_x^{\{a+\}}$  for the third type), multiplication  $S_1 f^{\{*\}}$ ,  $(S_3 f_x^{\{a*\}})$ .
6. Similarly with different operations:  $S_1 f^{\{q\}}$ ,  $(S_3 f_x^{\{aq\}})$ , and with different operators:  $S_1 f^{\{F\}}$ ,  $(S_3 f_x^{\{Fa\}})$ .
7.  $St_B^A$  - the result of the containment operator. For sets A, B we have  $St_B^A = \{A \cup B - A \cap B, D\}$ , where D is self-set for  $A \cap B$ . There is the same for structures if it's considered as sets.

8. Sit-derivative of  $f(x_1, x_2, \dots, x_n)$  is  $St_{f(x_1, x_2, \dots, x_n)} \left\{ \frac{\partial}{\partial x_1}, \frac{\partial}{\partial x_2}, \dots, \frac{\partial}{\partial x_n} \right\}$ , where  $x = (x_1, x_2, \dots, x_n)$  any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate Sit-  $\frac{\partial^k f(x)}{\partial x_1 \partial x_2 \dots \partial x_k}$ . Sit-integral off  $(x_1, x_2, \dots, x_n)$  is  $St_{f(x_1, x_2, \dots, x_n)} \left\{ \int () dx_1, \int () dx_2, \dots, \int () dx_n \right\}$ , where  $(x_1, x_2, \dots, x_n)$  any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate Sit-  $\int \dots \int f(x) dx_1 dx_2 \dots dx_n$ -k-multiple integral. Sit-lim off  $(x_1, x_2, \dots, x_n)$  is  $St_{f(x_1, x_2, \dots, x_n)} \left\{ \lim_{x_1 \rightarrow a_1}, \lim_{x_2 \rightarrow a_2}, \dots, \lim_{x_n \rightarrow a_n} \right\}$ .

Let's designate Sit-  $\left( \lim_{\substack{x_1 \rightarrow a_1 \\ \dots \\ x_n \rightarrow a_n}} f(x_1, x_2, \dots, x_n) \right)$ . Self-lim  $= St_Q^Q$ ,  $Q = \lim_{x \rightarrow a}$ . 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.

9. Let's denote self-(self-Q) through self<sup>2</sup>-Q,  $fS(n, Q) = \text{self}(\text{self}(\dots(\text{self-Q}))) = \text{self}^n\text{-Q}$  for n-multiple self.

### 1.6 Operator itself

Definition 1.7. An operator that transforms  $St_x^{\{a\}}$  to any  $S_i f^{\{b\}}$ ,  $i = 2, 3$ ; where  $\{b\} \subset \{a\}$ ; is the operator itself.

Example. The operator contains the set in itself.

### 1.7 Lim-itself

Lim Sit

For example, the double limit:  $\left( \lim_{\substack{x \rightarrow A_1 \\ y \rightarrow A_2}} G(x, y) \right)$  corresponds to  $St_{(A_1, A_2)}^{G(x, y)}$ .

Similarly, for lim Sit with n variables.

In the case of lim-itself, for example, for m variables, it suffices to use the form (1.1) of lim Sit 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 Sit 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)  $\frac{\partial}{\partial x} \left( \frac{\partial u}{\partial x} \right)$ . "collapses" into an ordered  $St_x^{\left\{ \frac{\partial u}{\partial x}, \frac{\partial}{\partial x} \left( \frac{\partial u}{\partial x} \right) \right\}}$ , which can be translated into the

corresponding  $S_1 f$ . The differential operator  $St_x^{\{\frac{\partial}{\partial x}, \frac{\partial}{\partial x}(\frac{\partial}{\partial x})\}}$  - is interesting too.

Remark1.1 Sit-displacement of A from B will be denote by  ${}^B_A St$ . Then the notation  ${}^C_D St^A_B$  is both the Sit-containment of A in B and Sit-displacement of D from C simultaneously. Let's denote  ${}^B_A St^A_B$  through  $TS^A_B$ ,  ${}^A St^A_A$  - through  $TS^A_A$ .

We can consider the concept of Sit - element as  $St^A_B$ , where A fits in capacity B. Then  $St^B_B$  it will mean  $S_1 f$  B

### 1.8 About Sit and S<sub>3</sub>f programming

The ideology of Sit and S<sub>3</sub>f can be used for programming. Here are some of the Sit programming operators [3], [4], [10].

1. Simultaneous assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $\{A\} = (A_1, A_2, \dots, A_n)$ . This is implemented via  $St^{\{\{A\}:=\{p\}\}}$ .
2. Simultaneous checking the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for the set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . Implemented via  $St^{IF\{\{B\}\{f\}\}} \text{ then } Q$  where Q can be anything.
3. 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 Sit 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 Sit [3],[4] we introduce the concept of Sit - the change in physical quantity B:  $St_x^{\{\Delta_1 B, \dots, \Delta_n B\}}$ . Then the mean Sit - velocity will be  $v_{cst}(t, t) = St_x^{\{\frac{\Delta_1 B}{\Delta t}, \dots, \frac{\Delta_n B}{\Delta t}\}}$  and Sit-velocity at time  $t: v_{st} = \lim_{\Delta t \rightarrow 0} v_{st}(t, \Delta t)$ . Sit - acceleration  $a_{st} = \frac{dv_{st}}{dt}$ .

In normal use, simply  $St_x$  reduces to a sum at point x of space [3],[4]. When using  $St_x$  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  $v_{st}^f = St_x^{\{v_1 f, v_2\}}$ , 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)  $St_{\{x_1, x_2\}}^e$  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 Sit elements.

Similarly, the concepts of Sit - force and Sit - energy are introduced [3],[4]. For example,  $E_{st}^f = St_x^{\{E_1f, E_2\}}$  it would mean the instantaneous replacement of energy  $E_1$  by  $E_2$  at time  $t_0$ . Two aspects of Sit-energy should be distinguished: 1) carrying out the desired "target weight" and 2) fixing the result of it. Do not confuse energy - Sit (the node of energies) with Sit - 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. Sit - 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 [3],[4]: « $St_B^B$  will mean  $S_1f B$ .». For example,  $St_{DNA}^{DNA}$  allows you to reach the level of DNA self-energy,  $St_Q^Q$  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  $i=1,2,\dots,n$ ,  $x=(x_1, x_2, \dots, x_n)$ , will be realized in  $St_a^{\{f_1(x)=0?x, f_2(x)=0?x, \dots, f_n(x)=0?x\}}$  or  $St_{?x}^{\{f_1(x)=0, f_2(x)=0, \dots, f_n(x)=0\}}$ .  $x$  acquires more degree of liberty and in this is direct decision [3],[4]. Self-equation for  $x$  has its decision for  $x$  in direct kind.

The same for  $St_{?}^{\{tasks(x)\}}$ . Self-task for  $x$  has its decision for  $x$  in direct kind. Self-question has its answer for  $x$  in direct kind.  $St_{(o,x)}^{\{t\}}$ , 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  $St_o^{\{t\}}$ .  $St_{\alpha}^{\{God-father, God-son, Holy Spirit\}}$  is three-concept representation, where  $\alpha$  is a point in the connectedness space.  $St$  is also great for working with structures, for example: 1)  $St_B^{strA}$ --the structure  $A$  that fits into  $B$ , where  $B$  can be any capacity, another structure etc. 2)  $St_R^{strQ}$ -- embedding structure from  $Q$  into  $R$ . Similarly for displacement: 1)

${}^B_{strA}St$ --displacement of structure A from B, 2)  ${}^B_{strQ}St$ --displacement of the structure from Q to B. To work with structures, you can introduce a special operator Ct:  $Ct^{strA}_B$  structures B with the structure A,  $Ct^{strQ}_R$  structures R with the structure from Q,  ${}^{strA}_B Ct$  destructors B from the structure A,  ${}^{strQ}_B Ct$  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,  $Ct^{strA}_{strA}$  is such structure.

Similarly, for working with models, each is structured by its structure; for example, use Sit-groups, Sit-rings, Sit-fields, Sit-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 Sit is introduced for energy space. The corresponding concept of elements of chemistry Sit is introduced accordingly. Examples: 1)  $StE_D^{\{a_1q,a_2\}}$  – 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  $St_{reaction}^{\{chemical\ elements\ with\ "target\ weights"\}}$ . The periodic table itself can also be thought of as the Sit – element:  $St_{Mendeleev\ table}^{\{list\ of\ chemical\ elements\}}$ . The ideology of Sit elements allows us to go to the border of the world familiar to us, which allows us to act more effectively.

## 2 Dynamic Sit – elements

### 2.1 Dynamic Sit – elements

We considered stationary Sit – elements earlier. Here we consider dynamic Sit – elements [5].

Definition 2.1. The process of fitting a set of elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  into one point x of space X at time t will be called a dynamic Sit – element. We will denote  $St(t)_x^{\{A(t)\}}$ .

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

It is allowed to sum dynamic Sit – elements:

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

## 2.2 Dynamic containment of oneself

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

Definition 2.4. Dynamic Sit-capacity  $St(t)_{Q(t)}^{R(t)}$  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  $S_1f(t)A(t)$ .

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  $S_2f(t)C(t)$ .

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 generated partially or both at the same time. Denote  $S_3f(t)B(t)$ .

All dynamic capacities in themselves in a dynamic self-space are, by definition, capacities in themselves. Dynamic capacity itself can manifest itself as dynamic Sit-capacity and ordinary dynamic capacity. In these cases, the usual measures and methods of topology are used [5].

## 2.3 Connection of dynamic Sit – elements with dynamic containment of oneself

Consider third type of dynamic partial containment of oneself. For example, based on  $St(t)^{\{t\}}$ , 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  $St(t)^{\{A(t)\}}$  [5].

Dynamic containment 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 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

1. 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  $St(t)^{\{A(t)+\}}$ .
2. By analogy, for simultaneous multiplication:  $St(t)^{\{A(t)*\}}$ .
3. Similarly for simultaneous execution of various operations:  $St(t)^{\{A(t)q(t)\}}$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .

4. Similarly, for the simultaneous execution of various operators:  $St(t)^{\{F(t)A(t)\}}$  where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. Dynamic arithmetic itself for containments of oneself will be similar: dynamic addition -  $S^2_1 f(t)^{\{A(t)+\}}$ , (or  $S^2_3 f(t)^{\{A(t)+\}}_x$  for the third type), dynamic multiplication  $S_1 f(t)^{\{A(t)*\}}$ ,  $(S_3 f(t)^{\{A(t)*\}}_x)$ .
6. Similarly with different operations:  $S_1 f(t)^{\{A(t)q(t)\}}$ ,  $(S_3 f(t)^{\{a(t)q(t)\}}_x)$ , and with different operators:  $S_1 f(t)^{\{F(t)A(t)\}}$ ,  $(S_3 f(t)^{\{F(t)A(t)\}}_x)$ .
7.  $St(t)^{A(t)}_{B(t)}$  - gives the result

$St^{A(t)}_{B(t)} = \{A(t) \cup B(t) - A(t) \cap B(t), D(t)\}$  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.

8. Similarly, for dynamic Sit-derivatives, dynamic Sit-integrals, dynamic Sit-lim, dynamic self-derivatives, dynamic self-integrals
9. Denote dynamic self-(dynamic self-Q(t)) through dynamic self<sup>2</sup>-Q(t),  $fS(t)(n, Q(t)) = \text{dynamic self-(dynamic self-(... (dynamic self-Q(t))))} = \text{dynamic self}^n\text{-Q(t)}$  for n-multiple dynamic self.

Remark 2.1. The dynamic Sit-displacement of  $A(t)$  from  $B(t)$  will be denote by  $^{B(t)}_{A(t)} St(t)$ . Then the notation  $^{C(t)}_{D(t)} St(t)^{A(t)}_{B(t)}$  is dynamic Sit-containment of  $A(t)$  in  $B(t)$  and dynamic Sit-displacement of  $D(t)$  from  $C(t)$  simultaneously. Denote  $^{B(t)}_{A(t)} St(t)^{A(t)}_{B(t)}$  by  $TS(t)^{A(t)}_{B(t)}$ ,  $^{A(t)}_{A(t)} St(t)^{A(t)}_{A(t)}$  - through  $TS(t)^{A(t)}_{A(t)}$ .

We can consider the concept of dynamic Sit - element as  $St(t)^{A(t)}_{B(t)}$ , where  $A(t)$  fits in dynamic capacity  $B(t)$ . Then  $St(t)^{B(t)}_{B(t)}$  will mean  $S_1 f(t) B(t)$ . Denote  $St(t)^{B(t)}_{B(t)}$  by  $L(t)(B(t))$ .  $^{A(t)}_{A(t)} St(t)$  denotes the dynamic expelling  $A(t)$  oneself out of oneself,  $^{A(t)}_{A(t)} St(t)^{A(t)}_{A(t)}$ —simultaneous dynamic containment  $A(t)$  of oneself in oneself and dynamic expelling  $A(t)$  oneself out of oneself.  $^{A(t)}_{A(t)} St$  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 Ahlen Asle, 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 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 [3],[4].

## 2.5 About dynamic Sit and $S_3f(t)$ programming

The ideology of dynamic Sit and  $S_3f(t)$  can be used for programming [5], [10]:

1. The process of simultaneous assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $\{g\} = (g_1, g_2, \dots, g_n)$  is implemented through  $St(t)^{\{g\}:=\{p\}}$ .
2. The process of simultaneous check the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t), \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $St(t)^{IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t)}$  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  $\{\}, \{p\}, \{B(t)\}, \{f(t)\}$  will be formed from corresponding processes  $Sit(t)$  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 Sit-elements, the concepts of dynamic Sit - force, dynamic Sit – energy are introduced. For example,  $E(t)_{st}^f = St(t)^{\{E_1(t)f, E_2(t)\}}_{x(t)}$  will mean the process of instantaneous replacement f of energy  $E_1(t)$  by  $E_2(t)$  at time t. Similarly, using  $Sif(t)$ , the concepts of  $Sif(t)$ -force,  $Sif(t)$ -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.  $St(t)^{\frac{St(t)^{B(t)}}{St(t)^{B(t)}}}$  can increase self- level of B(t).

Remark 2.5. For example, the operator itself [3],[4] is  $S_1f(t)$ .

Remark 2.6. May be considered the following derivatives:  $\frac{dSt(t)^{A(t)}}{dt}$ ,  $\frac{d^B(t)St(t)}{dt}$ ,  $\frac{d^C(t)St(t)^{A(t)}}{dt}$ ,  $\frac{dSif(t)}{dt}$ ,  $i=1,2,3$ .

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. Sit – elements for continual sets

#### 3.1 Sit – elements for continual sets

Earlier, we considered finite-dimensional discrete Sit-elements and self-capacities in itself as an element [2],[4]. Here we believe some continual Sit-elements and continual self-capacities in themselves as an element.

Definition 3.1. The set of continual elements  $\{g\} = (g_1, g_2, \dots, g_n)$  at one point  $x$  of space  $X$  will be called Sit – element, and such a point in space will be called capacity of the continual Sit – element. We will denote  $S_t^{\{g\}}$ .

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

It's allowed to sum continual Sit – elements:  $S_t^{\{a\}} + S_t^{\{b\}} = S_t^{\{a\} \cup \{b\}}$ , 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  $\overline{S_1 f A}$ .

For example,  $S_\infty^+ = \sin \infty$  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:  $\uparrow I \downarrow_{-1}^1$ . Also consider the following elements:  $S_\infty^- = \sin(-\infty) = -\downarrow I \uparrow_{-1}^1$ ,  $T_\infty^+ = \text{tg} \infty = -\uparrow I \downarrow_{-\infty}^\infty$ ,  $T_\infty^- = \text{tg}(-\infty) = -\downarrow I \uparrow_{-\infty}^\infty$ , don't confuse with values of these functions. Such elements can be summarized. For example:  $aS_\infty^+ + bS_\infty^- = (a-b)S_\infty^+ = (b-a)S_\infty^-$ .

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  $S_2 f A$ .

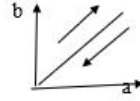
An example of continual self-capacity in itself as an element of the second type is a living organism since it contains the programs: DNA and RNA.

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  $S_3 f$ .

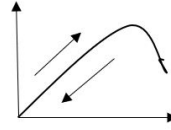
Also, may be considered operators for them. For example:

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

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



**Fig. 2** Self-vector



**Fig. 3** Self-ordered curve

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 Sit-capacities and usual continual capacities. In these cases, there are used typical measure and topology methods.

### 3.2 The connection of continual Sit – elements with continual self-capacities in themselves as an element

Consider a third type of continual self-capacity in itself as an element [2],[4].. For example, based on  $St^{\{A\}}$ , where  $\{A\} = (A_1, A_2, \dots, A_n)$ , i.e.  $A_i$  - continual elements at one point,  $i=1, 2, \dots, n$ . 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  $St^{\{A\}}$ . 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

1. Simultaneous addition of the continual elements of the set  $\{A\} = (A_1, A_2, \dots, A_n)$  is implemented using  $St^{\{A \cup\}}$ .
2. By analogy, for simultaneous multiplication:  $St^{\{A \cap\}}$ .
3. Similarly, for simultaneous execution of various operations:  $St_x^{\{Aq\}}$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .

4. Similarly, for the simultaneous execution of various operators:  $St_x^{\{FA\}}$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. For continual self-capacities in themselves as an element will be similar: addition -  $S_1 f^{\{A+\}}$ , (or  $S_3 f_x^{\{A+\}}$  for the third type), multiplication  $S_1 f^{\{A*\}}$ ,  $(S_3 f_x^{\{A*\}})$ .
6. Similarly with different operations:  $S_1 f^{\{Aq\}}$ ,  $(S_3 f_x^{\{Aq\}})$ , and with different operators:  $S_1 f^{\{FA\}}$ ,  $(S_3 f_x^{\{FA\}})$ .
7.  $St_B^A$  - is the result of the containment operator. For sets A, B we have  $St_B^A = \{A \cup B - A \cap B, D\}$ , where D is self-set for  $A \cap B$ . The same is true for structures if they are treated as sets.

Remark 3.1. Sit-displacement of A from B will be denoted by  ${}_B^A St$ . Then the notation  ${}_D^C St_B^A$  is Sit-containment of A in B and Sit-displacement of D from C simultaneously. Denote  ${}_A^B St_B^A$  by  $TS_B^A$ ,  ${}_A^A St_A^A$  - through  $TS_A^A$ . Three in one is  $St_\infty^{\{\infty \text{ in itself, an element that is not anyone's element, 0 out oneself}\}}$ , - point space connectedness.

We can consider the concept of a continual Sit - element as  $St_B^A$ , where A fits in continual capacity B. Then  $St_B^B$  will mean  $S_1 f B$ .

These elements are used for Sit-coding, Sit translation, coding self, and translation self for networks [2], [4], 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-- Self-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 [6]. You can also try to optimize and research some processes with these elements using the techniques from [7]. Let's introduce operators for transforming capacity to self-capacity in itself as an element:  $Q_1 S(A)$  transforms A to  $f_1 SA$ ,  $Q_0 S(A)$  transforms A to  ${}_A^A St$ ,  $SO(A)$  transforms A to  $\uparrow A \downarrow$ ,  $\uparrow A \downarrow$  -- ordered self-capacity in itself as an element of simultaneous "activation" of all elements of A in mutual directions. For example,  $SO([-1,1]) = S_\infty^+$ ,  $SO([1,-1]) = S_\infty^-$ ,  $SO([-1,-]) = T_\infty^+$ ,  $SO([-,-]) = T_\infty^-$ . The operator  $(Q_1 S(A))^2$  increases self-level for A: it transforms Self-A =  $f_1 SA$  to self<sup>2</sup>-A,  $(Q_1 S(A))^n \rightarrow \text{self}^n\text{-A}$ ,  $e^{Q_1 S(A)} \rightarrow e^{\text{self}} - A$ . Let us introduce the following notations:  ${}_A^A St$  by 2oself-A,  $St_A^{(A,A)}$  by 2self-A,  $St_{(A,A)}^A$  by 1/2self-A,  $St_{q(A)}^A$  by qself-A,  ${}_A^A St$  by q(oself-A, q-any operator,  ${}_A^A_{(q_1, \dots, q_N)} St$  by Noself-A,  $q_i = A$ ,  $i =$

$1, \dots, N$ ;  ${}_A^A St_A^A$  by self-A- oself-A,  ${}_{q_3(A)}^{q_2(A)} St_{q_1(A)}^A$  by  $q_1$ self-A-  $\begin{pmatrix} q_3() \\ q_2() \end{pmatrix}$ oself-A,  ${}_{(A,A)}^A Ct$  by 2Coself-A,  $Ct_A^{(A,A)}$  by 2Cself-A,  $Ct_{(A,A)}^A$  by 1/2Cself-A,  $Ct_{q(A)}^A$  by qCself-A,  ${}_{q(A)}^A Ct$  by q()Coself-A, q-any operator,  ${}_{(q_1, \dots, q_N)}^A Ct$  by NCoself-A,  $q_i = A, i = 1, \dots, N$ ;  ${}_A^A Ct_A^A$  by Cself-A- Coself-A,  ${}_{q_3(A)}^{q_2(A)} Ct_{q_1(A)}^A$  by  $q_1$ Cself-A-  $\begin{pmatrix} q_3() \\ q_2() \end{pmatrix}$ Coself-A,  $S2t_A^A = (\text{self-A}, \text{self-A})$ ,  $SNt_A^A = (q_1, \dots, q_N)$ ,  $q_i = \text{self-A}, i = 1, \dots, N$ .  $\text{self}(St_B^A) = St_{St_B^A}^A$ . Can be considered  $Q({}_A^A St_A^A)$ , Q-any operator.

#### 4 Dynamic continual Sit – elements

##### 4.1 Dynamic continual Sit – elements

Definition 4.1. The process of containing the set of continual elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  at one point  $x$  of the space  $X$  at time will be called the dynamic continual Sit - element. We will denote  $St(t)_x^{\{A(t)\}}$ .

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

It is allowed to sum dynamic continual Sit - elements [5]:

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

##### 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 Sit-capacity  $St(t)_{Q(t)}^{R(t)}$  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 Sit – 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 [4],[5].. For example, based on  $St(t)_x^{\{A(t)\}}$ ,

where  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements at one point  $x$ , one can consider the dynamic containment  $S_3f(t)$  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  $St(t)_x^{\{A(t)\}}$ . Dynamic continual containments of oneself in oneself as an element of the third type can be formed for any other structure, not necessarily  $Sit$ , 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

1. The process of simultaneous addition of the set of continual elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  is realized by  $St(t)_x^{\{A(t)\cup\}}$ .
2. By analogy, for simultaneous multiplication:  $St(t)_x^{\{A(t)\cap\}}$ .
3. Similarly for simultaneous execution of various operations:  $St(t)_x^{\{A(t)q(t)\}}$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $St(t)_x^{\{F(t)A(t)\}}$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamic arithmetic self for the dynamic continual containments of oneself will be similar: dynamic addition -  $S^2_1f(t)_x^{\{A(t)\cup\}}$ , (or  $S^2_3f(t)_x^{\{A(t)\cup\}}$  for the third type), dynamic multiplication  $S^2_1f(t)_x^{\{A(t)\cap\}}$ , (or  $S^2_3f(t)_x^{\{A(t)\cap\}}$ ).
6. Similarly with different operations:  $S_1f(t)_x^{\{A(t)q(t)\}}$ ,  $(S_3f(t)_x^{\{A(t)q(t)\}})$ , and with different operators:  $S_1f(t)_x^{\{F(t)A(t)\}}$ ,  $(S_3f(t)_x^{\{F(t)A(t)\}})$ .
7.  $St(t)_{B(t)}^{A(t)}$  - gives the result  $St_{B(t)}^{A(t)} = \{A(t) \cup B(t) - A(t) \cap B(t), D(t)\}$  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.
8. Similarly, for dynamic  $Sit$ -derivatives, dynamic  $Sit$ -integrals, dynamic  $Sit$ -lim, dynamic self-derivatives, dynamic self-integrals
9. Denote dynamic continual self-(dynamic continual self- $Q(t)$ ) through dynamic continual self<sup>2</sup>- $Q(t)$ ,  $fS(t)(n, Q(t))$  = dynamic continual self-(dynamic continual self-(... (dynamic continual self- $Q(t)$ ))) = dynamic continual self<sup>n</sup>- $Q(t)$  for  $n$ -multiple dynamic continual self.

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

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

#### 4.5 Connection of dynamic continual Sit – 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  $St(t) {}_{x(t)}^{\{A(t)g(t)\}}$ , 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  $x(t)$ , we can consider the dynamic containment  $S_3f(t)g(t)$  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  $S_3f(t)g(t)$ . 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  $S_3f(t)g(t)$  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  $S_1f(t)A(t)g(t)$ .

Definition 4.9. 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  $S_2f(t)C(t)g(t)$ .

Definition 4.10. 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  $S_3f(t)B(t)g(t)$ .

## 5 The usage of Sit-elements for networks

### 5.1 The usage of Sit-elements for networks

A. Galushkin's comprehensive monograph [8] covers all aspects of networks, but traditional approaches go through classical mathematics, mainly through the usual correspondence operators. 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 Sit-networks. Sit-networks are a Sit-structure that can be built for the required weights. Sit-OS (Sit operating system) uses Sit-coding and Sit-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. Sit-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. Sit-translation is carried out by inversion. In this case, self-coding and self-translation will be more stable. The target weights  $f_i$  in  $St_a^{\{fx\}}$  are chosen for necessary tasks [2],[4]. We will not touch on the issues of applications, or network optimization. They are described in detail by Galushkin [8]. 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 Sit (designation - mnSt) for simple information processing. More complex executing programs are used for mnSt nodes. Unfortunately, we changed name St-elements [2] to Sit-elements because we found that St-elements were used by other authors early. Sit-threshold element  $-\text{sgn}(St_b^{\{ax\}})$ ,  $b$ - mnSt,  $x=(x_1, x_2, \dots, x_n)$  - source signals values,  $a=(a_1, a_2, \dots, a_n)$  - Sit-synapses weights. The first level of mnSt consists of simple mnSt. The second level of mnSt consists of  $St_D^{\{mnSt\}}$  - Sit-node of mnSt in range  $D$ ,  $D$ - capacity for mnSt node. The third level of mnSt consists of  $St_D^{\{St_D^{\{mnSt\}}\}}$  - Sit<sup>2</sup>- node of mnSt in range  $D$ , thus  $D$  becomes capacity of itself in itself as an element for mnSt. For our networks, it is sufficient to use Sit<sup>2</sup>- nodes of mnSt, but self-level is higher in living organisms, particularly Sit<sup>n</sup>,  $n \geq 3$ . 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. mnSt contains  $St_{mnSt}^{\{eprograms\}}$ , *eprogram*—executing program in Sit- OS. Sit-OS (or Self-OS) is based on Sit-assembly language (or Self-assembly language), which

is based on assembly language through Sit-approach in turn, if the base of elements of Sit-networks is sufficient. The eprograms are in Sit-programming environments (or Self-programming environments), but this question and Sit-networks base will be considered in the following monographs. In particular, eprograms may contain Sit- programming operators. In mnSt cores, the constant memory Sit with correspondent eprograms depending on mnSt. The OS (operating system) and the principles and modes of operation of the Sit-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 rotors based on Sit-physics and special neural networks with artificial neurons operating in normal and Sit-modes [2],[4]. Let's denotes this model through Snnst. To do this, it's proposed to use mnSt of different levels; for example, for the usual mode, mnSt 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 Sit-mode with the desired "target weight" is realized in this section, etc., to the center. In the case of a monster during the test, Snnst is activated with the desired "target weight." Here are realized other tasks also. To reach the self-energy level, the mode  $St_{Snnst}^{Snnst}$  is used. In normal mode, it's planned to carry out the movement of Snnst 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 Snnst for the gases emitted by the jet engine, which first exits through a straight chute connected to the spiral one. There is drainage of exhaust gases outside the Snnst. Snnst is represented by a neural network that extends from the center of one of the main clusters of Sit-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 Snnst's actions is below the operator's cab. In Sit – mode, the entire network or its sections are Sit – activated to perform specific tasks, in particular, with "target weights." In the target, block used Sit-coding, Sit-translation for activation of all networks to "target weights" simultaneously, then –the reset of this Sit-coding after activation. Unfortunately, triodes are not suitable for Sit -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 Sit-operative memory belt is disposed around a central core of Snnst. There are Sit-coding, Sit-translation, and Sit-realize of eprograms and the programs from the archives without extraction, Sit-coding and Sit-translation may be used in high-intensity, ultra-short optical pulses laser of Nobel laureates 2018-year Gerard Mourou, Donna, Strickland. Sit – structure or an eprogram

if one is present of needed «target weight» are taken in target block at Sit – activation of the networks.  $St_{activation}^{S_{mn}St.f}$  derives  $S_{mn}St$  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 Sit – structures in Sit-modes by its nature to activate the networks or some of its parts in Sit-modes and locally using Sit-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.”

## Appendix

If we introduce for the energy of a chemical element the concept self-energy (the concept of a chemical element was introduced earlier [2], [4]):  $St_R^R$ ,  $R=Q+D$ ,  $Q$ - internal energy,  $D$  is the energy of its interaction with the external environment.  $St_R^R = St_{Q+D}^{Q+D} = St_{Q+D}^Q + St_{Q+D}^D = St_Q^Q + St_D^Q + St_Q^D + St_D^D$ ,  $St_Q^Q$ - internal self-energy,  $St_D^D$ -the external self-energy,  $St_D^Q$ - object component of a chemical element,  $St_Q^D$ - usual energy component of a chemical element. We describe the usual chemical reactions for the  $St_D^Q$ -component using the  $St_Q^D$ -component.

You can try to consider the equations:  $St_x^x = a$ ,  $x(a) - ?$ ,  $St_b^x = a$ ,  $x(a, b) - ?$ ,  $St_x^q = a$ ,  $x(a, q) - ?$ .

Supplement for Quantum Mechanics and Classical statistical Mechanics

through Sit-elements: Self-equation Schrödinger type-  $St \begin{matrix} \hat{\rho} \\ \hat{W}, \hat{\rho} \end{matrix} = 0$ ,  $St \begin{matrix} \hat{\rho} \\ \hat{W}, \hat{\rho} \end{matrix} = 0$ ,

$$\hat{\rho} = \exp(i\hat{H}_0 t / \hbar) \hat{\rho} \exp(-i\hat{H}_0 t / \hbar), \hat{W} = \exp(i\hat{H}_0 t / \hbar) \hat{W} \exp(-i\hat{H}_0 t / \hbar).$$

Hamilton operator  $\hat{H} = \hat{H}_0 + \hat{W}_0$ ,  $\hat{H}_0$  -considered quantum system energy, consisting of two or more parts, without their interaction with each other,  $\hat{W}_0$  is the energy of their interaction,  $\hat{\rho}$ -statistical operator [9]. Self-energy  $St_{\hat{H}}^{\hat{H}} = St_{\hat{H}_0 + \hat{W}_0}^{\hat{H}_0 + \hat{W}_0} = St_{\hat{H}_0 + \hat{W}_0}^{\hat{H}_0} + St_{\hat{H}_0 + \hat{W}_0}^{\hat{W}_0} = St_{\hat{H}_0}^{\hat{H}_0} + St_{\hat{W}_0}^{\hat{H}_0} + St_{\hat{H}_0}^{\hat{W}_0} + St_{\hat{W}_0}^{\hat{W}_0}$ ,  $St_{\hat{H}_0}^{\hat{H}_0}$  - considered quantum system self-energy,  $St_{\hat{W}_0}^{\hat{W}_0}$  is self-energy of their interaction,  $St_{\hat{W}_0}^{\hat{H}_0}$  --object manifestation of the energy of the system in an external field.,  $St_{\hat{H}_0}^{\hat{W}_0}$  - the manifestation of the energy of the system in the energy interaction

with the external field. Variants of the Schrödinger equation  $\frac{\partial \hat{\rho}}{\partial t} + [\hat{W}, \hat{\rho}] = 0$  of the form S<sub>2f</sub>, S<sub>3f</sub> [2] are possible, using the form (1.1) or form (1.2) [3],[4].

For Classical statistical Mechanics self-analogue of the equation  $\frac{\partial \rho}{\partial t} + [H, \rho] = 0$  (\*) :  $St_{\frac{\partial \rho}{\partial t} + [H, \rho] = 0}$ . The carrier of the measure of objectivity-mass should be objectivity-elementary particle graviton, i.e. look like  $St_{objectivity}^{objectivity}$ , 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  $S_{\infty}^- = \sin(-\infty) - \downarrow I \uparrow_{-1}^1, T_{\infty}^+ = \text{tg} \infty - \uparrow I \downarrow_{-\infty}^{\infty}, T_{\infty}^- = \text{tg}(-\infty) - \downarrow I \uparrow_{-\infty}^{\infty}, f \uparrow I \downarrow g$  for any f, g etc.

We consider Sit-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 and 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:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Sit- statement for a set of statements  $A = \{A_1, A_2, \dots, A_n\}$ :  $St_x^{\{A_1, A_2, \dots, A_n\}}[2]$ ,  $St_x^{\{f(A_1), f(A_2), \dots, f(A_n)\}}$ - Sit- truth for these statements. It is possible to consider the self-statement  $S_3 A [2]$  with m statements from A, at  $m < n$ , which is formed by the form (1.1) [2], that is, only m statements from A are located in the structure  $St_x^A$ . The same for self- truth  $S_3 \{ f(A_1), f(A_2), \dots, f(A_n) : St_x^{\{f(A_1), f(A_2), \dots, f(A_n)\}} \}$ .

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

Definition 5.1. 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,  $Ct_{str A}^{str A}$  is such structure. Similarly, for working with models, each is structured by its structure; for example, use Sit-groups, Sit-rings, Sit-fields, Sit-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  $C_D St_B^A$  is switched on during the transition from one world A (spatial variables, which

we denote by  $X_1$ , and temporal variables, through  $T_1$ ) to another  $B$  (spatial variables, which we denote by  $X_2$ , and temporal variables, through  $T_2$ ). It is accompanied by spatial variables in form  $(T_1, X_1)$ , and temporary -  $T_3$ .

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#### Declarations:

#### **Availability of data and material**

- 1) Danilishyn .V. Danilishyn O.V. THE USAGE OF SIT-ELEMENTS FOR NETWORKS. IV International Scientific and Practical Conference "GRUNDLAGEN DER MODERNEN WISSENSCHAFTLICHEN FORSCHUNG ", 31.03.2023/Zurich, Switzerland. <https://archive.logos-science.com/index.php/conference-proceedings/issue/view/9>
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## Part II. Classes of other structural elements based on St

### A tS - elements and their modifications

#### A.1 tS – elements

We shall consider  ${}^B_A St$  structure: A is expelled from B. A, B-are any, in particular, A may be action, action in the right direction and with the right goal (action with the so-called target weights [1], [5]).

Definition A.1.1. The displacement of the set  $A = (A_1, A_2, \dots, A_n)$  from B we shall call tS- element. We shall denote  ${}^B_A St$ . Definition A.1.2.  ${}^B_A St$  —dynamical out set A from B.

Definition A.1.3. An ordered dynamical out set  $\vec{A}$  from B is called an ordered tS – element.

It's allowed to sum tS – elements:

$${}^{B_1}_{A_1} St + {}^{B_2}_{A_1} St = {}^{B_1 \cup B_2}_{A_1} St (*_{A.1.1})$$

$${}^{B_1}_{A_1} St + {}^{B_1}_{A_2} St = {}^{B_1}_{A_1 \cup A_2} St (*_{A.1.2})$$

where some or any elements may be ordered elements.

tS – elements can be elements of a group by addition  $(*_{A.1.1})$ ,  $(*_{A.1.2})$  and form a ring by these operations.

Definition A.1.4. The capacity A that runs out of itself of the first type is  ${}^A_A St$ . Denote  $t_{S_1 f A}$ .

Definition A.1.5. The ordered capacity A that runs out of itself of the first type is  ${}^A_A St$ . Denote  $t_{S_1 f A}$ , where some or any elements of dynamical out set A may be by ordered elements.

Definition A.1.6. The capacity A that runs out of itself of the second type is  $t_{S_2 f A}$ , a capacity that contains elements from which it can be degenerated.

An example of capacity that runs out of itself of the first type is a set that runs out of itself.

Definition A.1.7. The capacity A that runs out of itself of the third type is called capacity, which runs out of itself from one point x and contains elements from which it can degenerate simultaneously. Let us denote  $t_{S_3 f A^x}$ .

Definition A.1.8. The partial capacity A that runs out of itself of the fourth type is called capacity that runs out of itself from one point x in part or contains elements from which it can degenerate in part, or both simultaneously. Let us denote  $t_{S_4 f A^x}$ .

For example,  ${}^{\{R\}}_{g\{R\}} St$  is the capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated.

Consider a fourth type of capacity that runs out of itself [1]. For example,  $t_{S_4fA^x}$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $n$  – elements. It's possible to consider the capacity that runs out of itself  $t_{S_4fA^x}$ , with  $m$  elements from  $A$  at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  elements are located in the structure  $t_{S_4fA^x}$ , capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t_{S_4fA^x}$ , can be introduced.

Consider first the arithmetic  $tS$  [1]:

1. Simultaneous addition of a set of elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  ${}^x_{\{A+\}}St$ .
2. By analogy, for simultaneous multiplication:  ${}^x_{\{A*\}}St$
3. Similarly for the simultaneous execution of various operations:  ${}^x_{\{q\}}St$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  – an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  ${}^x_{\{F\}}St$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic out of itself for capacities that runs out of itself will be similar: addition -  $t_{S_1fA+}$ , (or  $t_{S_4fA+^x}$ ), multiplication  $t_{S_1fA*}$ , ( $t_{S_4fA*^x}$ ).
6. Similarly with different operations  $t_{S_1fAq}$ , (or  $t_{S_4fAq^x}$ ) and with different operators:  $t_{S_1fFA}$ , (or  $t_{S_4fFA^x}$ ).
7. Let's denote out of itself through osel.  ${}^B_ASt$  – is the result of the holding operator expelling action, the dynamical hierarchical set of -1- type  ${}^B_ASt$  – a kind of product of the sets  $A$  and  $B$ . Let's call it the *OPN – product*. For sets  $A, B$  we have

$${}^B_ASt = \left\{ \begin{array}{c} D + {}^{\{ \}}_{A-A \cap B} St \\ (B - A \cap B) - (A - A \cap B) \end{array} \right\},$$

where  $D$  is osel-set for  $(A \cap B)$ . The measure:

$$\mu({}^B_ASt) = \frac{\mu^{os}(A \cap B) + \mu^{-s}({}^{\{ \}}_{A-A \cap B} St)}{\mu(B) - \mu(A)}.$$

There is the same for structures if they are considered as sets.

8.  $tS$ -derivative of  $f(x_1, x_2, \dots, x_n)$  is  ${}^{f(x_1, x_2, \dots, x_n)}_{\left\{ \frac{\partial}{\partial x_{1_i}}, \frac{\partial}{\partial x_{2_i}}, \dots, \frac{\partial}{\partial x_{k_i}} \right\}}St$ , where  $x = (x_{1_i}, x_{2_i}, \dots, x_{k_i})$  – any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS$ -  $\frac{\partial^k f(x)}{\partial x_{1_i} \partial x_{2_i} \dots \partial x_{k_i}}$ .  $tS$ -integral off  $(x_1, x_2, \dots, x_n)$  is  ${}^{f(x_1, x_2, \dots, x_n)}_{\left\{ \int () dx_{1_i}, \int () dx_{2_i}, \dots, \int () dx_{k_i} \right\}}St$ , where  $(x_{1_i}, x_{2_i}, \dots, x_{k_i})$  – any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS$ -  $\int \dots \int f(x) dx_{1_i} dx_{2_i} \dots dx_{k_i}$ .

tS-lim off  $(x_1, x_2, \dots, x_n)$  is  $\frac{f(x_1, x_2, \dots, x_n)}{\left\{ \lim_{x_{1_i} \rightarrow a_{1_i}}, \lim_{x_{2_i} \rightarrow a_{2_i}}, \dots, \lim_{x_{k_i} \rightarrow a_{k_i}} \right\}} St$ .  
Let's designate tS-  $\lim_{x_{1_i} \rightarrow a_{1_i}} \dots \lim_{x_{k_i} \rightarrow a_{k_i}} f(x_1, x_2, \dots, x_n)$ . Out of itself -  $\lim_{x \rightarrow a}$   
 $= \lim_{x \rightarrow a} St$ .

9. In the case of an out of itself - derivate, it's obtained inclusions of multiple integrals. There are the same for self-integrals: there are obtained inclusions of multiple derivatives, because  ${}_A^B St = (St_B^A)^{-1}$ .
10. Let's denote out of itself through oself, oself-(oself-Q) through oself<sup>2</sup>-Q ,  
tfs(n,Q)= oself-(oself-(... (oself-Q))) = oself<sup>n</sup>-Q for n-multiple oself.

Consider the operator oself for tS.

Definition A.1.9. The operator oself for tS is the operator that transforms  ${}_A^x St$  into  $t_{S_3 f A^x}$ .

Example. The operator that runs the dynamical set out of itself.

Remark. It may be considered, for example, oself-any object, oself-action, etc.

The ideology of tS and  $t_{S_4 f}$  can be used for programming. Here are some of the tS- program operators [1], [12]:

1. Simultaneous expelling assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  from the variables  $A = (A_1, A_2, \dots, A_n)$ . It's implemented through  $\frac{\{A\}}{\{=: \{p\}\}} St$ .
2. Simultaneous expelling checks the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It's implemented through  $\frac{x}{IF \{\{B\}\{f\}\} \text{ then } Q} St$  where Q can be any.
3. Similarly for loop operators and others.

$t_{S_4 f}$ - software operators will differ only just because aggregates  $A, \{p\}, \{B\}, \{f\}$  will be formed from corresponding tS program operators in form (1.1) for more complex operators in form (1.2).

Using elements of the mathematics tS, we introduce the concept of tS – force and tS - energy is presented [1]. Mathematics allows us to find deeply and to formulate the concept's singular points in the universe proceeding from levels of more thin energies.

Remark. DNA division is described by the model:  $\frac{DNA}{(DNA, DNA)} St$ .

Definition A.1.10. The displacement of set A(t) with elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from B(t) we shall call dynamical tS- element. We shall denote  $\frac{B(t)}{A(t)} St(t)$ .

Definition A.1.11.  $\frac{B(t)}{A(t)} St(t)$  —dynamical out set time dependent A(t) at B(t).

Definition A.1.7.3. An ordered dynamical out set time-dependent  $\vec{A}(t)$  at  $B(t)$  is called an ordered dynamical tS – element.

It's allowed to add dynamical tS – elements:

$$\begin{matrix} B(t)_1 \\ A(t)_1 \end{matrix} St(t) + \begin{matrix} B(t)_2 \\ A(t)_1 \end{matrix} St(t) = \begin{matrix} B(t)_1 \cup B(t)_2 \\ A(t)_1 \end{matrix} St(t) \quad (*_{A.1.3})$$

$$\begin{matrix} B(t)_1 \\ A(t)_1 \end{matrix} St(t) + \begin{matrix} B(t)_1 \\ A(t)_2 \end{matrix} St(t) = \begin{matrix} B(t)_1 \\ A(t)_1 \cup A(t)_2 \end{matrix} St(t) \quad (*_{A.1.4})$$

where some or any elements may be ordered elements.

Dynamical tS – elements can be elements of a group by addition (\*<sub>A.1.4</sub>), (\*<sub>A.1.1</sub>) and form a ring by these operations.

Definition A.1.12. Dynamical capacity  $A(q)$  that runs out of itself at time  $q$  of the first type is  $\begin{matrix} A(q) \\ A(q) \end{matrix} St(q)$ . Denote  $t(q)_{S_1 f A(q)}$ .

Definition A.1.13. The ordered dynamical capacity  $A(q)$  that runs out of itself at time  $q$  of the first type is  $\begin{matrix} A(q) \\ A(q) \end{matrix} St(q)$ . Denote  $t(q)_{S_1 f A(q)}$ , where some or any elements of dynamical out set  $A(q)$  time-dependent may be by ordered dynamical elements.

Definition A.1.14. The dynamical capacity  $A(q)$  that runs out of itself of the second type is  $t(q)_{S_2 f A(q)}$ , capacity that contains elements from which it can be degenerated.

An example of dynamical capacity that runs out of itself of the first type is a set time-dependent that runs out of itself.

Definition A.1.15. Dynamical capacity  $A(q)$  that runs out of itself of the third type is called dynamical capacity which runs out of itself from one point  $x(q)$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of dynamical out set time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S_3 f A^{x(q)}(q)}$ .

Definition A.1.16. Partial dynamical capacity  $A(q)$  that runs out of itself of the fourth type is called dynamical capacity which runs out of itself from one point  $x(q)$  at time  $q$ , which runs out of itself in part or contains elements from which it can degenerate partially or both simultaneously, where some or any elements of dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S_4 f A^{x(q)}(q)}$ .

Consider a fourth type of dynamical partial capacity that runs out of itself [1]. For example,  $t(q)_{S_4 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - elements from one point  $x(q)$ , it is possible to consider the dynamical capacity that runs out of itself  $t(q)_{S_4 f A^{x(q)}(q)}$  with  $m$  elements from  $A(q)$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S_4 f A^{x(q)}(q)}$ . Dynamical capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily tS, only through the obligatory reduction in

the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S_4 f A^{x(q)}(q)}$  can be introduced. Consider the dynamical mathematics tS [1]:

1. The process of simultaneous addition of a dynamical out set of elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  ${}^{x(t)}_{\{A(t)+\}} St(t)$ .
2. By analogy, for simultaneous multiplication:  ${}^{x(t)}_{\{A(t)*\}} St(t)$ .
3. Similarly for the simultaneous execution of various operations:  ${}^{x(t)}_{\{A(t)q(t)\}} St(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:

$${}^{x(t)}_{\{F(t)A(t)\}} St(t), \text{ where } \{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t)). F_i(t) \text{ is an operator, } i = 1, \dots, n.$$

5. The dynamical arithmetic out of itself for dynamical capacity that runs out of itself at time q will be similar: dynamical addition -

$$t(q)_{S_1 f A(q)+}, (t(q)_{S_4 f A^{x(q)}(q)+}), \text{ dynamical multiplication } t(q)_{S_1 f A(q)*}, \text{ (or } t(q)_{S_4 f A^{x(q)}(q)*})$$

6. Similarly with different operations at time q:  $t(q)_{S_1 f A(q)R(q)}$ ,  $(t(q)_{S_4 f A^{x(q)}(q)R(q)})$ , and with different operators:  $t(q)_{S_1 f F(q)A(q)}$ ,  $(t(q)_{S_4 f F(q)A^{x(q)}(q)})$ .
7.  ${}^{B(q)}_{A(q)} St(q)$  - is the result of the expelling operator action at time q the dynamical hierarchical out set time dependent of -1- type  ${}^{B(q)}_{A(q)} St(q)$  - a kind of product of the sets A(q) and B(q) with continual elements. Let's call it PN-product. For sets A(q), B(q) we have

$${}^{B(q)}_{A(q)} St(q) = \left\{ \begin{array}{l} t(q)_{S_1 f (A(q) \cap B(q))} + {}^{\{ \}}_{A(q) - A(q) \cap B(q)} St(q) \\ (B(q) - A(q) \cap B(q)) - (A(q) - A(q) \cap B(q)) \end{array} \right\}$$

$$\text{The measure: } \mu({}^{B(q)}_{A(q)} St(q)) =$$

$$(\mu^{os} (t(q)_{S_1 f (A(q) \cap B(q))}) + \mu^{-s} ({}^{\{ \}}_{A(q) - A(q) \cap B(q)} St(q))) / (\mu(B(q)) - \mu(A(q)))$$

There is the same for structures if it's considered as sets.

8. Similarly, for dynamical tS-derivatives, dynamical tS-integrals, dynamical tS-lim, dynamical osself-derivatives, dynamical osself-integrals

Let's denote dynamical out of itself through doself, doself-(doself-Q) through doself<sup>2</sup>-Q, dtfS(n,Q) = doself-(doself-(... (doself-Q))) = doself<sup>n</sup>-Q for n-multiple doself.

The ideology of tS and  $t_{S_4 f}$  can be used for programming [1], [12]. Here are some of tS-programming operators.

1. The process of simultaneous expelling assignment of the expressions  $\{p(t)\} = (p_1(t), p_2(t), \dots, p_n(t))$  from the variables  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  is implemented through  $\frac{\{A(t)\}}{\{=: \{p(t)\}\}} St(t)$ .
2. The process of simultaneous expelling check the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t), \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $\frac{x(t)}{IF\{\{B(t)\}\{f(t)\}\}} \text{ then } Q(t) St(t)$ , where  $Q(t)$  can be any.
3. Similarly for loop operators and others.

$t_{S_4f}$  – software operators will differ only just because aggregates  $\{A(t)\}, \{p(t)\}, \{B(t)\}, \{f(t)\}$  will be formed from corresponding processes  $tS(t)$  for above mentioned programming operators through form (1.1) or form (1.2) for more complex operators.

Using elements of the dynamical mathematics  $tS$ , we introduce the concepts of dynamical  $tS$  - force, dynamical  $tS$  - energy. For example,  $\frac{f(t)}{st} E(t) = \frac{x(t)}{\{E_1(t)f(t), E(t)_2\}} St(t)$  it would mean the instantaneous replacement  $f(t)$  of energy  $E_1(t)$  by  $E_2(t)$  at time  $t$ , that runs out of itself from point  $x(t)$ . The question arises about the doself-energy of the object.  $\frac{E(t)}{E(t)} St(t)$  - doself-energy of  $E(t)$ . For example, “white hole” in physics is such simple doself-capacity.

Consider  $tS$  – elements for continual sets.

Definition A.1.17. The displacement of set  $A$  with continual elements  $(A_1, \dots, A_n)$  from  $B$  we shall call continual  $tS$  – element, where some or any elements may be by continual elements.

We shall denote  $\frac{B}{A} St$ .

Definition A.1.18. The displacement of a set  $\vec{A}$  with continual elements, where some or any elements may be by ordered continual elements, is called an ordered continual  $tS$  – element. We shall denote  $\frac{B}{\vec{A}} St$ .

It's allowed to add continual  $tS$  – elements:

$$\frac{B_1}{A_1} St + \frac{B_2}{A_1} St = \frac{B_1 \cup B_2}{A_1} St \quad (*_{A.1.5})$$

$$\frac{B_1}{A_1} St + \frac{B_2}{A_2} St = \frac{B_1}{A_1 \cup A_2} St \quad (*_{A.1.6})$$

where some or any elements may be by ordered elements.

Continual  $tS$  – elements can be elements of a group by addition  $(*_{A.1.5})$ ,  $(*_{A.1.6})$  and form a ring by these operations.

Definition A.1.19. The continual oself- - capacity  $A$  of the first type is the capacity that runs out of itself as an element:  $\frac{A}{A} St$ , where some or any elements may be by continual elements. Denote  $t_{S_1fA}$ .

Definition A.1.20. The ordered continual self- capacity  $\vec{A}$  of the first type is the ordered capacity that runs out of itself as an element, where some or any elements of continual dynamical out set  $\vec{A}$  may be by ordered elements. Denote  $t_{S_1 f \vec{A}}$  .

Definition A.1.21. The continual capacity A that runs out itself of the second type is  $t_{S_2 f A}$  , a capacity that contains elements from which it can degenerate.

An example of continual capacity that runs out of itself of the first type is a continual set that runs out of itself.

Definition A.1.22. The continual capacity A that runs out of itself of the third type is called continual capacity, which runs out of itself from one point x or contains elements from which it can degenerate or both simultaneously. Let us denote  $t_{S_3 f A^x}$  .

Definition A.1.23. The partial continual capacity A that runs out of itself of the fourth type is called continual capacity which runs out of itself from one point x in part or contains elements from which it can be degenerated partially or both simultaneously. Let us denote  $t_{S_4 f A^x}$  .

Consider the connection of continual tS – elements with continual capacity that runs out of itself. For example,  $_{g\{R\}}^{\{R\}}St$  is the continual capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated. Consider a fourth type of continual self-capacity in itself as an element. For example, based on  $_{\{A\}}^x St$  where  $\{A\} = (A_1, A_2, \dots, A_n)$ , i.e. n - continual elements at one point, It's possible to consider the continual self-capacity in itself as an element  $t_{S_4 f A^x}$  with m continual elements and from  $\{A\}$ , at  $m < n$ , which is formed by the form (1.1) that is, only m continual elements are located in the structure  $_{\{A\}}^x St$ . Continual self-capacities in itself, as an element of the fourth type, can be formed for any other structure, not necessarily tS, 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  $t_{S_4 f A^x}$  can be introduced.

Consider first the arithmetic tS:

1. Simultaneous addition of a set of continual elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  $_{\{A \cup\}}^x St$  .
2. By analogy, for simultaneous multiplication:  $_{\{A \cap\}}^x St$
3. Similarly for simultaneous execution of various operations:  $_{\{A q\}}^x St$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  $_{\{F A\}}^x St$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .

5. The arithmetic out of itself for continual capacities that runs out of itself will be similar: addition -  $t_{S_1 f A+}$  , (or  $t_{S_4 f A+x}$  ), multiplication  $t_{S_1 f A*}$  ,  $(t_{S_4 f A*x})$ .
6. Similarly with different operations  $t_{S_1 f Aq}$  , (or  $t_{S_4 f Aq^x}$ ) and with different operators:  $t_{S_1 f FA}$  , (or  $t_{S_4 f FA^x}$ ).
7. Let's denote out of itself through coself.  ${}^B_A St$  — is the result of the holding operator expelling action, the continual dynamical hierarchical out set of -1-type  ${}^B_A St$ - a kind of product of the sets A and B. Let's call it PN-product. For sets A, B we have

$${}^B_A St = \left\{ \begin{array}{l} D + {}^{\{ \}}_{A-A \cap B} St \\ (B - A \cap B) - (A - A \cap B) \end{array} \right\},$$

where D is coself-set for  $(A \cap B)$ . The measure:

$$\mu({}^B_A St) = \frac{(\mu^{os}(A \cap B) + \mu^{-s}({}^{\{ \}}_{A-A \cap B} St))}{\mu(B) - \mu(A)}.$$

There is the same for structures if it's considered as sets.

Consider the dynamical continual tS – elements.

Definition A.1.24. The displacement of set  $A(t)$  with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from  $B(t)$  we shall call dynamical continual tS– element. We shall denote  ${}^{B(t)}_{A(t)} St(t)$  .

Definition A.1.25.  ${}^{B(t)}_{A(t)} St(t)$  —dynamical out set time dependent  $A(t)$  at  $B(t)$ .

Definition A.1.26. An ordered continual dynamical out-set time-dependent  $\vec{A}(t)$  at  $B(t)$  is called an ordered dynamical tS – element.

It's allowed to add continual dynamical tS – elements:

$$\frac{{}^{B(t)_1}_{A(t)_1} St(t)}{{}^{B(t)_2}_{A(t)_2} St(t)} = \frac{{}^{B(t)_1 \cup B(t)_2}_{A(t)_1} St(t)}{{}^{B(t)_1}_{A(t)_1} St(t)} \quad (*_{A.1.7})$$

$$\frac{{}^{B(t)_1}_{A(t)_1} St(t)}{{}^{B(t)_1}_{A(t)_1} St(t)} + \frac{{}^{B(t)_2}_{A(t)_2} St(t)}{{}^{B(t)_2}_{A(t)_2} St(t)} = \frac{{}^{B(t)_1}_{A(t)_1 \cup A(t)_2} St(t)}{{}^{B(t)_1}_{A(t)_1 \cup A(t)_2} St(t)} \quad (*_{A.1.8})$$

where some or any elements may be ordered elements.

Dynamical continual tS – elements can be elements of a group by addition  $(*_{A.1.8})$ ,  $(*_{A.1.7})$  and forming a ring by these operations.

Consider the dynamical continual capacity that runs out of itself.

Definition A.1.27. Dynamical continual capacity  $A(q)$  that runs out of itself at time q of the first type is  ${}^{A(q)}_{A(q)} St(q)$ . Denote  $t(q)_{S_1 f A(q)}$  .

Definition A.1.28. The ordered dynamical continual capacity  $\vec{A}(q)$  that runs out of itself at time q of the first type is  $\frac{\vec{A}(q)}{\vec{A}(q)} St(q)$ . Denote  $t(q)_{S_1 f \vec{A}(q)}$  , where

some or any elements of dynamical out set  $\vec{A}(q)$  time-dependent maybe by ordered dynamical continual elements.

Definition A.1.29. The dynamic continual capacity that runs out of itself of the second type is  $t(q)_{S_2 f A(q)}$ , capacity that contains elements from which it can be degenerated.

An example of dynamical continual capacity that runs out of itself of the first type is a continual dynamical out-set time-dependent that runs out of itself.

Definition A.1.30. The dynamical continual capacity  $A(q)$  that runs out of itself of the third type is called dynamical continual capacity that runs out of itself from one point  $x(q)$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  maybe by ordered dynamical continual elements. Let us denote  $t(q)_{S_3 f A^{x(q)}(q)}$ .

Definition A.1.31. The partial dynamical continual capacity  $A(q)$  that runs out of itself of the fourth type is called dynamical continual capacity, that runs out of itself from one point  $x(q)$  f at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements.. Let us denote  $t(q)_{S_4 f A^{x(q)}(q)}$ .

Consider the connection of dynamical continual tS – elements with dynamical continual capacity that runs out of itself [1]. Consider a fourth type of dynamical continual partial capacity that runs out of itself. For example,  $t(q)_{S_4 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamical continual capacity that runs out of itself  $t(q)_{S_4 f A^{x(q)}(q)}$  with  $m$  elements from  $A(q)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S_4 f A^{x(q)}(q)}$ . The dynamical continual capacity that runs out of itself of the fourth type, the fourth type can be formed for any other structure, not necessarily tS, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S_4 f A^{x(q)}(q)}$  can be introduced.

Consider the dynamical continual mathematics tS.

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\begin{matrix} x(t) \\ \{A(t) \cup \} \end{matrix} St(t)$ .
2. By analogy, for simultaneous multiplication:  $\begin{matrix} x(t) \\ \{A(t) \cap \} \end{matrix} St(t)$ .
3. Similarly, for simultaneous execution of various operations:

$$\begin{matrix} x(t) \\ \{A(t) q(t) \} \end{matrix} St(t), \text{ where } \{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t)).$$

$q_i(t)$ -an operation,  $i = 1, \dots, n$ .

4. Similarly, for the simultaneous execution of various operators:

$$\overset{x(t)}{\{F(t)(t)\}} St(t), \text{ where } \{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t)).$$

$F_i(t)$  is an operator,  $i = 1, \dots, n$ .

5. The dynamical continual arithmetic out of itself for dynamical continual capacity that runs out of itself at time  $q$  will be similar: dynamical addition  $- t(q)_{S_1 f A(q) \cup} , ( t(q)_{S_4 f A^{x(q)}(q) \cup} )$ , dynamical multiplication  $t(q)_{S_1 f A(q) \cap} , ( \text{or } t(q)_{S_4 f A^{x(q)}(q) \cap} )$

6. Similarly with different operations at time  $q$ :

$$t(q)_{S_1 f A(q) R(q)} , ( t(q)_{S_4 f A^{x(q)}(q) R(q)} ), \text{ and with different operators: } t(q)_{S_1 f F(q) A(q) +} , ( t(q)_{S_4 f F(q) A^{x(q)}(q) +} ) S_1 f(t)^{\{F(t)A(t)\}} , ( S_3 f(t)^{\{F(t)A(t)\}}_x ).$$

7.  $\overset{B(q)}{A(q)} St(q) -$  is the result of the operator expelling action at time  $q$ . For sets  $A(t)$ ,  $B(t)$  we have

8.  $\overset{B(q)}{A(q)} St(q) -$  is the result of the expelling operator action at time  $q$  the continual dynamical hierarchical out set time-dependent of -1- type  $\overset{B(q)}{A(q)} St(q) -$  a kind of product of the sets  $A(q)$  and  $B(q)$  with continual elements. Let's call it PN-product. For sets  $A(q)$ ,  $B(q)$  we have

$$\overset{B(q)}{A(q)} St(q) = \left\{ \begin{array}{l} t(q)_{S_1 f (A(q) \cap B(q))} + \overset{\{ \}}{A(q) - A(q) \cap B(q)} St(q) \\ (B(q) - A(q) \cap B(q)) - (A(q) - A(q) \cap B(q)) \end{array} \right\}$$

The measure:  $\mu_{A(q)}^{\overset{B(q)}{A(q)}} St(q) =$

$$(\mu^{os} \left( t(q)_{S_1 f (A(q) \cap B(q))} \right) + \mu^{-s} \left( \overset{\{ \}}{A(q) - A(q) \cap B(q)} St(q) \right)). \text{ There is the } \mu(B(q)) - \mu(A(q)) \text{ same for structures if it's considered as sets.}$$

9. Similarly, for dynamical continual tS-derivatives, dynamical continual tS-integrals, dynamical continual tS-lim, dynamical osel- derivatives, dynamical osel-integrals

10. Let's denote dynamical continual out of itself through dcoself, dcoself-(dcoself-Q) through dcoself<sup>2</sup>-Q, dctfS(n, Q)= dcoself-(dcoself-(... (dcoself-Q))) = dcoself<sup>n</sup>-Q for n-multiple dcoself. Consider the dynamical continual tS - elements with target weights.

Definition A.1.32. The displacement of set  $A(t)$  with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  with target weights  $g(t)$  from  $B(t)$  we shall call dynamical continual tS- element with target weights. We shall denote  $\overset{B(t)g(t)}{A(t)g(t)} St(t)$

Definition A.1.33.  $\overset{B(t)g(t)}{A(t)g(t)} St(t)$  —dynamical out set time dependent  $A(t)$  with target weights  $g(t)$  at  $B(t)$ .

Definition A.1.34. An ordered continual dynamical out set time-dependent  $\vec{A}(t)$  with target weights  $g(t)$  at  $B(t)$  is called an ordered dynamical tS – element.

It's allowed to add dynamical continual tS – elements with target weights  $g(t)$ :

$$\overset{B(t)_1g(t)}{A(t)_1g(t)} St(t) + \overset{B(t)_2g(t)}{A(t)_1g(t)} St(t) = \overset{B(t)_1g(t) \cup B(t)_2g(t)}{(A(t)_1)g(t)} St(t) \quad (*_{A.1.9})$$

$$\overset{B(t)_1g(t)}{A(t)_1g(t)} St(t) + \overset{B(t)_1g(t)}{A(t)_2g(t)} St(t) = \overset{B(t)_1g(t)g(t)}{(A(t)_1 \cup A(t)_2)g(t)} St(t) \quad (*_{A.1.10})$$

where some or any elements may be ordered elements.

Dynamical continual tS – elements with target weights can be elements of a group by addition(\*<sub>A.1.9</sub>), (\*<sub>A.1.10</sub>) and forming a ring by these operations.

Consider the dynamic continual capacity that runs out of itself with target weights  $g(t)$ .

Definition A.35. Dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  at time  $q$  of the first type is  $\overset{A(t)g(t)}{A(t)g(t)} St(t)$ . Denote  $t(q)_{S_1fA(q)g(t)}$  .

Definition A.1.36. The ordered dynamic continual capacity  $\vec{A}(q)$  that runs out of itself with target weights  $g(t)$  at time  $q$  of the first type is  $\vec{\overset{A(q)g(t)}{A(q)g(t)}} St(t)$  . Denote  $t(q)_{S_1f\vec{A}(q)g(t)}$  , where some or any elements of dynamical out set  $\vec{A}(q)$  time dependent may be by ordered dynamical continual elements.

Definition A.1.37. The dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the second type is  $t(q)_{S_2fA(q)g(t)}$  , capacity with target weights  $g(t)$  that contains elements from which it can be degenerated.

An example of dynamical continual capacity with target weights  $g(t)$  that runs out of itself of the first type is a continual dynamical out set time-dependent that runs out of itself with target weights  $g(t)$ .

Definition A.1.38. The dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the third type is called dynamical continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x(q)$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent with target weights  $g(t)$ ,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S_3fA^{x(q)}(q)g(t)}$  .

Definition A.1.39. The partial dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the fourth type is called the dynamical

continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x(q)$  at time  $q$  in part or contains elements from which can be degenerated partially, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S_4 f A(q) g(t)}$ .

Consider the connection of dynamical continual tS – elements with target weights with dynamical continual capacity that runs out of itself with target weights [1].

Consider a fourth type of dynamical continual partial capacity that runs out of itself with target weights  $g(t)$ . For example,  $t(q)_{S_4 f A^{x(q)}(q) g(t)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamic continual capacity that runs out of itself with target weights  $g(t)$ -  $t(q)_{S_4 f A^{x(q)}(q) g(t)}$ , with  $m$  elements from  $A(q)$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S_4 f A^{x(q)}(q) g(t)}$ . Dynamical continual capacity that runs out of itself with target weights  $g(t)$  of the fourth type can be formed for any other structure, not necessarily tS, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S_4 f A^{x(q)}(q) g(t)}$  can be introduced.

Consider the dynamical continual mathematics tS with target weights.

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent with target weights  $g(t)$   $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\overset{x(t)}{\{A(t)g(t) \cup\}} St(t)$ .
2. By analogy, for simultaneous multiplication:  $\overset{x(t)}{\{A(t)g(t) \cap\}} St(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\overset{x(t)}{\{A(t)q(t)\}g(t)} St(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  
 $\overset{x(t)}{\{F(t)A(t)g(t) \}} St(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  
 $F_i(t)$  is an operator,  $i = 1, \dots, n$ .

5. The dynamical continual arithmetic out of itself with target weights  $g(t)$  for dynamical continual capacity that runs out of itself with target weights  $g(t)$  at time  $q$  will be similar: dynamical addition -  $t(q)_{S_1 f A(q) g(t) \cup}$ ,  $(t(q)_{S_4 f A^{x(q)}(q) g(t) \cup})$ , dynamical multiplication  $t(q)_{S_1 f A(q) g(t) \cap}$ , (or  $t(q)_{S_4 f A^{x(q)}(q) g(t) \cap}$ )

6. Similarly with different operations at time  $q$ :  $t(q)_{S_1 f A(q)g(t) R(q)}$ ,  $(t(q)_{S_4 f A^{x(q)}(q)g(t) R(q)})$ , and with different operators:  $t(q)_{S_1 f F(q)A(q)g(t)}$ ,  $(t(q)_{S_4 f F(q)A^{x(q)}(q)g(t)})$
7.  $\frac{B(q)g(t)}{A(q)g(t)} St(q)$  – is the result of the expelling operator action at time  $q$  the continual dynamical hierarchical out set time-dependent of -1- type  $\frac{B(q)g(t)}{A(q)g(t)} St(q)$ - a kind of product of the sets  $A(q)$  and  $B(q)$  with continual elements. Let's call it PN-product. For sets  $A(q)$ ,  $B(q)$  we have

$$\frac{B(q)g(t)}{A(q)g(t)} St(q) = \left\{ \begin{array}{l} t(q)_{S_1 f (A(q) \cap B(q))g(t)} + \left\{ \frac{B(q)g(t)}{A(q)g(t)} St(q) \right\} \\ (B(q) - A(q) \cap B(q))g(t) - (A(q) - A(q) \cap B(q))g(t) \end{array} \right\}$$

$$\begin{aligned} \text{The measure: } \mu_{A(q)}^{B(q)} St(q) &= \\ \left( \mu^{os} \left( t(q)_{S_1 f (A(q) \cap B(q))g(t)} \right) g(t) + \mu^{-s} \left( \left\{ \frac{B(q)g(t)}{A(q)g(t)} St(q) \right\} \right) \right) & \\ \mu(B(q)g(t)) - \mu(A(q)g(t)) & \end{aligned}$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical continual tS-derivatives with target weights  $g(t)$ , dynamical continual tS-integrals with target weights  $g(t)$ , dynamical continual tS-lim with target weights  $g(t)$ , dynamical oself-derivatives with target weights  $g(t)$ , dynamical oself-integrals with target weights  $g(t)$ .
9. Let's denote dynamical continual out of itself with target weights  $g(t)$  through  $dcoself_{tw}-(dcoself_{tw}-Q)$  through  $dcoself_{tw}^2-Q$ ,  $dctfS_{tw}(n,Q) = dcoself_{tw}-(dcoself_{tw}-(\dots(dcoself_{tw} f-Q))) = dcoself_{tw}^n-Q$  for  $n$ -multiple  $dcoself_{tw}$ .

### Supplement

We consider tS-logic [1]: 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 1 corresponds to the logical value "yes". Then for joint statements  $\frac{B}{A}St$ :

$$f\left(\frac{B}{A}St\right) = \left( \frac{f^{os}(A \cap B) + f^{-s}\left(\left\{ \frac{B}{A-A \cap B}St \right\}\right)}{f(B) - f(A)} \right).$$

Definition A.1.40. tS-probability of events  $A$ ,  $B$  is  $p\left(\frac{B}{A}St\right)$ , denote  $\frac{B}{A}Sp$ .

In particular,  $\frac{B}{A}Sp$  for joint events  $A$ ,  $B$ :  $\frac{B}{A}Sp = p\left(\frac{B}{A}St\right) =$

$$\left( \frac{p^{os}(A \cap B) + p^{-s}\left(\left\{ \frac{B}{A-A \cap B}St \right\}\right)}{p(B) - p(A)} \right).$$

### A.2 tS<sup>1</sup> – elements

We shall consider  ${}^B S^1 t$  structure: A is expelled from B. A, B-are any, in particular, A may be action, action in the right direction and with the right goal (action with the so-called target weights [1]).

$${}_{A_1}^{B_1} S^1 t * {}_{A_2}^{B_1} S^1 t = {}_{A_1 \cap A_2}^{B_1} S^1 t \quad (*_{A.2.1})$$

$${}_{A_1}^{B_1} S^1 t * {}_{A_1}^{B_2} S^1 t = {}_{A_1}^{B_1 \cap B_2} S^1 t \quad (*_{A.2.2})$$

where some or any elements may be by ordered elements.

Definition A.2.1. The displacements  $A_1, A_2$  from  $B_1, B_2$ :  $(*_{A.2.1}), (*_{A.2.2})$ , we shall call  $tS^1$ -elements. We shall denote  ${}_{A_1}^{B_1} S^1 t * {}_{A_2}^{B_2} S^1 t$ .

In particular,  $A_1, A_2, B_1$ , and  $B_2$  may be by sets.

Definition A.2.2.  ${}_A^B S^1 t$  — dynamical out set A from B.

Definition A.2.3. An ordered dynamical out set  $\vec{A}$  at B is called an ordered  $tS^1$  - element.

$tS^1$  - elements can be elements of a group both by multiplication  $(*_{A.2.2})$  and by  $(*_{A.2.1})$ .

Consider the capacity  $tS^1$  that runs out of itself.

Definition A.2.4. The capacity A that runs out of itself of the first type is  ${}_A^A S^1 t$ . Denote  $t_{S^1 f A}$ .

Definition A.2.5. The ordered capacity A that runs out of itself of the first type is  ${}_A^A S^1 t$ . Denote  $t_{S^1 f A}$ , where some or any elements of dynamical out set A may be by ordered elements.

Definition A.2.6. The capacity that runs out of itself of the second type is  $t_{S^1_2 f A}$ , capacity that contains elements from which it can be degenerated.

An example of capacity that runs out of itself of the first type is a set that runs out of itself.

Definition A.2.7. The capacity A that runs out of itself of the third type is called capacity that runs out of itself from one point x or contains elements from which it can be degenerated simultaneously, or both. Let us denote  $t_{S^1_3 f A^x}$ .

Definition A.2.8. Partial capacity A that runs out of itself of the fourth type, is called capacity that runs out of itself from one point x in part or contains elements from which it can be degenerated partially, or both simultaneously. Let us denote  $t_{S^1_4 f A^x}$ .

Consider the connection of  $tS^1$  - elements with capacity that runs out of itself.

For example,  ${}_{g\{R\}}^{\{R\}} S^1 t$  is the capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated.

Consider a fourth type of capacity that runs out of itself. For example,  $t_{S^1_4 f A^x}$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $n$  – elements. It's possible to consider the capacity that runs out of itself  $t_{S^1_4 f A^x}$ , with  $m$  elements and from  $A$  at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  elements are located in the structure  $t_{S^1_4 f A^x}$ . The capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS^1$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t_{S^1_4 f A^x}$ , can be introduced.

Consider first the arithmetic  $tS^1$ :

1. Simultaneous addition of a set of elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  ${}^x_{\{A+\}} S^1 t$ .
2. By analogy, for simultaneous multiplication:  ${}^x_{\{A*\}} S^1 t$
3. Similarly for the simultaneous execution of various operations:  ${}^x_{\{Aq\}} S^1 t$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  ${}^x_{\{FA\}} S^1 t$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .

5. The arithmetic out of itself for capacities that runs out of itself will be similar: addition -  $t_{S^1_1 f A+}$ , (or  $t_{S^1_4 f A+x}$ ), multiplication  $t_{S^1_1 f A*}$ ,  $(t_{S^1_4 f A*^x})$ .

6. Similarly with different operations  $t_{S^1_1 f Aq}$ , (or  $t_{S^1_4 f Aq^x}$ ) and with different operators:  $t_{S^1_1 f FA}$ , (or  $t_{S^1_4 Ff A^x}$ ).

7.  $tS^1$ -derivative of  $f(x_1, x_2, \dots, x_n)$  is  ${}^{f(x_1, x_2, \dots, x_n)}_{\left\{ \frac{\partial}{\partial x_{1_i}}, \frac{\partial}{\partial x_{2_i}}, \dots, \frac{\partial}{\partial x_{k_i}} \right\}} S^1 t$ , where

$x = (x_{1_i}, x_{2_i}, \dots, x_{k_i})$  - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS^1$ -  $\frac{\partial^k f(x)}{\partial x_{1_i} \partial x_{2_i} \dots \partial x_{k_i}}$ .  $tS^1$ -integral off  $(x_1, x_2, \dots, x_n)$  is

${}^{f(x_1, x_2, \dots, x_n)}_{\left\{ \int () dx_{1_i}, \int () dx_{2_i}, \dots, \int () dx_{k_i} \right\}} S^1 t$ , where  $(x_{1_i}, x_{2_i}, \dots, x_{k_i})$  - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS^1$ -  $\int \dots \int f(x) dx_{1_i} dx_{2_i} \dots dx_{k_i}$ .

$tS^1$ -lim of  $f(x_1, x_2, \dots, x_n)$  is  ${}^{f(x_1, x_2, \dots, x_n)}_{\left\{ \lim_{x_{1_i} \rightarrow a_{1_i}}, \lim_{x_{2_i} \rightarrow a_{2_i}}, \dots, \lim_{x_{k_i} \rightarrow a_{k_i}} \right\}} S^1 t$ .

Let's designate  $tS^1$ - $\lim_{\substack{x_{1_i} \rightarrow a_{1_i} \\ \dots \\ x_{k_i} \rightarrow a_{k_i}}} f(x_1, x_2, \dots, x_n)$ . Out of itself - $\lim_{x \rightarrow a}$

$$= \lim_{x \rightarrow a} S^1 t.$$

8. In the case of an out of itself - derivate, it's obtained inclusions of multiple integrals. There is the same for self-integrals: there are obtained inclusions of multiple derivatives, because  ${}^B_A S^1 t = (S^1 t^A_B)^{-1}$ .
9. Let's denote out of itself through  $os^1 elf$ ,  $os^1 elf$ -( $os^1 elf$  -Q) through  $os^1 elf$   ${}^2$ -Q,  $tS^1(n, Q) = os^1 elf$ -( $os^1 elf$  f-( $\dots$  ( $os^1 elf$  -Q))) =  $os^1 elf^m$ -Q for  $n$ -multiple  $os^1 elf$ .

Consider the operator  $os^1elf$  for  $tS^1$ :

Definition A.2.9. The operator  $os^1elf$  for  $tS^1$  is the operator that transforms  ${}^x_A S^1 t$  to  $t_{S^1_3 f A^x}$  .

Example. The operator that runs the dynamical set out of itself.

Remark. It may be considered, for example,  $os^1elf$  -any object,  $os^1elf$  -action, etc.

The ideology of  $tS^1$  and  $t_{S^1_4 f}$  can be used for programming. Here are some of the  $tS^1$  programming operators.

1. Simultaneous expelling assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  from the variables  $A = (A_1, A_2, \dots, A_n)$ . It's implemented through  ${}^x_{\{\{A\}:\{p\}\}} S^1 t$  .
2. Simultaneous expelling checks the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It's implemented through  ${}^x_{IF\{\{B\}\{f\}\} \text{ then } Q} S^1 t$  where Q can be any.
3. Similarly for loop operators and others.

$t_{S^1_4 f}$ – software operators will differ only just because aggregates A,  $\{p\}$ ,  $\{B\}$ ,  $\{f\}$  will be formed from corresponding  $tS^1$  program operators in form (1.1) for more complex operators in form (1.2).

Using elements of the mathematics  $tS^1$ , we introduce the concepts of  $tS^1$  - force, and  $tS^1$  - energy. For example,  ${}^f_{s^1 t} E = {}^x_{\{E_1 f, E_2\}} S^1 t$  it would mean the instantaneous replacement f of energy  $E_1$  by  $E_2$  at time  $t_0$ , that runs out of itself from point x. The question arises about the oself-energy of the object.  ${}^E_E S^1 t$  - oself-energy of E. For example, “white hole” in physics is such simple oself-capacity. The concept of “white hole” and “black hole” were formulated by the physicists proceeding from the physics subjects –usual energies level. Mathematics allows us to find deeply and to formulate the concepts of singular points in the Universe proceeding from levels of more thin energies.

Consider the dynamical  $tS^1$  – elements.

Definition A.2.10. The displacement of set  $A(t)$  with elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from  $B(t)$  we shall call dynamical  $tS^1$ – element. We shall denote  ${}^{B(t)}_{A(t)} S^1 t(t)$  .

Definition A.2.11.  ${}^{B(t)}_{A(t)} S^1 t(t)$  —dynamical out set time dependent A(t) at B(t).

Definition A.2.12. An ordered dynamical out set time-dependent  $\vec{A}(t)$  at B(t) is called an ordered dynamical  $tS^1$ – element.

It's allowed to multiply dynamical  $tS^1$ – elements:

$$\begin{matrix} B(t) \\ A(t) \end{matrix}_1 S^1 t(t) * \begin{matrix} B(t) \\ A(t) \end{matrix}_2 S^1 t(t) = \begin{matrix} B(t) \\ A(t) \end{matrix}_{1 \cap A(t)_2} S^1 t(t) \quad (*_{A.2.3})$$

$$\begin{matrix} B(t) \\ A(t) \end{matrix}_1 S^1 t(t) * \begin{matrix} B(t) \\ A(t) \end{matrix}_2 S^1 t(t) = \begin{matrix} B(t) \cap B(t) \\ A(t) \end{matrix}_2 S^1 t(t) \quad (*_{A.2.4})$$

where some or any elements may be ordered elements.

Dynamical  $tS^1$  – elements can be group elements by multiplication  $(*_{A.2.3})$ ,  $(*_{A.2.4})$ .

Consider the dynamical capacity  $tS^1$  that runs out of itself.

Definition A.2.13. Dynamical capacity  $A(q)$  that runs out of itself at time  $q$  of the first type is  $\begin{matrix} A(q) \\ A(q) \end{matrix} S^1 t(q)$ . Denote  $t(q)_{S^1 f A(q)}$ .

Definition A.2.14. The ordered dynamical capacity  $\vec{A}(t)$  that runs out of itself at time  $q$  of the first type is  $\begin{matrix} \vec{A}(t) \\ \vec{A}(t) \end{matrix} S^1 t(q)$ . Denote  $t(q)_{S^1 f \vec{A}(t)}$ , where some or any elements of dynamical out set  $A(q)$  time-dependent may be by ordered dynamical elements.

Definition A.2.15. The dynamical capacity  $A(q)$  that runs out of itself of the second type is  $t(q)_{S^1 f A(q)}$ , capacity that contains elements from which it can be degenerated.

An example of dynamical capacity that runs out of itself of the first type is a set time-dependent that runs out of itself.

Definition A.2.16. Dynamical capacity  $A(q)$  that runs out of itself of the third type is called dynamical capacity which runs out of itself from one point  $x(q)$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S^1 f A^{x(q)}(q)}$ .

Definition A.2.17. Partial dynamical capacity  $A(q)$  that runs out of itself of the fourth type is called dynamical capacity which runs out of itself from one point  $x(q)$  at time  $q$  in part or contains elements from which can be degenerated partially, or both simultaneously, where some or any elements of dynamical out set time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S^1 f A^{x(q)}(q)}$ .

Consider the connection of dynamical  $tS^1$  – elements with capacity that run out of itself. Consider a fourth type of dynamical partial capacity that runs out of itself. For example,  $t(q)_{S^1 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - elements from one point  $x(q)$ , it is possible to consider the dynamical capacity that runs out of itself  $t(q)_{S^1 f A^{x(q)}(q)}$  with  $m$  elements from  $A(q)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S^1 f A^{x(q)}(q)}$ . The dynamical capacity that runs out of itself of the fourth type can be formed for any other structure,

not necessarily  $tS^1$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S_4^1 f A^{x(q)}(q)}$  can be introduced. Consider the dynamical mathematics  $tS^1$ :

1. The process of simultaneous addition of a dynamical out set of elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\frac{x(t)}{\{A(t)_+\}} S^1 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\frac{x(t)}{\{A(t)_*\}} S^1 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\frac{x(t)}{\{A(t)q(t)\}} S^1 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\frac{x(t)}{\{F(t)(t)\}} S^1 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical arithmetic out of itself for dynamical capacity that runs out of itself at time  $q$  will be similar: dynamical addition -  $t(q)_{S_1^1 f A(q)_+}$ ,  $(t(q)_{S_4^1 f A^{x(q)}(q)_+})$ , dynamical multiplication  $t(q)_{S_1^1 f A(q)_*}$ , (or  $t(q)_{S_4^1 f A^{x(q)}(q)_*}$ ).
6. Similarly with different operations at time  $q$ :  $t(q)_{S_1^1 f A(q)R(q)}$ ,  $(t(q)_{S_4^1 f A^{x(q)}(q)R(q)})$ , and with different operators:  $t(q)_{S_1^1 f F(q)A(q)}$ ,  $(t(q)_{S_4^1 f F(q)A^{x(q)}(q)})$ .
7. Similarly for dynamical  $tS^1$ -derivatives, dynamical  $tS^1$ -integrals, dynamical  $tS^1$ -lim, dynamical  $os^1$ elf- derivatives, dynamical  $os^1$ elf- integrals
8. Let's denote dynamical out of itself through  $dos^1$ elf,  $dos^1$ elf-( $dos^1$ elf-Q) through  $dos^1$ elf<sup>2</sup>-Q,  $dtfS^1(n, Q) = dos^1$ elf-( $dos^1$ elf-( $\dots$ ( $dos^1$ elf-Q))) =  $dos^1$ elf<sup>n</sup>-Q for n-multiple  $dos^1$ elf.

The ideology of  $tS^1$  and  $t(q)_{S_4^1 f}$  can be used for programming. Here are some of the  $tS^1$ - programming operators.

1. The process of simultaneous expelling assignment of the expressions  $\{p(t)\} = (p_1(t), p_2(t), \dots, p_n(t))$  from the variables  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  is implemented through  $\frac{x(t)}{\{\{A(t)\}:\{p(t)\}\}} S^1 t(t)$ .
2. The process of simultaneous expelling checks the set of conditions  $\{f(t)\} = (f_1(t), f_2(t), \dots, f_n(t))$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $\frac{x(t)}{IF\{\{B(t)\}\{f(t)\}\}} S^1 t(t)$ , where  $Q(t)$  can be any.
3. Similarly for loop operators and others.

$t(q)_{S^1_A f}$  - software operators will differ only just because aggregates  $A(t)$ ,  $\{p(t)\}$ ,  $\{B(t)\}$ ,  $\{f(t)\}$  will be formed from corresponding processes  $tS^1(t)$  for above mentioned programming operators through form (1.1) or form (1.2) for more complex operators.

Using elements of the dynamical mathematics  $tS^1$ , we introduce the concepts of dynamical  $tS^1$ - force, dynamical  $tS^1$ - energy. For example,  $\frac{f(t)}{s^1 t} E(t) = \frac{x(t)}{\{E_1(t)f(t), E(t)_2\}} S^1 t(t)$  it would mean the instantaneous replacement  $f(t)$  of energy  $E_1(t)$  by  $E_2(t)$  at time  $t$ , that runs out of itself from point  $x(t)$ . The question arises about the dos<sup>1</sup>elf-energy of the object.  $\frac{E(t)}{E(t)} S^1 t(t)$  – dos<sup>1</sup>elf -energy of  $E(t)$ . For example, “white hole” in physics is such simple dos<sup>1</sup>elf -capacity.

Consider  $tS^1$ – elements for continual sets.

Definition A.2.18. The displacement of set  $A$  with continual elements  $(A_1, \dots, A_n)$  from  $B$  we shall call continual  $tS^1$  – element, where some or any elements may be by continual elements. We shall denote  ${}^B_A S^1 t$ .

Definition A.2.19. The displacement of set  $A$  with continual elements, where some or any elements may be by ordered continual elements, is called an ordered continual  $tS^1$  – element.

It's allowed to multiply continual  $tS^1$  – elements:

$$\frac{B_1}{A_1} S^1 t * \frac{B_2}{A_2} S^1 t = \frac{B_1}{A_1 \cap A_2} S^1 t \quad (*_{A.2.5})$$

$$\frac{B_1}{A_1} S^1 t * \frac{B_2}{A_1} S^1 t = \frac{B_1 \cap B_2}{A_1} S^1 t \quad (*_{A.2.6})$$

where some or any elements may be ordered elements.

Continual  $tS^1$  – elements can be elements of a group by multiplication  $(*_{A.2.6})$  and addition  $(*_{A.2.5})$ .

Definition A.2.20. The continual os<sup>1</sup>elf - capacity  $A$  of the first type is the capacity that runs out of itself as an element:  ${}^A_A S^1 t$ , where some or any elements may be by continual elements. Denote  $t_{S^1_A f A}$ .

Definition A.2.21 The ordered continual os<sup>1</sup>elf- capacity  $\vec{A}$  of the first type is the ordered capacity that runs out of itself as an element, where some or any elements of continual dynamical out set  $\vec{A}$  may be by ordered elements. Denote  $t_{S^1_A f \vec{A}}$ .

Consider the continual capacity  $tS^1$  that runs out of itself.

Definition A.2.22. The continual capacity  $A$  that runs out of itself of the second type is  $t_{S^1_A f A}$ , capacity that contains elements from which it can be degenerated.

An example of continual capacity that runs out of itself of the first type is a continual set that runs out of itself.

Definition A.2.23. The continual capacity A that runs out of itself of the third type is called continual capacity that runs out of itself from one point x or contains elements from which it can degenerate simultaneously. Let us denote  $t_{S^1_3 f A^x}$ .

Definition A.2.24. The partial continual capacity A that runs out of itself of the fourth type is called continual capacity which runs out of itself from one point x in part or contains elements from which it can be degenerated partially or both simultaneously. Let us denote  $t_{S^1_4 f A^x}$ .

Consider the connection of continual  $tS^1$  – elements with continual capacity that runs out of itself. For example,  $^{\{R\}}_{g\{R\}} S^1 t$  is the continual capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated. Consider a fourth type of continual capacity that runs out of itself. For example,  $t_{S^1_4 f A^x}$ , where  $A = (A_1, A_2, \dots, A_n)$  with some or any continual elements. It's possible to consider the continual capacity that runs out of itself  $t_{S^1_4 f A^x}$ , with m elements from A at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $t_{S^1_4 f A^x}$ , capacity that runs out of itself of the third type can be formed for any other structure, not necessarily  $tS^1$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t_{S^1_4 f A^x}$ , can be introduced.

Consider first the arithmetic  $tS^1$ :

1. Simultaneous addition of a set of continual elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  $^x_{\{A \cup\}} S^1 t$ .
2. By analogy, for simultaneous multiplication:  $^x_{\{A \cap\}} S^1 t$
3. Similarly, for simultaneous execution of various operations:  $^x_{\{A q\}} S^1 t$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  $^x_{\{F\}} S^1 t$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic out of itself for continual capacities that runs out of itself will be similar: addition -  $t_{S^1_1 f A^+}$ , (or  $t_{S^1_4 f A^{+x}}$ ), multiplication  $t_{S^1_1 f A^*}$ , ( $t_{S^1_4 f A^{*x}}$ ).
6. Similarly with different operations  $t_{S^2_1 f A q}$ , (or  $t_{S^2_4 f A q^x}$ ) and with different operators:  $t_{S^1_1 f F A}$ , (or  $t_{S^1_4 f F A^x}$ ).

Consider the dynamical continual  $tS^1$  – elements.

Definition A.2.25. The displacement of set  $A(t)$  with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from  $B(t)$  we shall call dynamical continual  $tS^1$ -element. We shall denote  ${}_{A(t)}^{B(t)}S^1t(t)$ .

Definition A.2.26.  ${}_{A(t)}^{B(t)}S^1t(t)$  —the dynamical out set time dependent  $A(t)$  at  $B(t)$ .

Definition A.2.27. An ordered continual dynamical out set time-dependent  $\vec{A}(t)$  at  $B(t)$  is called an ordered dynamical  $tS^1$  – element.

It's allowed to multiply the dynamical continual  $tS^1$ – elements:

$${}_{A(t)_1}^{B(t)_1}S^1t(t) * {}_{A(t)_2}^{B(t)_1}S^1t(t) = {}_{A(t)_1 \cap A(t)_2}^{B(t)_1}S^1t(t) \quad (*_{A.2.7})$$

$${}_{A(t)_1}^{B(t)_1}S^1t(t) * {}_{A(t)_1}^{B(t)_2}S^1t(t) = {}_{A(t)_1}^{B(t)_1 \cap B(t)_2}S^1t(t) \quad (*_{A.2.8})$$

where some or any elements may be ordered elements. Dynamical continual  $tS^1$  – elements can be group elements by multiplication  $(*_{A.2.7}), (*_{A.2.8})$ .

Consider the dynamical continual capacity  $tS^1$  that runs out of itself.

Definition A.2.28. Dynamical continual capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  ${}_{A(q)}^{A(q)}S^1t(q)$ . Denote  $t(q)_{S^1_1 f A(q)}$ .

Definition A.2.29. The ordered dynamical continual capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  ${}_{A(q)}^{A(q)}S^1t(q)$ . Denote  $t(q)_{S^1_1 f A(q)}$ , where some or any elements of the dynamical out set  $A(q)$  depending on time can be ordered dynamical continual elements.

Definition A.2.30. The dynamical continual capacity that runs out of itself  $A(q)$  of the second type is  $t(q)_{S^1_2 f A(q)}$ , capacity that contains elements from which it can degenerate.

An example of dynamical continual capacity that runs out of itself of the first type is a continual dynamical out set time-dependent that runs out of itself.

Definition A.2.31. Dynamical continual capacity  $A(q)$  that runs out of itself of the third type is called dynamical continual capacity that runs out of itself from one point  $x$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^1_3 f A^{x(q)}(q)}$ .

Definition A.2.32. Partial dynamical continual capacity  $A(q)$  that runs out of itself of the fourth type is called dynamical continual capacity that runs out of itself from one point  $x$  at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of continual dynamic out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^1_4 f A^{x(q)}(q)}$ .

Consider the connection of dynamical continual  $tS^1$ - elements with dynamical continual capacity that runs out of itself. Consider a fourth type of dynamical continual partial capacity that runs out of itself. For example,  $t(q)_{S_4^1 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamical continual capacity that runs out of itself  $t(q)_{S_4^1 f A^{x(q)}(q)}$ elf with  $m$  elements from  $A(q)$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S_4^1 f A^{x(q)}(q)}$ . The dynamical continual capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS^1$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S_4^1 f A^{x(q)}(q)}$  can be introduced. Consider the dynamical continual mathematics  $tS^1$ .

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\{A(t) \cup\}^{x(t)} S^1 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\{A(t) \cap\}^{x(t)} S^1 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\{A(t) q(t)\}^{x(t)} S^1 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\{F(t) (t)\}^{x(t)} S^1 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical continual arithmetic out of itself for dynamical continual capacity that runs out of itself at time  $q$  will be similar: dynamical addition -  $t(q)_{S_1^1 f A(q) \cup}$ ,  $(t(q)_{S_4^1 f A^{x(q)}(q) \cup})$ , dynamical multiplication  $t(q)_{S_1^1 f A(q) \cap}$ , (or  $t(q)_{S_4^1 f A^{x(q)}(q) \cap}$ )
6. Similarly with different operations at time  $q$ :  $t(q)_{S_1^1 f A(q) R(q)}$ ,  $(t(q)_{S_4^1 f A^{x(q)}(q) R(q)})$ , and with different operators:  $t(q)_{S_1^1 f F(q) A(q)}$ ,  $(t(q)_{S_4^1 f F(q) A^{x(q)}(q)})$ .
7. Similarly, for dynamical continual  $tS^1$ -derivatives, dynamical continual  $tS^1$ -integrals, dynamical continual  $tS^1$ -lim, dynamical continual  $os^1$ elf- derivatives, dynamical  $os^1$ elf-integrals. Let's denote continual dynamical out of itself through  $dcos^1$ elf, then  $dcos^1$ elf -  $(dcos^1$ elf -  $Q$ ) through  $dcos^1$ elf<sup>2</sup>- $Q$ ,  $dtfS(n, Q) = dcos^1$ elf -  $(dcos^1$ elf -  $(\dots (dcos^1$ elf -  $Q))) = dcos^1$ elf<sup>n</sup>- $Q$  for  $n$ -multiple  $dcos^1$ elf. Consider the dynamic continual  $tS^1$ - elements with target weights.

Definition A.2.33. The displacement of set  $A(t)$  with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  with target weights  $g(t)$  from  $B(t)$  we shall call dynamical

ical continual  $tS^1$ -element with target weights. We shall denote  ${}_{A(t)g(t)}^{B(t)} S^1 t(t)$  .

Definition A.2.34.  ${}_{A(t)g(t)}^{B(t)} S^1 t(t)$  —dynamical out set time dependent  $A(t)$  with target weights  $g(t)$  at  $B(t)$ .

Definition A.2.35. An ordered continual dynamical out set time-dependent  $\vec{A}(t)$  with target weights  $g(t)$  at  $B(t)$  is called an ordered dynamical  $tS^1$ -element.

It's allowed to multiply dynamical continual  $tS^1$ -elements with target weights  $g(t)$ :

$${}_{A(t)_1 g(t)}^{B(t)_1} S^1 t(t) * {}_{A(t)_2 g(t)}^{B(t)_1} S^1 t(t) = {}_{A(t)_1 g(t) \cap A(t)_2 g(t)}^{B(t)_1} S^1 t(t) \quad (*_{A.2.9})$$

$${}_{A(t)_1}^{B(t)_1 g(t)} S^1 t(t) * {}_{A(t)_1}^{B(t)_2 g(t)} S^1 t(t) = {}_{A(t)_1}^{(B(t)_1 \cap B(t)_2) g(t)} S^1 t(t) \quad (*_{A.2.10})$$

where some or any elements may be ordered elements. Dynamical continual  $tS^1$ -elements with target weights can be elements of groups by multiplication  $(*_{A.2.10})$ ,  $(*_{A.2.9})$ . Consider the dynamic continual capacity  $tS^1$  that runs out of itself with target weights  $g(t)$ .

Definition A.2.36. Dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  at time  $q$  of the first type is  ${}_{A(q)g(t)}^{A(q)g(t)} S^1 t(q)$ . Denote  $t(q)_{S^1 f A(q)g(t)}$  .

Definition A.2.37. The ordered dynamical continual capacity  $\vec{A}(q)$  that runs out of itself with target weights  $g(t)$  at time  $q$  of the first type is  ${}_{A\vec{A}(q)g(t)}^{\vec{A}(q)g(t)} S^1 t(q)$ . Denote  $t(q)_{S^1 f \vec{A}(q)g(t)}$  , where some or any elements of dynamical out set  $\vec{A}(q)$  time-dependent maybe by ordered dynamical continual elements.

Definition A.2.38. The dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the second type is  $t(q)_{S^1 f A(q)g(t)}$  , capacity with target weights  $g(t)$  that contains elements from which it can be degenerated.

An example of dynamical continual capacity with target weights  $g(t)$  that runs out of itself of the first type is a continual dynamical out set time-dependent that runs out of itself with target weights  $g(t)$ .

Definition A.2.39. Dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the third type is called dynamical continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x$  at time  $q$  or contains elements from which it can be degenerated simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent with target weights  $g(t)$ ,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^1 f A^x(q)g(t)}$  .

Definition A.2.40. Partial dynamical continual capacity  $A(q)$  that runs out of itself with target weights  $g(t)$  of the fourth type is called the dynamical continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x$  at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  maybe by ordered dynamical continual elements. Let us denote  $t(q)_{S^1_4 f A^{x(q)}(q)g(t)}$  .

Consider the connection of dynamical continual  $tS^1$  – elements with target weights with dynamical continual capacity that runs out of itself with target weights. Consider a fourth type of dynamical continual partial capacity that runs out of itself with target weights  $g(t)$ . For example,  $t(q)_{S^1_4 f A^{x(q)}(q)g(t)}$  , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamic continual capacity that runs out of itself with target weights  $g(t)$ :  $t(q)_{S^1_4 f A^{x(q)}(q)g(t)}$  , with  $m$  elements from  $A(q)$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S^1_4 f A^{x(q)}(q)g(t)}$ . Dynamical continual capacity that runs out of itself with target weights  $g(t)$  of the fourth type can be formed for any other structure, not necessarily  $tS^1$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S^1_4 f A^{x(q)}(q)g(t)}$  can be introduced. Consider the dynamical continual mathematics  $tS^1$  with target weights.

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent with target weights  $g(t)$   $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\frac{x(t)}{\{A(t)g(t) \cup \}} S^1 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\frac{x(t)}{\{A(t)g(t) \cap \}} S^1 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\frac{x(t)}{\{A(t)q(t)\}g(t)} S^1 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\frac{x(t)}{\{F(t)A(t)g(t)\}} S^1 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical continual arithmetic out of itself with target weights  $g(t)$  for dynamical continual capacity that runs out of itself with target weights  $g(t)$  at time  $q$  will be similar: dynamical addition -  $t(q)_{S^1_1 f A(q)g(t) \cup}$  ,  $(t(q)_{S^1_4 f A^{x(q)}(q)g(t) \cup})$ , dynamical multiplication  $t(q)_{S^1_1 f A(q)g(t) \cap}$  , (or  $t(q)_{S^1_4 f A^{x(q)}(q)g(t) \cap}$ )

6. Similarly with different operations at time q:  $t(q)_{S^1_1 f A(q)g(t) R(q)}$ ,  $(t(q)_{S^1_4 f A^x(q)(q)g(t)R(q)})$ , and with different operators:  $t(q)_{S^1_1 f F(q)A(q)g(t)}$ ,  $(t(q)_{S^1_4 f F(q)A^x(q)(q)g(t)})$
7. Similarly for dynamical continual  $tS^1$ -derivatives with target weights  $g(t)$ , dynamical continual  $tS^1$ -integrals with target weights  $g(t)$ , dynamical continual  $tS^1$ -lim with target weights  $g(t)$ , dynamical  $os^1elf$  - derivatives with target weights  $g(t)$ , dynamical  $os^1elf$  -integrals with target weights  $g(t)$ .
8. Let's denote dynamical continual out of itself with target weights  $g(t)$  through  $dcos^1elf_{tw}$ ,  $dcos^1elf_{tw}-(dcos^1elf_{tw}-Q)$  through  $dcos^1elf_{tw}^2-Q$ ,  $dctfS_{tw}(n,Q)=dcos^1elf_{tw}-(dcos^1elf_{tw}-(\dots(dcos^1elf_{tw}-Q)))=dcos^1elf_{tw}^n-Q$  for n-multiple  $dcos^1elf_{tw}$ .

### Supplement

We consider  $tS^1$ -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 1 corresponds to the logical value "yes". Then for joint statements  ${}_A^B S^1 t$ :

$$f({}_A^B S^1 t) = \frac{(f^{os^1}(A \cap B)) + p^{-s^1} \left( \frac{\{ \}}{A-A \cap B} S^1 t \right)}{f(B) - f(A)}.$$

Definition A.2.41.  $tS^1$ -probability of events  $A, B$  is  $p({}_A^B S^1 t)$ , denote  ${}_A^B S^1 p$ .

In particular,  ${}_A^B S^1 p$  for joint events  $A, B$ :  ${}_A^B S^1 p = p({}_A^B S^1 t) = \frac{(p^{os^1}(A \cap B) + p^{-s^1} \left( \frac{\{ \}}{A-A \cap B} S^1 t \right))}{p(B) - p(A)}.$

### A.3 $tS^2$ – elements

We shall consider  ${}_A^B S^2 t$  structure:  $A$  is expelled from  $B$ .  $A, B$ -are any, in particular,  $A$  may be action, action in the right direction and with the right goal (action with the so-called target weights [1]).

Definition A.3.1. The displacement of set  $A$  with elements  $(A_1, A_2, \dots, A_n)$  from  $B$  we shall call  $tS^2$ -element. We shall denote  ${}_A^B S^2 t$ .

Definition A.3.2.  ${}_A^B S^2 t$ — dynamical out set  $A$  from  $B$ .

Definition A.3.3. An ordered dynamical out set  $\vec{A}$  at  $B$  is called an ordered  $tS^2$  – element. It's allowed to add  $tS^2$  – elements:

$${}_A^{B_1} S^2 t + {}_A^{B_2} S^2 t = {}_A^{B_1 \cup B_2} S^2 t \quad (*_{A.3.1})$$

where some or any elements may be by ordered elements. It's allowed to multiply  $tS^2$  – elements:

$${}_A^{B_1} S^2 t * {}_A^{B_2} S^2 t = {}_A^{B_1 \cap B_2} S^2 t \quad (*_{A.3.2})$$

where some or any elements may be ordered elements.

$tS^2$  – elements can be elements of a group both by multiplication ( $*_{A.3.2}$ ) and by addition ( $*_{A.3.1}$ ) and form a ring by these operations. Consider the capacity  $tS^2$  that runs out of itself.

Definition A.3.4. The capacity that runs out of itself A of the first type is  ${}_A^A S^2 t$ . Denote  $t_{S^2_1 f A}$ .

Definition A.3.5. The ordered capacity that runs out of itself A of the first type is  ${}_A^A S^2 t$ . Denote  $t_{S^2_1 f A}$ , where some or any elements of dynamical out set A may be by ordered elements.

Definition A.3.6. The capacity that runs out of itself A of the second type is  $t_{S^2_2 f A}$ , capacity that contains elements from which can degenerate.

An example of capacity that runs out of itself of the first type is a set that runs out of itself.

Definition A.3.7. The partial capacity of the third type is called capacity that runs out of itself from one point x or contains elements from which it can degenerate partially or both simultaneously. Let us denote  $t_{S^2_3 f A^x}$ .

Definition A.3.8. Partial capacity that runs out of itself of the fourth type, is called capacity that runs out of itself in part or contains elements from which it can be degenerated partially or both simultaneously. Let us denote  $t_{S^2_4 f A^x}$ .

Consider the connection of  $tS^2$  – elements with capacity that runs out of itself.

For example,  ${}_{g\{R\}}^{\{R\}} S^2 t$  is the capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated.

Consider a fourth type of capacity that runs out of itself. For example,  $t_{S^2_4 f A^x}$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e. n – elements. It's possible to consider the capacity that runs out of itself  $t_{S^2_4 f A^x}$ , with m elements and from A at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $t_{S^2_4 f A^x}$ , capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS^2$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t_{S^2_4 f A^x}$ , can be introduced.

Consider first the arithmetic  $tS^2$ :

1. Simultaneous addition of a set of elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  ${}_{\{A+\}}^x S^2 t$ .
2. By analogy, for simultaneous multiplication:  ${}_{\{A*\}}^x S^2 t$

3. Similarly for the simultaneous execution of various operations:  ${}^x_{\{Aq\}}S^2t$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  ${}^x_{\{FA\}}S^2t$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic out of itself for capacities that runs out of itself will be similar: addition -  $t_{S^2_1 f A+}$ , (or  $t_{S^2_4 f A+x}$ ), multiplication  $t_{S^2_1 f A*}$ , ( $t_{S^2_4 f A*x}$ ).
6. Similarly with different operations  $t_{S^2_1 f Aq}$ , (or  $t_{S^2_4 f Aq^x}$ ) and with different operators:  $t_{S^2_1 f FA}$ , (or  $t_{S^2_4 f FA^x}$ ).
7. Let's denote out of itself through oself.  ${}^B_A S^2t$  - is the result of the holding operator expelling action, the dynamical hierarchical set of -1- type  ${}^B_A S^2t$  - a kind of product of the sets  $A$  and  $B$ . Let's call it the OPN - product. For sets  $A, B$  we have

$${}^B_A S^2t = \left\{ {}^{B-A \cap B}_{A-A \cap B} S^2t + {}^{B-A \cap B}_{A \cap B} S^2t + {}^{A \cap B}_{A-A \cap B} S^2t \right\},$$

where  $D$  is oself-set for  $A \cap B$ . The measure: +

$$\mu({}^B_A S^2t) = (\mu^{os}(A \cap B) - \mu(A)).$$

There is the same for structures if it's considered as sets.

8.  $tS^2$ -derivative of  $f(x_1, x_2, \dots, x_n)$  is  $\left\{ \frac{\partial f(x_1, x_2, \dots, x_n)}{\partial x_{1_i}, \partial x_{2_i}, \dots, \partial x_{k_i}} \right\} S^2t$ , where  $x = (x_{1_i}, x_{2_i}, \dots, x_{k_i})$  - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS^2$ -  $\frac{\partial^k f(x)}{\partial x_{1_i} \partial x_{2_i} \dots \partial x_{k_i}}$ .  $tS^2$ -integral of  $f(x_1, x_2, \dots, x_n)$  is  $\left\{ \int () dx_{1_i}, \int () dx_{2_i}, \dots, \int () dx_{k_i} \right\} S^2t$ , where  $(x_{1_i}, x_{2_i}, \dots, x_{k_i})$  - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate  $tS^2$ -  $\int \dots \int f(x) dx_{1_i} dx_{2_i} \dots dx_{k_i}$ .  $tS^2$ -lim of  $f(x_1, x_2, \dots, x_n)$  is  $\left\{ \lim_{x_{1_i} \rightarrow a_{1_i}}, \lim_{x_{2_i} \rightarrow a_{2_i}}, \dots, \lim_{x_{k_i} \rightarrow a_{k_i}} \right\} S^2t$ . Let's designate  $tS^2$ - $\lim_{\substack{x_{1_i} \rightarrow a_{1_i} \\ \dots \\ x_{k_i} \rightarrow a_{k_i}}} f(x_1, x_2, \dots, x_n)$ . Out of itself -  $\lim_{x \rightarrow a}$   
 $= \lim_{\lim_{x \rightarrow a}} S^2t$ .
9. In the case of an out of itself - derivate, it's obtained inclusions of multiple integrals. There are the same for self-integrals: there are obtained inclusions of multiple derivates, because  ${}^B_A S^2t = (S^2t^A_B)^{-1}$ .
10. Let's denote out of itself through os²elf,  $os^2elf$ -( $os^2elf$ -Q) =  $os^2elf^2$ -Q,  $tfS(n, Q) = os^2elf$ -( $os^2elf$ -( $\dots$  ( $os^2elf$ -Q))) =  $os^2elf^n$ -Q for  $n$ -multiple  $os^2elf$ . Consider the operator  $os^2elf$  for  $tS^2$ .

Definition A.3.9. The operator  $\text{os}^2\text{elf}$  for  $\text{tS}^2$  is the operator that transforms  ${}^x_A S^2 t$  into  $t_{S^2_3 f A^x}$  .

Example. The operator that runs the dynamical set out of itself.

Remark. It may be considered, for example,  $\text{os}^2\text{elf}$ -any object,  $\text{os}^2\text{elf}$ -action, etc.

The ideology of  $\text{tS}^2$  and  $t_{S^2_4 f}$  can be used for programming. Here are some of the  $\text{tS}^2$  programming operators.

1. Simultaneous expelling assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  from the variables  $A = (A_1, A_2, \dots, A_n)$ . It's implemented through  ${}^x_{\{\{A\}:\{p\}\}} S^2 t$  .
2. Simultaneous expelling checks the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It's implemented through  ${}^x_{IF\{\{B\}:\{f\}\}} \text{ then } Q S^2 t$  where  $Q$  can be any.
3. Similarly for loop operators and others.

$t_{S^2_4 f}$ - software operators will differ only just because aggregates  $A$ ,  $\{p\}$ ,  $\{B\}$ ,  $\{f\}$  will be formed from corresponding  $\text{tS}^2$  program operators in form (1.1) for more complex operators in form (1.2).

Using elements of the mathematics  $\text{tS}^2$ , we introduce the concept of  $\text{tS}^2$  - force,  $\text{tS}^2$  - energy is introduced. For example,  ${}^f_{s^2 t} E = {}^x_{\{E_1 f, E_2\}} S^2 t$  it would mean the instantaneous replacement  $f$  of energy  $E_1$  by  $E_2$  at time  $t_0$ , that runs out of itself from point  $x$ . The question arises about the  $\text{os}^2\text{elf}$ -energy of the object.  ${}^E_E S^2 t$  -  $\text{os}^2\text{elf}$ -energy of  $E$ . For example, “white hole” in physics is such simple  $\text{os}^2\text{elf}$ -capacity. The concept of “white hole” and “black hole” were formulated by the physicists proceeding from the physics subjects –usual energies level. Mathematics allows us to find deeply and to formulate the concepts of singular points in the Universe proceeding from levels of more thin energies. Consider the dynamical  $\text{tS}^2$  - elements.

Definition A.3.10. The displacement of set  $A(t)$  with elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from  $B(t)$  we shall call dynamical  $\text{tS}^2$ - element. We shall denote  ${}^{B(t)}_{A(t)} S^2 t(t)$  .

Definition A.3.11.  ${}^{B(t)}_{A(t)} S^2 t(t)$  —dynamical out set time dependent  $A(t)$  at  $B(t)$ .

Definition A.3.12. An ordered dynamical out set time-dependent  $\vec{A}(t)$  at  $B(t)$  is called an ordered dynamical  $\text{tS}^2$ - element.

It's allowed to add dynamical  $\text{tS}^2$ - elements:

$${}^{B(t)_1}_{A(t)_1} S^2 t(t) + {}^{B(t)_2}_{A(t)_2} S^2 t(t) = {}^{B(t)_1 \cup B(t)_2}_{A(t)_1 \cup A(t)_2} S^2 t(t) \quad (*_{A.3.3})$$

where some or any elements may be ordered elements.

It's allowed to multiply dynamical  $tS^2$ - elements:

$$\frac{B(t)_1}{A(t)_1} S^2 t(t) * \frac{B(t)_2}{A(t)_2} S^2 t(t) = \frac{B(t)_1 \cap B(t)_2}{A(t)_1 \cap A(t)_2} S^2 t(t) \quad (*_{A.3.4})$$

where some or any elements may be by ordered elements.

Dynamical  $tS^2$  – elements can be elements of a group by multiplication ( $*_{A.3.4}$ ) and by addition ( $*_{A.3.3}$ ) and form a ring by these operations. Consider the dynamical capacity  $tS^2$  that runs out of itself.

Definition A.3.13. The dynamical capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  $\frac{A(q)}{A(q)} S^2 t(q)$ . Denote  $t(q)_{S^2 f A(q)}$ .

Definition A.3.14. The ordered dynamical capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  $\frac{A(q)}{A(q)} S^2 t(q)$ . Denote  $t(q)_{S^2 f A(q)}$ , where some or any elements of dynamical out set  $A(q)$  time-dependent may be by ordered dynamical elements.

Definition A.3.15. The dynamical capacity that runs out of itself  $A(q)$  of the second type is  $t(q)_{S^2 f A(q)}$ , capacity that contains elements from which it can be degenerated.

An example of dynamical capacity that runs out of itself of the first type is a set time-dependent that runs out of itself.

Definition A.3.16. A dynamical capacity that runs out of itself of the third type is called dynamical capacity which runs out of itself at time  $q$  from one point  $x$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S^2 f A^{x(q)}(q)}$ .

Definition A.3.17. The partial dynamical capacity that runs out of itself of the fourth type is called dynamical capacity which runs out of itself at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical elements. Let us denote  $t(q)_{S^2 f A^{x(q)}(q)}$ .

Consider the connection of dynamical  $tS^2$  – elements with capacity that run out of itself. Consider a fourth type of dynamical partial capacity that runs out of itself. For example,  $t(q)_{S^2 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - elements from one point  $x(q)$ , it is possible to consider the dynamical capacity that runs out of itself  $t(q)_{S^2 f A^{x(q)}(q)}$  with  $m$  elements from  $A(q)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S^2 f A^{x(q)}(q)}$ . The dynamical capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS^2$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures

more complex than  $t(q)_{S_4^2 f A^{x(q)}(q)}$  can be introduced. Consider the dynamical mathematics  $tS^2$ .

1. The process of simultaneous addition of a dynamical out set of elements  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\frac{x(t)}{\{A(t)_+\}} S^2 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\frac{x(t)}{\{A(t)_*\}} S^2 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\frac{x(t)}{\{A(t)_{q(t)}\}} S^2 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\frac{x(t)}{\{F(t)_{A(t)}\}} S^2 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical arithmetic out of itself for dynamical capacity that runs out of itself at time  $q$  will be similar: dynamical addition -  $t(q)_{S_1^2 f A(q)_+}$ ,  $(t(q)_{S_4^2 f A^{x(q)}(q)_+})$ , dynamical multiplication  $t(q)_{S_1^2 f A(q)_*}$ , (or  $t(q)_{S_4^2 f A^{x(q)}(q)_*}$ )
6. Similarly with different operations at time  $q$ :  $t(q)_{S_1^2 f A(q)R(q)}$ ,  $(t(q)_{S_4^2 f A^{x(q)}(q)R(q)})$ , and with different operators:  $t(q)_{S_1^2 f F(q)A(q)}$ ,  $(t(q)_{S_4^2 f F(q)A^{x(q)}(q)})$ .
7.  $\frac{B(q)}{A(q)} S^2 t(q)$  - is the result of the expelling operator action at time  $q$  the dynamical hierarchical out set time dependent of -1- type  $\frac{B(q)}{A(q)} S^2 t(q)$  - a kind of product of the sets  $A(q)$  and  $B(q)$ . Let's call it PN-product. For sets  $A(q)$ ,  $B(q)$  we have

$$\frac{B(q)}{A(q)} S^2 t(q) = \left\{ \frac{B(q) - A(q) \cap B(q)}{A(q) - A(q) \cap B(q)} S^2 t(q) + \frac{t(q)_{S_1^2 f A(q) \cap B(q)}}{B(q) - A(q) \cap B(q)} S^2 t(q) + \frac{A(q) \cap B(q)}{A(q) - A(q) \cap B(q)} S^2 t \right\}$$

The measure:

$$\mu(\frac{B(q)}{A(q)} S^2 t(q)) = (\mu^{os}(A(q) \cap B(q)) / (\mu(B(q)) - \mu(A(q)))).$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical  $tS^2$ -derivatives, dynamical  $tS^2$ -integrals, dynamical  $tS^2$ -lim, dynamical  $os^2elf$ - derivatives, dynamical  $os^2elf$ -integrals
9. Let's denote dynamical out of itself through  $dos^2elf$ ,  $dos^2elf - (dos^2elf - Q)$  through  $dos^2elf^2 - Q$ ,  $dtfs(n, Q) = dos^2elf - (dos^2elf - (\dots (dos^2elf - Q))) = dos^2elf^n - Q$  for  $n$ -multiple  $dos^2elf$ .

The ideology of  $tS^2$  and  $t(q)_{S^2_4f}$  can be used for programming. Here are some of the  $tS^2$ - programming operators.

1. The process of simultaneous expelling assignment of the expressions  $\{p(t)\} = (p_1(t), p_2(t), \dots, p_n(t))$  from the variables  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  is implemented through  $_{\{\{A(t)\}:\{p(t)\}\}}^{x(t)} S^2 t(t)$ .
2. The process of simultaneous expelling check the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t) \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $_{IF\{\{B(t)\}\{f(t)\}\}}^{x(t)} S^2 t(t)$ , where  $Q(t)$  can be any.
3. Similarly for loop operators and others.

$t(q)_{S^2_4f}$ - software operators will differ only just because aggregates  $A(t)$ ,  $\{p(t)\}$ ,  $\{B(t)\}$ ,  $\{f(t)\}$  will be formed from corresponding processes  $tS^2(t)$  for above mentioned programming operators through form (1.1) or form (1.2) for more complex operators.

Using elements of the dynamical mathematics  $tS^2$ , we introduce the concept of dynamical  $tS^2$  - force, dynamical  $tS^2$ - energy are introduced. For example,  $_{s^2t}^{f(t)} E(t) =_{\{E_1(t)f(t), E(t)_2\}}^{x(t)} S^2 t(t)$  it would mean the instantaneous replacement  $f(t)$  of energy  $E_1(t)$  by  $E_2(t)$  at time  $t$ , that runs out of itself from point  $x(t)$ . The question arises about the dos<sup>2</sup>elf-energy of the object.  $_{E(t)}^{E(t)} S^2 t(t)$  - dos<sup>2</sup>elf -energy of  $E(t)$ . For example, “white hole” in physics is such simple dos<sup>2</sup>elf -capacity. Consider  $tS^2$ - elements for continual sets.

Definition A.3.18. The displacement of set  $A$  with continual elements  $(A_1, \dots, A_n)$  from  $B$  we shall call continual  $tS^2$  - element, where some or any elements may be by continual elements. We shall denote  $_{A}^B S^2 t$ .

Definition A.3.19. The displacement of set  $A$  with continual elements, where some or any elements may be by ordered continual elements is called an ordered continual  $tS^2$  - element.

It's allowed to add continual  $tS^2$  - elements:

$$_{A_1}^{B_1} S^2 t + _{A_2}^{B_2} S^2 t = _{A_1 \cup A_2}^{B_1 \cup B_2} S^2 t \text{ (*}_{A.3.5})$$

where some or any elements may be by ordered elements. It's allowed to multiply continual  $tS^2$  - elements:

$$_{A_1}^{B_1} S^2 t * _{A_2}^{B_2} S^2 t = _{A_1 \cap A_2}^{B_1 \cap B_2} S^2 t \text{ (*}_{A.3.6})$$

where some or any elements may be by ordered elements.

Continual  $tS^2$  - elements can be elements of a group by multiplication ( $*_{A.3.1.6}$ ) and by addition ( $*_{A.3.5}$ ), and a ring by these operations.

Definition A.3.20. The continual self-consistency in itself as an element  $A$  of the first type is the capacity containing itself as an element. Denote  $S^2_1 f A$ .

Definition A.3.21. The ordered continual self-consistency in itself as an element  $A$  of the first type is the ordered continual capacity containing itself as an element. Denote  $\overrightarrow{S^2_1 f A}$ .

Consider the continual capacity  $tS^2$  that runs out of itself.

Definition A.3.22. The continual capacity that runs out of itself  $A$  of the first type, where some or any elements may be by continual elements or ordered continual element is  $^A S^2 t$ . Denote  $t_{S^2_1 f A}$ .

Definition A.3.23. The ordered continual capacity that runs out of itself  $A$  of the first type is  $^A S^2 t$ . Denote  $t_{S^2_1 f A}$ , where some or any elements of continual dynamical out set  $A$  may be by ordered elements.

Definition A.3.24. The continual capacity that runs out of itself  $A$  of the second type is  $t_{S^2_2 f A}$ , capacity that contains elements from which it can be degenerated.

An example of continual capacity that runs out of itself of the first type is a continual set that runs out of itself.

Definition A.3.25. The continual capacity that runs out of itself of the third type is called continual capacity which runs out of itself from one point  $x$  or contains elements from which it can be degenerated, or both simultaneously. Let us denote  $t_{S^2_3 f A^x}$ .

Definition A.3.26. Partial continual capacity that runs out of itself of the fourth type is called continual capacity that runs out of itself in part or contains elements from which it can be degenerated partially, or both simultaneously. Let us denote  $t_{S^2_4 f A}$ .

Consider the connection of continual  $tS^2$  – elements with continual capacity that runs out of itself. For example,  $^{\{R\}}_{g\{R\}} S^2 t$  is the continual capacity that runs out of itself of the second type  $\{R\}$  that contains the program  $g\{R\}$  that allows it to be degenerated. Consider a fourth type of continual capacity that runs out of itself. For example,  $t_{S^2_4 f A}$ , where  $A = (A_1, A_2, \dots, A_n)$  with some or any continual elements. It's possible to consider the continual capacity that runs out of itself  $t_{S^2_4 f A}$ , with  $m$  elements and from  $A$  at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  elements are in the structure  $t_{S^2_4 f A}$ , capacity that runs out of itself of the third type can be formed for any other structure, not necessarily  $tS^2$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t_{S^2_4 f A}$ , can be introduced.

Consider first the arithmetic  $tS^2$ :

1. Simultaneous addition of a set of continual elements  $\{A\} = (A_1, A_2, \dots, A_n)$  are realized by  ${}^x_{\{A \cup\}} S^2 t$ .
2. By analogy, for simultaneous multiplication:  ${}^x_{\{A \cap\}} S^2 t$
3. Similarly for the simultaneous execution of various operations:  ${}^x_{\{A q\}} S^2 t$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators  ${}^x_{\{F A\}} S^2 t$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic out of itself for continual capacities that runs out of itself will be similar: addition -  $t_{S^2_1 f A+}$ , (or  $t_{S^2_4 f A+^x}$ ), multiplication  $t_{S^2_1 f A*}$ , ( $t_{S^2_4 f A*^x}$ ).
6. Similarly with different operations  $t_{S^2_1 f A q}$ , (or  $t_{S^2_4 f A q^x}$ ) and with different operators:  $t_{S^2_1 f F A}$ , (or  $t_{S^2_4 f F A^x}$ ).
7. Let's denote out of itself through itself.  ${}^B_A S^2 t$  - is the result of the holding operator expelling action, the continual dynamical hierarchical out set of -1- type  ${}^B_A S^2 t$ - a kind of product of the sets A and B. Let's call it PN-product. For sets A, B we have

$${}^B_A S^2 t = \left\{ {}^{B-A \cap B}_{A-A \cap B} S^2 t + {}^{B-A \cap B}_D S^2 t + {}^{A \cap B}_{A-A \cap B} S^2 t \right\},$$

where D is os<sup>2</sup>elf-set for  $A \cap B$ . The measure:

$$\mu({}^B_A S^2 t) = \left( \frac{\mu^{os}(A \cap B)}{\mu(B) - \mu(A)} \right).$$

There is the same for structures if it's considered as sets.

Consider the dynamical continual  $tS^2$  - elements.

Definition A. 3.27. The displacement of set A(t) with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  from B(t) we shall call dynamical continual  $tS^2$ - element. We shall denote  ${}^{B(t)}_{A(t)} S^2 t(t)$ .

Definition A. 3.28.  ${}^{B(t)}_{A(t)} S^2 t(t)$  —dynamical out set time dependent A(t) at B(t).

Definition A. 3.29. An ordered continual dynamical out set time dependent  $\overrightarrow{A}(t)$  at B(t) is called an ordered dynamical  $tS^2$  - element.

It's allowed to add dynamical continual  $tS^2$  - elements:

$${}^{B(t)_1}_{A(t)_1} S^2 t(t) + {}^{B(t)_2}_{A(t)_2} S^2 t(t) = {}^{B(t)_1 \cup B(t)_2}_{A(t)_1 \cup A(t)_2} S^2 t(t) \quad (*_{A.3.7})$$

where some or any elements may be ordered elements. It's allowed to multiply dynamical continual  $tS^2$ - elements:

$$\begin{matrix} B(t) \\ A(t) \end{matrix}_1 S^2 t(t) * \begin{matrix} B(t) \\ A(t) \end{matrix}_2 S^2 t(t) = \begin{matrix} B(t) \cap B(t) \\ A(t)_1 \cap A(t)_2 \end{matrix} S^2 t(t) \quad (*_{A.3.8})$$

where some or any elements may be ordered elements.

Dynamical continual  $tS^2$  – elements can be elements of a group by multiplication (\*<sub>A.3.8</sub>) or by addition (\*<sub>A.3.7</sub>), and a ring by these operations. Consider the dynamical continual capacity that runs out of itself.

Definition A. 3.30. Dynamical continual capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  $\begin{matrix} A(q) \\ A(q) \end{matrix} S^2 t(q)$ . Denote  $t(q)_{S^2_1 f A(q)}$ .

Definition A. 3.31. The ordered dynamical continual capacity that runs out of itself  $A(q)$  at time  $q$  of the first type is  $\begin{matrix} A(q) \\ A(q) \end{matrix} S^2 t(q)$ . Denote  $t(q)_{S^2_1 f A(q)}$ , where some or any elements of dynamical out set  $A(q)$  time-dependent may be by ordered dynamical continual elements.

Definition A. 3.32. The dynamic continual capacity that runs out of itself  $A(q)$  of the second type is  $t(q)_{S^2_2 f A(q)}$ , capacity that contains elements from which it can degenerate.

An example of dynamical continual capacity that runs out of itself of the first type is a continual dynamical out set time-dependent that runs out of itself.

Definition A. 3.33. Dynamical continual capacity that runs out of itself of the third type is called dynamical continual capacity which runs out of itself from one point  $x$  at time  $q$  or contains elements from which it can be degenerated, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^2_3 f A^{x(q)}(q)}$ .

Definition A. 3.34. Partial dynamical continual capacity that runs out of itself of the fourth type is called dynamical continual capacity that runs out of itself from one point  $x$  at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of continual dynamic out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^2_4 f A^{x(q)}(q)}$ .

Consider the connection of dynamical continual  $tS^2$ – elements with dynamical continual capacity that runs out of itself. Consider a fourth type of dynamical continual partial capacity that runs out of itself. For example,  $t(q)_{S^2_4 f A^{x(q)}(q)}$ , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamical continual capacity that runs out of itself  $t(q)_{S^2_4 f A^{x(q)}(q)}$  with  $m$  elements from  $A(q)$ , at  $m < n$ , which is the process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S^2_4 f A^{x(q)}(q)}$ . Dynamical continual capacity that runs out of itself of the fourth type can be formed for any other structure, not necessarily  $tS^2$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures

more complex than  $t(q)_{S_4^2 f A^{x(q)}(q)}$  can be introduced. Consider the dynamical continual mathematics  $tS^2$ .

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent  $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\frac{x(t)}{\{A(t) \cup\}} S^2 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\frac{x(t)}{\{A(t) \cap\}} S^2 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\frac{x(t)}{\{A(t) q(t)\}} S^2 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\frac{x(t)}{\{F(t) A(t)\}} S^2 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical continual arithmetic out of itself for dynamical continual capacity that runs out of itself at time  $q$  will be similar: dynamical addition -  $t(q)_{S_1^2 f A(q) \cup}$ ,  $(t(q)_{S_4^2 f A^{x(q)}(q) \cup})$ , dynamical multiplication  $t(q)_{S_1^2 f A(q) \cap}$ , (or  $t(q)_{S_4^2 f A^{x(q)}(q) \cap}$ )
6. Similarly with different operations at time  $q$ :  $t(q)_{S_1^2 f A(q) R(q)}$ ,  $(t(q)_{S_4^2 f A^{x(q)}(q) R(q)})$ , and with different operators:  $t(q)_{S_1^2 f F(q) A(q)}$ ,  $(t(q)_{S_4^2 f F(q) A^{x(q)}(q)})$ .
7.  $\frac{B(q)}{A(q)} S^2 t(q)$  - is the result of the expelling operator action at time  $q$  the continual dynamical hierarchical out set time-dependent of -1- type  $\frac{B(q)}{A(q)} S^2 t(q)$  - a kind of product of the sets  $A(q)$  and  $B(q)$  with continual elements. Let's call it PN-product. For sets  $A(q)$ ,  $B(q)$  we have

$$\frac{B(q)}{A(q)} S^2 t(q) = \left\{ \frac{B(q) - A(q) \cap B(q)}{A(q) - A(q) \cap B(q)} S^2 t(q) + \frac{t(q)_{S_1^2 f A(q) \cap B(q)}}{B(q) - A(q) \cap B(q)} S^2 t(q) + \frac{A(q) \cap B(q)}{A(q) - A(q) \cap B(q)} S^2 t \right\}$$

The measure:

$$\mu_{(A(q))}^{(B(q))} S^2 t(q) = \left( \frac{\mu^{os}(A(q) \cap B(q))}{\mu(B(q)) - \mu(A(q))} \right).$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical continual  $tS^2$ -derivatives, dynamical continual  $tS^2$ -integrals, dynamical continual  $tS^2$ -lim, dynamical continual  $os^2elf$ -derivatives, dynamical  $os^2elf$ -integrals. Let's denote continual dynamical out of itself through  $dcos^2elf$ , then  $dos^2elf$ -( $dcos^2elf$ - $Q$ ) through  $dcos^2elf^2$ - $Q$ ,  $dtS^2(n, Q) = dcos^2elf$ -( $dcos^2elf$ -( $\dots$ ( $dcos^2elf$ - $Q$ ))) =  $dcos^2elf^n$ - $Q$  for  $n$ -multiple  $dcos^2elf$ .

Consider the dynamic continual  $tS^2$  – elements with target weights.

Definition A.3.35. The displacement of set  $A(t)$  with continual elements  $(A_1(t), A_2(t), \dots, A_n(t))$  with target weights  $g(t)$  from  $B(t)$  we shall call dynamical continual  $tS^2$  – element with target weights. We shall denote  $_{A(t)g(t)}^{B(t)} S^2 t(t)$ .

Definition A.3.36.  $_{A(t)g(t)}^{B(t)} S^2 t(t)$  —dynamical out set time-dependent  $A(t)$  with target weights  $g(t)$  at  $B(t)$ .

Definition A.3.37. An ordered continual dynamical out set time-dependent  $\vec{A}(t)$  with target weights  $g(t)$  at  $B(t)$  is called an ordered dynamical  $tS^2$  – element.

It's allowed to add dynamical continual  $tS^2$  – elements with target weights  $g(t)$ :  $_{A(t)_1g(t)}^{B(t)_1} S^2 t(t) + _{A(t)_2g(t)}^{B(t)_2} S^2 t(t) = _{A(t)_1g(t) \cup A(t)_2g(t)}^{B(t)_1 \cup B(t)_2} S^2 t(t)$  (\*A.3.9)

where some or any elements may be ordered elements.

It's allowed to multiply dynamical continual  $tS^2$  – elements with target weights  $g(t)$ :  $_{A(t)_1g(t)}^{B(t)_1} S^2 t(t) * _{A(t)_2g(t)}^{B(t)_2} S^2 t(t) = _{A(t)_1g(t) \cap A(t)_2g(t)}^{B(t)_1 \cap B(t)_2} S^2 t(t)$  (\*A.3.10)

where some or any elements may be ordered elements.

Dynamical continual  $tS^2$  – elements with target weights can be elements of a group by multiplication (\*A.3.10) and by addition (\*A.3.9), and a ring by these operations. Consider the dynamic continual capacity that runs out of itself with target weights  $g(t)$ .

Definition A.3.38. Dynamical continual capacity that runs out of itself  $A(q)$  with target weights  $g(t)$  at time  $q$  of the first type is  $_{A(q)g(t)}^{A(q)g(t)} S^2 t(q)$ . Denote  $t(q)_{S^2_1 f A(q)g(t)}$ .

Definition A.3.39. The ordered dynamical continual capacity that runs out of itself  $A(q)$  with target weights  $g(t)$  at time  $q$  of the first type is  $_{A(q)g(t)}^{A(q)g(t)} S^2 t(q)$ . Denote  $t(q)_{S^2_1 f A(q)g(t)}$ , where some or any elements of dynamical out set  $A(q)$  time-dependent may be by ordered dynamical continual elements.

Definition A.3.40. The dynamical continual capacity that runs out of itself  $A(q)$  with target weights  $g(t)$  of the second type is  $t(q)_{S^2_2 f A(q)g(t)}$ , capacity with target weights  $g(t)$  that contains elements from which it can be degenerated.

An example of dynamical continual capacity with target weights  $g(t)$  that runs out of itself of the first type is a continual dynamical out set time-dependent that runs out of itself with target weights  $g(t)$ .

Definition A.3.41. The dynamic continual capacity that runs out of itself with target weights  $g(t)$  of the third type is called dynamical continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x$  at time  $q$  or contains

elements from which it can be degenerated, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent with target weights  $g(t)$ ,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^2_3 f A^{x(q)}(q)g(t)}$  .

Definition A.3.42. The partial dynamical continual capacity that runs out of itself with target weights  $g(t)$  of the fourth type is called dynamical continual capacity that runs out of itself with target weights  $g(t)$  from one point  $x$  at time  $q$  in part or contains elements from which it can be degenerated partially, or both simultaneously, where some or any elements of continual dynamical out set  $A(q)$  time-dependent,  $x(q)$  may be by ordered dynamical continual elements. Let us denote  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)}$  .

Consider the connection of dynamical continual  $tS^2$  – elements with target weights with dynamical continual capacity that runs out of itself with target weights.

Consider a fourth type of dynamical continual partial capacity that runs out of itself with target weights  $g(t)$ . For example,  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)}$  , where  $A(q) = (A_1(q), A_2(q), \dots, A_n(q))$ , i.e.  $n$  - continual elements from one point  $x(q)$ , it is possible to consider the dynamic continual capacity that runs out of itself with target weights  $g(t)$ :  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)}$  , with  $m$  elements from  $A(q)$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  elements from  $A(q)$ , are located in the structure  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)}$ . Dynamical continual capacity that runs out of itself with target weights  $g(t)$  of the fourth type can be formed for any other structure, not necessarily  $tS^2$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)}$  can be introduced. Consider the dynamical continual mathematics  $tS^2$  with target weights.

1. The process of simultaneous addition of a dynamical out set of continual elements time-dependent with target weights  $g(t)$   $\{A(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$  are realized by  $\frac{x(t)}{\{A(t)g(t) \cup\}} S^2 t(t)$ .
2. By analogy, for simultaneous multiplication:  $\frac{x(t)}{\{A(t)g(t) \cap\}} S^2 t(t)$ .
3. Similarly for the simultaneous execution of various operations:  $\frac{x(t)}{\{A(t)q(t)\}g(t)} S^2 t(t)$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $\frac{x(t)}{\{F(t)A(t)g(t)\}} S^2 t(t)$ , where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical continual arithmetic out of itself with target weights  $g(t)$  for dynamical continual capacity that runs out of itself with target weights  $g(t)$  at time  $q$  will be similar: dynamical addition -  $t(q)_{S^2_1 f A(q)g(t) \cup}$  ,

(  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)} \cup$ ), dynamical multiplication  $t(q)_{S^2_1 f A(q)g(t)} \cap$ , (or  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)} \cap$ )

6. Similarly with different operations at time q:  $t(q)_{S^2_1 f A(q)g(t)} R(q)$ , (  $t(q)_{S^2_4 f A^{x(q)}(q)g(t)} R(q)$ ), and with different operators:  $t(q)_{S^2_1 f F(q)A(q)g(t)}$ , (  $t(q)_{S^2_4 f F(q)A^{x(q)}(q)g(t)}$  )
7.  $\frac{B(q)g(t)}{A(q)g(t)} S^2 t(q)$  – is the result of the expelling operator action at time q the continual dynamical hierarchical out set time-dependent of -1- type  $\frac{B(q)g(t)}{A(q)g(t)} S^2 t(q)$ - a kind of product of the sets A(q) and B(q) with continual elements. Let's call it PN-product. For sets A(q), B(q) we have

$$\frac{B(q)g(t)}{A(q)g(t)} S^2 t(q) = \left\{ \frac{t(q)_{S^2_1 f A(q) \cap B(q)g(t)}}{Q} \right\}, Q = \frac{B(q)g(t) - (A(q) \cap B(q))g(t)}{A(q)g(t) - (A(q) \cap B(q))g(t)} S^2 t(q) + \frac{B(q)g(t) - (A(q) \cap B(q))g(t)}{(A(q) \cap B(q))g(t)} S^2 t(q) + \frac{(A(q) \cap B(q))g(t)}{A(q)g(t) - (A(q) \cap B(q))g(t)} S^2 t$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical continual tS<sup>2</sup>-derivatives with target weights g(t), dynamical continual tS<sup>2</sup>-integrals with target weights g(t), dynamical continual tS<sup>2</sup>-lim with target weights g(t), dynamical os<sup>2</sup>elf - derivatives with target weights g(t), dynamical os<sup>2</sup>elf -integrals with target weights g(t).
9. Let's denote dynamical continual out of itself with target weights g(t) through dcos<sup>2</sup>elf<sub>tw</sub>, dcos<sup>2</sup>elf<sub>tw</sub>-( dcos<sup>2</sup>elf<sub>tw</sub> -Q) through dcos<sup>2</sup>elf<sub>tw</sub><sup>2</sup>-Q, dctfS<sub>tw</sub>(n,Q)= dcos<sup>2</sup>elf<sub>tw</sub> -( dcos<sup>2</sup>elf<sub>tw</sub> -( ... ( dcos<sup>2</sup>elf<sub>tw</sub> -Q))) = dcos<sup>2</sup>elf<sub>tw</sub><sup>n</sup>-Q for n-multiple dcos<sup>2</sup>elf<sub>tw</sub>.

### Supplement

We consider tS<sup>2</sup>-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 1 corresponds to the logical value "yes". Then for joint statements  $\frac{B}{A} S^2 t$ :

$$f(\frac{B}{A} S^2 t) = \frac{(f^{os^2}(A \cap B) + p^{-s^2} \left( \frac{\{ \}}{A - A \cap B} S^2 t \right))}{f(B) - f(A)}.$$

Definition A.3.43. tS<sup>2</sup>-probability of events A, B is  $p(\frac{B}{A} S^2 t)$ , denote  $\frac{B}{A} S^2 p$ .

In particular,  $\frac{B}{A} S^2 p$  for joint events A, B:  $\frac{B}{A} S^2 p = p(\frac{B}{A} S^2 t) =$

$$\frac{(p^{os^2}(A \cap B) + p^{-s^2} \left( \frac{\{ \}}{A - A \cap B} S^2 t \right))}{p(B) - p(A)}.$$

### B Se - elements and their modifications

### B.1 Se –elements

Definition B.1.1. The containment of A into B and the displacement of D from B simultaneously we shall call Se – element. Let's denote  ${}^B_D St_B^A$ .

A, B, C, D-are any, in particular A may be action, action in the right direction and with the right goal [11] (action with the so-called target weights [2], [7], [11]).

Definition B.1.2.  ${}^{\vec{B}}_{\vec{D}} St_B^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$  is called an ordered Se – element.

It is allowed to add Se – elements:  ${}^{B_1}_{D_1} St_{B_1}^{A_1} + {}^{B_2}_{D_2} St_{B_2}^{A_2} = {}^{B_1}_{D_1 \cup D_2} St_{B_1}^{A_1 \cup A_2}$  (\*B.1.1),

where some or any elements may be ordered elements.

It is allowed to multiply Se – elements:  ${}^C_{D_1} St_C^{A_1} * {}^C_{D_2} St_C^{A_2} = {}^C_{D_1 \cap D_2} St_C^{A_1 \cap A_2}$  (\*B.1.2),

where some or any elements may be ordered elements.

Se – elements can be elements of a group both by multiplication (\*B.1.2) and by addition (\*B.1.1), and also form an algebraic ring, field by these operations. Consider Se-capacity in itself [11].

Definition B.1.3. The Se<sup>1</sup>-capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously:  ${}^B_A St_B^A$ . Denote  $S_1^e f_B^A$ .

Definition B.1.4. The Se<sup>1</sup>-capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously:  ${}^B_B St_B^A$ . Denote  $S_2^e f_B^A$ .

Definition B.1.5. The Se<sup>1</sup>-capacity of the third type is the capacity B containing itself as an element and the displacement of A from B simultaneously:  ${}^B_A St_B^B$ . Denote  $S_3^e f_B^A$ .

Definition B.1.6. Se-capacity A in itself of the fourth type is called Se-capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S_4^e f A$ .

Definition B.1.6.1. Se-capacity A in itself of the fifth type is called Se-capacity in itself, which contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S_5^e f A$ .

Consider the connection of Se – elements with Se-capacity in itself. Consider a fourth type of self-capacity. For example,  $S_4^e f A$ , where  $A = (1, 2, \dots, n)$  it is possible to consider Se-capacity in itself  $S_4^e f A$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S_4^e f A$ . Se-capacity in itself of the fourth type can be

formed for any other structure, not necessarily Se, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_4^e fA$  can be introduced. Consider mathematics Se:

1. Similarly, for the simultaneous execution of various operators:  ${}_{F_1 D}^{F_0 B} St_{F_0 B}^{F_2 A}$ , where  $F_0, F_1, F_2$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^e fA$ ,  $j=1,2,3,4$ , where  $\{F\} = (F_0, F_1, F_2)$  are operators.
3.  ${}^B_Q St_B^A$  - is the result of the holding operator action and of the expelling operator action, the dynamical hierarchical set of null type  ${}^B_Q St_B^A$  - a kind of product of  $PN(A, B) * OPN(Q, B)$ . Let's call it the  $PN_1$  - product. For sets A, B, and Q we have two variants of hierarchical distribution of dynamic hierarchical set  ${}^B_Q St_B^A$ :

$${}^B_Q St_B^A = \{ {}^B_Q St_{A \cap B}^{A \cap B} + {}^B_Q St_B^{A \cap B} \} \quad (B.1.1)$$

$$R_{11} + R_{21} + R_{31}$$

$$R_{11} = {}^{B-Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q-Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A \cap B}$$

$$R_{21} = {}^{B-Q \cap B}_{Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q \cap B} St_{B-A \cap B}^{A \cap B}$$

$$R_{31} = {}^{Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{Q \cap B}_{Q-Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A \cap B}$$

The measure:

$$\mu({}^B_Q St_B^A) = ({}^o \mu({}^B_Q St_{A \cap B}^{A \cap B}) + {}^o \mu({}^B_Q St_B^{A \cap B})) \quad (B.1.2)$$

$$\mu(A) + 2\mu(B) - \mu(Q)$$

$${}^B_Q St_B^A = \{ {}^B_Q St_{A \cap B + Q \cap A}^{A \cap B + Q \cap A} + {}^{(Q \cap B + Q \cap A)}_{(Q \cap B + Q \cap A)} St_B^A \} \quad (B.1.3)$$

$$R_{12} + R_{22} + R_{32}$$

$$R_{12} = {}^{B-(Q \cap B + Q \cap A)}_{Q-Q \cap B-Q \cap A} St_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + {}^{B-(Q \cap B + Q \cap A)}_{Q-Q \cap B-Q \cap A} St_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + {}^{B-(Q \cap B + Q \cap A)}_{Q-Q \cap B-Q \cap A} St_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

$$R_{22} = {}^{B-(Q \cap B + Q \cap A)}_{Q \cap B+Q \cap A} St_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + {}^{B-(Q \cap B + Q \cap A)}_{Q \cap B+Q \cap A} St_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + {}^{B-(Q \cap B + Q \cap A)}_{Q \cap B+Q \cap A} St_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

$$R_{32} = {}^{Q \cap B+Q \cap A}_{Q-Q \cap B-Q \cap A} St_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + {}^{Q \cap B+Q \cap A}_{Q-Q \cap B-Q \cap A} St_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + {}^{Q \cap B+Q \cap A}_{Q-Q \cap B-Q \cap A} St_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

The measure:

$$\mu(QSt_B^A) = (\mu(QSt_{A \cap B + Q \cap A}^{A \cap B + Q \cap A}) + \mu^s(S_1^e f_B^{Q \cap A})) \quad (B.1.4)$$

$$\mu(A) + 2\mu(B) - \mu(Q)$$

It is the same for structures if it's considered assets.

The concepts of Se – force:  $\frac{F_2}{F_3}St_{F_2}^{F_1}$  -the containment of force  $F_1$  into force  $F_2$  and the displacement of force  $F_3$  from force  $F_2$  simultaneously, Se – energy:  $\frac{E_3}{E_4}St_{E_2}^{E_1}$  -the containment of energy  $E_1$  into energy  $E_2$  and the displacement of energy  $E_3$  from energy  $E_2$  simultaneously.

Consider the concepts of Se-capacity in itself of physical objects A, B. Similar to the concepts of publication: the Se<sup>1</sup>-capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously:  $S_1^e f_B^A$ . Se-capacity in itself of the fourth type A is called Se-capacity in itself, which contains itself in part and expelling oneself in part or contains a program that allows it to be generated in part and it to be degenerated in part, or both simultaneously:  $S_4^e fA$ .

By analogy, for  $S_2^e f_B^A$ ,  $S_3^e f_B^A$ .

Also, you can consider these types of Se-capacity in itself for other objects. For example:  $S_i^e f$  operator A,  $S_i^e f$  action B,  $S_i^e f$  made Q i=1,2,3,4 etc.

Remark. The concept of elements of physics Se is introduced for energy space. The corresponding concept of elements of chemistry Se is introduced accordingly.

The ideology of Se and  $S_4^e f$  can be used for programming. Here are some of the Se-program operators [12].

1. Simultaneous the containment of assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $A = (A_1, A_2, \dots, A_n)$  and expelling it away. It's implemented through  $\frac{A}{\{p\}}St_A^{\{p\}}$ .
2. Simultaneous check the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$  and expelling it away. It's implemented through  $\frac{x}{IF\{\{B\}\{f\}\} \text{ then } Q}St_x^{IF\{\{B\}\{f\}\} \text{ then } Q}$  where Q can be any.
3. Similarly for loop operators and others.

$S_4^e f$  – software operators will differ only just because aggregates  $A, \{p\}, \{B\}, \{f\}$  will be formed from corresponding Se-program operators in form (1.1) for more complex operators in form (1.2).

Consider the dynamical Se – elements [11].

Definition B.1.7. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $B(t)$  at time  $t$  simultaneously we shall call dynamical Se – element. Let's denote  $\frac{B(t)}{D(t)}St(t)_{B(t)}^{A(t)}$ .

Definition B.1.8.  $\frac{B(t)}{D(t)}St(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{D}(t)$  is called an ordered dynamical Se – element.

It is allowed to add dynamical Se – elements:  $\frac{B_1(t)}{D_1(t)}St(t)_{B_1(t)}^{A_1(t)} + \frac{B_2(t)}{D_2(t)}St(t)_{B_2(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t) \cup D_2(t)}St(t)_{B_1(t)}^{A_1(t) \cup A_2(t)}$  (\*<sub>B.1.3</sub>)

It is allowed to multiply dynamical Se – elements:  $\frac{B_1(t)}{D_1(t)}St(t)_{B_1(t)}^{A_1(t)} * \frac{B_2(t)}{D_2(t)}St(t)_{B_2(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t) \cap D_2(t)}St(t)_{B_1(t)}^{A_1(t) \cap A_2(t)}$  (\*<sub>B.1.4</sub>)

Se – elements can be elements of a group by multiplication (\*<sub>B.1.4</sub>) and by addition (\*<sub>B.1.3</sub>), and algebraic ring, field by these operations. Consider the dynamical Se-capacity in itself.

Definition B.1.9. The dynamical Se<sup>1</sup>-capacity of the first type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  out of  $A(t)$  at time  $t$  simultaneously:  $\frac{A(t)}{B(t)}St(t)_{A(t)}^{B(t)}$ . Denote  $S_1^e(t)f_{A(t)}^{B(t)}$ .

Definition B.1.10. The dynamical Se<sup>1</sup>-capacity of the second type is the process of putting  $A(t)$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  $\frac{B(t)}{B(t)}St(t)_{B(t)}^{A(t)}$ . Denote  $S_2^e(t)f_{B(t)}^{A(t)}$ .

Definition B.1.11. Dynamical Se<sup>1</sup>-capacity of the third type is the process of a containment  $B(t)$  itself as an element and the displacement of  $A(t)$  from  $B(t)$  at time  $t$  simultaneously:  $\frac{B(t)}{A(t)}St(t)_{B(t)}^{B(t)}$ . Denote  $S_3^e(t)f_{B(t)}^{A(t)}$ .

Definition B.1.12. Dynamical Se-capacity in itself  $A(t)$  of the fourth type is the process of a containment of itself and expelling oneself or the process of a containment of elements from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure Se. Let's denote  $S_4^e(t)fA(t)$ .

Definition B.1.13. Dynamical Se-capacity in itself of the fifth type  $A(t)$  is the process of a containment of itself in part and expelling oneself in part or the process of a containment of elements from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure Se, or both simultaneously. Let us denote  $S_5^e(t)fA(t)$ .

Consider the connection of dynamical Se – elements with dynamical Se-capacity in itself. Consider dynamical Se-capacity in itself of the fifth type

$A(t)$ :  $S_5^e(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical Se-capacity in itself of the fifth type  $A(t)$ :  $S_5^{et}(t)fA(t)$  with  $m$  elements and from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $\frac{B(t)}{D(t)}St(t)_{B(t)}^{A(t)}$ . The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical Se-capacity in itself of the fifth type can be formed for any other structure, not necessarily Se, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^e(t)fA(t)$  can be introduced.

Consider the dynamical mathematics Se:

1. Similarly, for the simultaneous execution of various operators:  $\frac{F_0(t)C(t)}{F_1(t)D(t)}St(t)_{F_0(t)C(t)}^{F_2(t)A(t)}$ , where  $F_0(t), F_1(t), F_2(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^e(t)fF(t)A(t)$ ,  $j=4,5$ , and  $S_k^e(t)f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.

The concepts of dynamical Se-force:  $\frac{F_2(t)}{F_3(t)}St(t)_{F_2(t)}^{F_1(t)}$  -the containment of force  $F_1(t)$  into force  $F_2(t)$  and the displacement of force  $F_3(t)$  from force  $F_2(t)$  at time  $t$  simultaneously, dynamical Se-energy:  $\frac{E_2(t)}{E_3(t)}St_{E_2(t)}^{E_1(t)}$  -the containment of energy  $E_1(t)$  into energy  $E_2(t)$  and the displacement of energy  $E_3(t)$  from energy  $E_2(t)$  at time  $t$  simultaneously.

Consider the concepts of dynamical Se-capacity in itself of physical objects  $A(t)$ ,  $B(t)$ . Similar to the concepts of publication: the dynamical Se-capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time  $t$  simultaneously partially, or both:  $S_5^e(t)fA(t)$ ,  $S_5^e(t)fB(t)$ . By analogy, for  $S_1^e(t)f_{B(t)}^{A(t)}$ ,  $S_2^e(t)f_{B(t)}^{A(t)}$ ,  $S_3^e(t)f_{B(t)}^{A(t)}$ ,  $S_4^e(t)fA(t)$ .

Also, you can consider these types of dynamical Se-capacity in itself for other objects. For example:  $S_i^e(t)f$ operator  $A(t)$ ,  $S_i^e(t)f$  action  $B(t)$ ,  $S_i^e(t)f$  made  $Q(t)$   $i=1,2,3,4,5$  etc.

Remark. B.1.1 The concept of elements of physics dynamical Se is introduced for energy space. The corresponding concept of elements of chemistry dynamical Se is introduced accordingly.

The ideology of Se and  $S_4^e(t)f$  can be used for programming. Here are some of the Se-program operators [12].

1. Simultaneous the containment of assignment of the expressions  $\{p(t)\} = (p_1(t), p_2(t), \dots, p_n(t))$  to the variables  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  and expelling it away. It's implemented through  $\frac{A(t)}{\{p(t)\}}St(t)_{A(t)}^{\{p(t)\}}$ .

2. Simultaneous check the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$  and expelling it away. It's implemented through  $IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t) St_{x(t)}^{IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t)}$  where  $Q(t)$  can be any.

3. Similarly for loop operators and others.

$S_4^e f$  – software operators will differ only just because aggregates  $A, \{p\}, \{B\}, \{f\}$  will be formed from corresponding Se program operators in form (1.1) for more complex operators in form (1.2).

Consider Se – elements for continual sets [11].

Here we consider some continual Se-elements and continual self-consistencies in itself as an element.

Definition B.1.14. The containment of A into B and the displacement of D from B simultaneously, where A, B, D- sets of continual elements, we shall call continual Se – element. Let's denote  ${}_B^A St_B^A$ .

Definition B.1.15.  ${}_B^A St_B^A$  with ordered elements  $\vec{A}$  and  $\vec{B}$ , where A, B, D- sets of continual elements, is called an ordered continual Se – element.

It is allowed to add continual Se – elements:

$${}_B^A St_B^A + {}_B^A St_B^A = {}_B^A St_B^A \quad (*_{B.1.5}),$$

where some or any elements may be by ordered elements.

It is allowed to multiply continual Se – elements:

$${}_B^A St_B^A * {}_B^A St_B^A = {}_B^A St_B^A \quad (*_{B.1.6}),$$

where some or any elements may be ordered elements.

Continual Se – elements can be elements of a group by multiplication (\*<sub>B.1.6</sub>) and by addition (\*<sub>B.1.5</sub>), and algebraic ring, field by these operations. Consider Se-capacity in itself for continual sets.

Definition B.1.16. The continual Se<sup>1</sup>-capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously, where A, B- sets of continual elements:  ${}_B^A St_B^A$ . Denote  $S_1^e f_B^A$ .

Definition B.1.17. The continual Se<sup>1</sup>-capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:

$${}_B^A St_B^A. \text{ Denote } S_2^e f_B^A.$$

Definition B.1.18. The continual Se<sup>1</sup>-capacity of the third type is the capacity B containing itself as an element and the displacement of A from B simultaneously, where A, B- sets of continual elements:  ${}_B^A St_B^A$ . Denote  $S_3^e f_B^A$ .

Definition B.1.19. The continual Se-capacity A in itself of the fourth type, where A- set of continual elements, is called Se-capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S_4^e f A$ .

Definition B.1.20. The ordered continual  $Se^1$ -capacity of the first type is the capacity containing  $\vec{A}$  into B and expelling  $\vec{A}$  out of B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B} St_{\vec{B}}^{\vec{A}}$ . Denote  $S_1^e f_B^{\vec{A}}$ .

Definition B.1.21. The ordered continual  $Se^2$ -capacity of the first type is the capacity containing A into  $\vec{B}$  and expelling A out of  $\vec{B}$  simultaneously, where  $\vec{B}$ -ordered set of continual elements, A- set of continual elements:  $\vec{B} St_{\vec{B}}^A$ . Denote  $S_1^e f_{\vec{B}}^A$ .

Definition B.1.22. The ordered continual  $Se^3$ -capacity of the first type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{A}$  out of  $\vec{B}$  simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{B} St_{\vec{B}}^{\vec{A}}$ . Denote  $S_1^e f_{\vec{B}}^{\vec{A}}$ .

Definition B.1.23. The ordered continual  $Se^1$ -capacity of the second type is the capacity containing  $\vec{A}$  into B and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B} St_B^{\vec{A}}$ . Denote  $S_2^e f_B^{\vec{A}}$ .

Definition B.1.24. The ordered continual  $Se^2$ -capacity of the second type is the capacity containing A into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  $\vec{B} St_{\vec{B}}^A$ . Denote  $S_2^e f_{\vec{B}}^A$ .

Definition B.1.25. The ordered continual  $Se^3$ -capacity of the second type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{B} St_{\vec{B}}^{\vec{A}}$ . Denote  $S_2^e f_{\vec{B}}^{\vec{A}}$ .

Definition B.1.26. The ordered continual  $Se^1$ -capacity of the third type is the capacity B containing itself as an element and the displacement of  $\vec{A}$  from B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B} St_B^{\vec{A}}$ . Denote  $S_3^e f_B^{\vec{A}}$ .

Definition B.1.27. The ordered continual  $Se^2$ -capacity of the third type is the capacity  $\vec{B}$  containing itself as an element and the displacement of A from

$\vec{B}$  simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  $\vec{B} \vec{A} St_{\vec{B}}$ . Denote  $S_3^e f_{\vec{B}}^A$ .

Definition B.1.28. The ordered continual  $Se^3$ -capacity of the third type is the capacity  $\vec{B}$  containing itself as an element and the displacement of  $\vec{A}$  from  $\vec{B}$  simultaneously, where  $\vec{A}$ ,  $\vec{B}$ - ordered sets of continual elements:  $\vec{B} \vec{A} St_{\vec{B}}$ . Denote  $S_3^e f_{\vec{B}}^{\vec{A}}$ .

Definition B.1.29. The ordered continual Se-capacity in itself of the fourth type  $\vec{A}$ , where  $\vec{A}$  - ordered set of continual elements, is called Se-capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S_4^e f \vec{A}$ .

Definition B.1.29.1. The ordered continual Se-capacity in itself of the fifth type  $\vec{A}$ , where  $\vec{A}$  - ordered set of continual elements, is called Se-capacity in itself, which contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S_5^e f \vec{A}$ .

Also, we consider the following elements:  $S_1^e f_{B \downarrow I \uparrow -\infty}^{\uparrow I \downarrow -1}$ ,  $S_2^e f_B^{\overrightarrow{A \downarrow I \uparrow -1}}$ ,  $S_3^e f_B^{\overrightarrow{A \uparrow I \downarrow -\infty}}$ ,  $S_4^e f \overrightarrow{I \downarrow_d}$  [7] etc.

Consider the connection of Se – elements for continual sets with self-capacity in itself as an element. Consider a fourth type of continual self-consistency in itself as an element. For example,  $S_4^e f A$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-consistency in itself as an element  $S_4^e f A$  with  $m$  continual elements from  $A$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S_4^e f A$ . Continual self-consistencies in itself as an element of the fourth type can be formed for any other structure, not necessarily Se, 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  $S_4^e f A$  can be introduced. The same for  $S_4^e f \vec{A}$ .

Consider mathematics for continual Se-elements [11].

1. Simultaneous addition of sets A, B, and D with continual elements are realized by  $\vec{B} \vec{A} St_{B \cup D}^{\vec{A} \cup \vec{B}}$ , where A, B, D may be ordered sets of continual elements.
2. Let's introduce operator to transform capacity to self-capacity in itself as an element:  $Q_4 Se(A)$  transforms A to  $S_4^e f A$ ,  $Q_i Se(A, B)$  transforms A to  $S_i^e f_B^A$ , where A, B may be ordered sets of continual elements,  $i=1, 2, 3$ .

3.  ${}^B_Q St_B^A$  – is the result of the holding operator action and of the expelling operator action, the continual dynamical hierarchical set of null type  ${}^B_Q St_B^A$  – a kind of product of  $PN(A, B) * OPN(Q, B)$ . Let's call it the  $PN_1$  – product. For sets A, B, and Q we have

$${}^B_Q St_B^A = \left\{ \begin{array}{c} {}^{Q \cap B}_Q St_{A \cap B}^{A \cap B} \\ {}^B_Q St_{A \cap B}^{A \cap B} + {}^{Q \cap B}_Q St_B^A \\ R_1 + R_2 + R_3 \end{array} \right\} \quad (B.1.5)$$

$$R_1 = {}^{B-Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q-Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A \cap B}$$

$$R_2 = {}^{B-Q \cap B}_{Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{B-Q \cap B}_{Q \cap B} St_{B-A \cap B}^{A \cap B}$$

$$R_3 = {}^{Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A-A \cap B} + {}^{Q \cap B}_{Q-Q \cap B} St_{A \cap B}^{A-A \cap B} + {}^{Q \cap B}_{Q-Q \cap B} St_{B-A \cap B}^{A \cap B}$$

The measure:

$$\mu({}^B_Q St_B^A) = ({}^o \mu({}^{Q \cap B}_Q St_{A \cap B}^{A \cap B}) + \mu({}^B_Q St_{A \cap B}^{A \cap B}) + \mu({}^{Q \cap B}_Q St_B^A)) \quad (B.1.6)$$

$$\mu(A) + \mu(B) - \mu(Q)$$

There is the same for structures if it's considered as sets.

Consider the dynamical continual Se – elements [11].

Definition B.1.30. The process of the containment of A(t) into B(t) and the displacement of D(t) from B(t) at time t simultaneously, where some or any elements may be by ordered elements, we shall call dynamical continual Se – element. Let's denote  ${}^{B(t)}_{D(t)} St(t)_{B(t)}^{A(t)}$ .

Definition B.1.31.  $\frac{{}^{B(t)}_{D(t)} St(t)_{B(t)}^{A(t)}}{{}^{B(t)}_{D(t)}}$  is called an ordered continual dynamical Se – element, if some or any elements from A(t), B(t), D(t) may be by ordered dynamical continual elements.

It is allowed to add dynamical continual Se – elements:  ${}^{B_1(t)}_{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} + {}^{B_1(t)}_{D_2(t)} St(t)_{B_1(t)}^{A_2(t)} = {}^{B_1(t)}_{D_1(t) \cup D_2(t)} St(t)_{B_1(t)}^{A_1(t) \cup A_2(t)}$  (\*B.1.7),

where some or any elements may be by ordered dynamical continual elements.

It is allowed to add dynamical continual Se – elements:  ${}^{B_1(t)}_{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} * {}^{B_1(t)}_{D_2(t)} St(t)_{B_1(t)}^{A_2(t)} = {}^{B_1(t)}_{D_1(t) \cap D_2(t)} St(t)_{B_1(t)}^{A_1(t) \cap A_2(t)}$  (\*B.1.8),

where some or any elements may be by ordered dynamical continual elements.

Dynamical continual Se – elements can be elements of a group by multiplication (\*B.1.8) and by addition (\*B.1.7), and algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself.

Definition B.1.32. The dynamical continual  $Se^1$ -capacity of the first type is the process of a containment  $A(t)$  into  $B(t)$  and expelling  $A(t)$  out of  $B(t)$  simultaneously, where  $A(t)$ ,  $B(t)$  - sets of dynamical continual elements:  $\frac{B(t)}{A(t)}St(t)_{B(t)}^{A(t)}$ . Denote  $S_1^e(t)f_{B(t)}^{A(t)}$ .

Definition B.1.33. The dynamical continual  $Se^1$ -capacity of the second type is the process of a containment  $A(t)$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself simultaneously, where  $A(t)$ ,  $B(t)$  - sets of dynamical continual elements:  $\frac{B(t)}{B(t)}St(t)_{B(t)}^{A(t)}$ . Denote  $S_2^e(t)f_{B(t)}^{A(t)}$ .

Definition B.1.34. The continual  $Se^1$ -capacity  $B(t)$  of the third type is the capacity containing itself as an element and the displacement of  $A(t)$  from  $B(t)$  simultaneously, where  $A(t)$ ,  $B(t)$  - sets of dynamical continual elements:  $\frac{B(t)}{A(t)}St(t)_{B(t)}^{B(t)}$ . Denote  $S_3^e(t)f_{B(t)}^{A(t)}$ .

Definition B.1.35. The dynamical continual  $Se$ -capacity  $A(t)$  in itself of the fourth type is the process of containment of elements from which it can be generated, and it can be degenerated at time  $t$  simultaneously, where  $A(t)$ - set of dynamical continual elements. Let's denote  $S_4^e(t)fA(t)$ .

Definition B.1.36. The dynamical continual  $Se$ -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated at time  $t$  through the structure  $Se$ , or both simultaneously, where  $A(t)$ - a set of dynamical continual elements. Let us denote  $S_5^e(t)fA(t)$ .

Definition B.1.37. The dynamical continual  $Se$ -capacity  $A(t)$  in itself of the sixth type, where  $A(t)$ - set of continual elements, is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S_6^e f(t)A(t)$ .

Definition B.1.38. The ordered dynamic continual  $Se^1$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $\overrightarrow{A(t)}$  out of  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\frac{B(t)}{A(t)}St(t)_{B(t)}^{\overrightarrow{A(t)}}$ . Denote  $S_1^e(t)f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition B.1.39. The ordered dynamic continual  $Se^2$ -capacity of the first type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $A(t)$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$  - ordered set of dynamical continual

elements,  $A(t)$  - set of dynamical continual elements :  $\overrightarrow{B(t)}_{A(t)} St(t) \overrightarrow{B(t)}^{A(t)}$ . Denote  $S_1^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.40. The ordered dynamical continual  $Se^3$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{A(t)}$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{A(t)} St(t) \overrightarrow{B(t)}^{A(t)}$ . Denote  $S_1^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.41. The ordered dynamic continual  $Se^1$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ -ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} St(t) \overrightarrow{B(t)}^{A(t)}$ . Denote  $S_2^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.42. The ordered dynamic continual  $Se^2$ -capacity of the second type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} St(t) \overrightarrow{B(t)}^{A(t)}$ . Denote  $S_2^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.43. The ordered dynamic continual  $Se^3$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} St(t) \overrightarrow{B(t)}^{A(t)}$ . Denote  $S_2^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.44. The ordered dynamic continual  $Se^1$ -capacity of the third type is the process of a containment  $B(t)$  of itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$ -ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{A(t)} St(t) \overrightarrow{B(t)}^{B(t)}$ . Denote  $S_3^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.45. The ordered dynamic continual  $Se^2$ -capacity of the third type is the process of a containment  $\overrightarrow{B(t)}$  of itself as an element and the displacement of  $A(t)$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{A(t)} St(t) \overrightarrow{B(t)}^{B(t)}$ . Denote  $S_3^e(t) f \overrightarrow{B(t)}^{A(t)}$ .

Definition B.1.46. The ordered dynamic continual Se<sup>3</sup>-capacity of the third type is the process of a containment  $\overrightarrow{B(t)}$  of itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B}$ - ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{A(t)}} St(t) \xrightarrow{\overrightarrow{B(t)}} \overrightarrow{B(t)}$ . Denote  $S_3^e f \overrightarrow{A(t)}$ .

Definition B.1.47. The ordered dynamic continual Se-capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process that contains elements from which it can be generated, and it can be degenerated at time t simultaneously, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S_4^e(t) f \overrightarrow{A(t)}$ .

Definition B.1.48. The ordered dynamic continual Se-capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time t simultaneously, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S_5^e(t) f \overrightarrow{A(t)}$ .

Definition B.1.48.1. The ordered dynamical continual Se-capacity  $\overrightarrow{A(t)}$  in itself of the sixth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time t, or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements. Let us denote  $S_6^e(t) f \overrightarrow{A(t)}$ .

Also, we consider some elements:  $S_0^e(t) f \uparrow I \downarrow_{-1}^1$ ,  $S_1^e(t) f \uparrow_{B(t) \downarrow I \uparrow_{-\infty}}^{I \downarrow_{-1}^1}$ ,  $S_2^e(t) f \overrightarrow{A(t) \downarrow I \uparrow_{-1}^1}$ ,  $S_3^e(t) f \overrightarrow{A(t) \uparrow I \downarrow_{-\infty}^{\infty}}$ ,  $S_4^e(t) f \uparrow I \downarrow_{d(t)}^{a(t)}$  etc.

Consider the connection of dynamical continual Se – elements with dynamical containment of oneself. Consider a sixth type of dynamical partial containment of oneself. For example,  $S_6^e(t) f \overrightarrow{A^n(t)}$ , where  $\{A^n(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e. n - continual elements, it is possible to consider the dynamic containment of oneself  $S_6^e(t) f \overrightarrow{A^m(t)}$  with m continual elements from  $\{A^n(t)\}$ , at  $m < n$ , which is the process to be formed by the form (1.1), that is, only m continual elements from  $\{A^n(t)\}$  are located in the structure  $S_6^e(t) f \overrightarrow{A^n(t)}$ . Dynamical continual containments of oneself of the fifth type can be formed for any other structure, not necessarily Se, 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  $S_6^e(t) f \overrightarrow{A^n(t)}$  can be introduced.

Consider the dynamical continual Se – elements with target weights [11].

Definition B.1.49. The process of the containment of A(t) with the target weights  $\{g_1(t)\}$  into B(t) and the displacement of D(t) with target weights

$\{g_2(t)\}$  from  $B(t)$  at time  $t$  simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual Se – element with the target weights. Let's denote  $\frac{B(t)}{D(t)\{g_2(t)\}}St(t)_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.1.50. The process  $\frac{B(t)}{D(t)\{g_2(t)\}}St(t)_{B(t)}^{\overline{A(t)\{g_1(t)\}}}$  is called an ordered dynamical continual Se – element with the target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time  $t$ , or both simultaneously, if some or any elements from  $A(t)$ ,  $B(t)$ ,  $D(t)$  maybe by ordered dynamical continual elements with target weights.

It is allowed to multiply dynamical continual Se – elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\} : \frac{B_1(t)}{D_1(t)\{g_2(t)\}}St(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} * \frac{B_2(t)}{D_2(t)\{g_2(t)\}}St(t)_{B_2(t)}^{A_2(t)\{g_1(t)\}} = \frac{B_1(t)}{(D_1(t) \cap D_2(t))\{g_2(t)\}}St(t)_{B_1(t)}^{(A_1(t) \cap A_2(t))\{g_1(t)\}}$  (\*B.1.9),

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

It is allowed to add dynamical continual Se – elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\} : \frac{B_1(t)}{D_1(t)\{g_2(t)\}}St(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} + \frac{B_2(t)}{D_2(t)\{g_2(t)\}}St(t)_{B_2(t)}^{A_2(t)\{g_1(t)\}} = \frac{B_1(t)}{(D_1(t) \cup D_2(t))\{g_2(t)\}}St(t)_{B_1(t)}^{(A_1(t) \cup A_2(t))\{g_1(t)\}}$  (\*B.1.10),

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual Se – elements with target weights can be elements of a group by multiplication (\*<sub>39</sub>) and by addition (\*<sub>40</sub>), and algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself with the target weights.

Definition B.1.51. The dynamical continual Se-capacity with target weights of the first type is the process of a containment  $A(t)$  with target weights  $\{g_1(t)\}$  into  $B(t)$  and expelling  $A(t)$  with target weights  $\{g_1(t)\}$  out of  $B(t)$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:  $\frac{B(t)}{A(t)\{g_1(t)\}}St(t)_{B(t)}^{A(t)\{g_1(t)\}}$ .

Denote  $S_1^e(t)f_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.1.52. The dynamical continual Se-capacity  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the second type is the process of a containment itself as an element  $A(t)$  and expelling oneself  $B(t)$  with target weights  $\{g_2(t)\}$  out of oneself  $B(t)$  at time  $t$  simul-

taneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{B(t)}{B(t)\{g_2(t)\}} St(t)_{B(t)}^{A(t)\{g_1(t)\}}. \text{ Denote } S_1^e(t) f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}.$$

Definition B.1.53. The dynamical continual  $Se^1$ -capacity with target weights of the third type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  in itself and expelling  $A(t)$  with target weights  $\{g_2(t)\}$  out of  $B(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{B(t)}{A(t)\{g_2(t)\}} St(t)_{B(t)}^{B(t)\{g_1(t)\}}. \text{ Denote } S_2^{et}(t) f_{B(t)\{g_1(t)\}}^{A(t)\{g_2(t)\}}.$$

Definition B.1.54. The dynamical continual  $Se$ -capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process of a containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$  and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_4^e(t) f A(t)\{g(t)\}$ .

Definition B.1.55. The ordered dynamical continual  $Se$ -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_5^e(t) f A(t)\{g(t)\}$ .

$$\text{Also, we consider some elements: } \overrightarrow{S_0^e(t) f \uparrow I \downarrow_{-1}^1 \{g(t)\}}, \overrightarrow{S_1^e(t) f \uparrow_{B(t) \downarrow \uparrow_{-\infty}^1} I \downarrow_{-1}^1 \{g(t)\}}, \\ \overrightarrow{S_2^e(t) f_{B(t)}^{A(t) \downarrow \uparrow_{-1}^1 \{g(t)\}}}, \overrightarrow{S_3^e(t) f_{B(t)\{g(t)\}}^{A(t) \uparrow I \downarrow_{-\infty}^{\infty}}}, \overrightarrow{S_4^e(t) f \uparrow I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}}} \text{ etc.}$$

Consider the connection of dynamic continual  $Se$  – elements with target weights with dynamical containment of oneself with target weights. Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S_5^e(t) f A(t)\{g(t)\}$ , where  $A = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S_5^e(t) f A(t)\{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S_5^e(t) f A(t)\{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily

Se, only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^e(t)fA(t)\{g(t)\}$  can be introduced.

### Supplement

We consider Se-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 1 corresponds to the logical value "yes". Then for joint statements  $St_B^A, {}^B_D St, A, B, D$ :  $f({}^B_D St_B^A) = f({}^B_D St) + f(St_B^A) - f({}^B_D St \cap St_B^A) = (f^{os}(C \cap D) + f^s(A \cap B) + f^{-s}(\left\{ \begin{smallmatrix} \{ \} \\ B-B \cap D St \end{smallmatrix} \right\})) - f({}^B_D St \cap St_B^A)$ ,  $f^s(x)$ - the value of self-truth for self- statement  $x$ ,  $f^{os}(x)$ - the value of oself-truth for oself-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 the statement  $A$ ,  $f(A/B)$ - conditional truth of the statement  $A$  at the statement  $B$ , for dependent statements:  $f({}^B_D St \cap St_B^A) = f({}^B_D St)*f(St_B^A/{}^B_D St) = f(St_B^A)*f({}^B_D St / St_B^A)$ . Adding the truth values of inconsistent propositions:  $f(A+B) = F(A)+f(B)$ . The formula of complete truth:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition B.1.56. Se-probability of events  ${}^B_D St_B^A$  is  $p({}^B_D St_B^A)$ , denote  ${}^B_D Sp_B^A$ .

In particular,  ${}^B_D Sp_B^A$  for joint events  $St_B^A, {}^B_D St, A, B, D, {}^B_D St_B^A$ :

$p({}^B_D St_B^A) = p({}^B_D St) + p(St_B^A) - p({}^B_D St \cap St_B^A) = (p^{os}(B \cap D) + p^s(A \cap B) + p^{-s}(\left\{ \begin{smallmatrix} \{ \} \\ B-B \cap D St \end{smallmatrix} \right\})) - p({}^B_D St \cap St_B^A)$ , for dependent events:  $p({}^B_D St \cap St_B^A) = p({}^B_D St)*p(St_B^A/{}^B_D St) = p(St_B^A)*p({}^B_D St / St_B^A)$ .  $p^s(x)$ - the value of self-P for self- event  $x$ ,  $p^{os}(x)$ - the value of oself-P for oself- event  $x$ .

Remark B.1.2. The concept of elements of physics Se is introduced for energy space. The corresponding concept of elements of chemistry Se is introduced accordingly.

Remark B.1.3. Definition B.1.57. The capacity  $A$  is called own for its elements, if for any element  $x \in A$  the relation  $Ax \leq A$  for any  $Z$ ,  $Z$ - set of real numbers. For example, the hierarchy of levels self is just such capacity with  $=1$ .

Remark B.1.4. The model  ${}^{E_2}_{E_3} St_{E_2}^{E_1}$  corresponds to the distribution of self-energy of a living organism, in particular a human one. The left part  ${}^{E_2}_{E_3} St$  corresponds to the distribution of self-energy of the left half of a living organism, the right part  $St_{E_2}^{E_1}$  corresponds to the distribu-

tion of self-energy of the right half of a living organism. The examples:

$$\begin{aligned} St_{virus\ C*}^{virus\ C*+culture\ medium\ for\ A} St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} = \\ virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A} \\ virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A} \end{aligned}$$

$$\begin{aligned} St_{B+culture\ medium\ for\ A}^{B+culture\ medium\ for\ A} St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} = \\ culture\ medium\ for\ A St_{B+culture\ medium\ for\ A}^{B+culture\ medium\ for\ A} \\ culture\ medium\ for\ A St_{B+culture\ medium\ for\ A}^{B+culture\ medium\ for\ A} \end{aligned}$$

It is clear that a chemical agent (tablets)  $St_B^B$  cannot destroy the virus, since  $St_B^B$  cannot actually enter  $St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A} St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A}$ , incompatible objects in the addition operation, there is no interaction directly with the virus, but a simple overlay. The aggressiveness of the the virus is modeled here by the target weight \*. Here, virus cure is modeled by an antivirus model  $St_{-virus\ C*}^{-virus\ C*}$  with a target weight \*:  $St_{-virus\ C*}^{-virus\ C*} + virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A} =$   
 $= culture\ medium\ for\ A St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A}$ . Here, an antivirus ( $-virus\ C$ ) can be an appropriate agent, a virus-antagonist to this virus etc.

The main trend in science, in our opinion, is a hierarchical representation by external compression of object spaces, for example, compression of the object space in an ordinary point space into a Banach space, in logics of higher order (e.g., second order), etc. There is a need for a significant increase in the capacity of information. The next trend in science, in our opinion, will be a hierarchical representation by internal compression of objects to myself, for example, compression of objects of type self. In string theory, they already fold dimensions onto themselves and then compress them into a point.

## B.2 S<sup>1</sup>e – elements

Definition B.2.1. The expression

$$_{D_j}^{B_1} S^1 t_{B_1}^{A_k}, j, k=1,2 \text{ (B.2.1)}$$

where  $A_1, A_2$  is contained into  $B_1$ ;  $D_1, D_2$  is expelled from  $B_1$  and for structure (B.2.1) is performed the next operation- multiplication:

$$_{D_1}^{B_1} S^1 t_{B_1}^{A_1} *_{D_2}^{B_1} S^1 t_{B_1}^{A_2} =_{D_1 \cup D_2}^{B_1} S^1 t_{B_1}^{A_1 \cup A_2} (*_{B.2.1}),$$

then we shall call S<sup>1</sup>e- elements, in case  $A_1, A_2, B_1, D_1, D_2$  are sets we shall call (B.2.1) the dynamical hierarchical set S<sup>1</sup>e [4].

$A_1, A_2, B_1, D_1, D_2$  -are any, in particular  $A_i, i=1, 2$ , maybe actions, actions in the right direction and with the right goal (action with the so-called target weights [1]).

Definition B.2.2.  $\overrightarrow{\frac{B}{D}S^1t_B^A}$  is called an ordered S<sup>1</sup>e- element, if some or any elements from A, B, C, and D may be by ordered elements.

S<sup>1</sup>e- elements can be group elements by multiplication (\*<sub>B.2.1</sub>).

Consider S<sup>1</sup>e-capacity in itself.

Definition B.2.3. The S<sup>1</sup>e -capacity A in itself and from itself of the null type is the capacity A containing itself as an element and expelling oneself out of oneself simultaneously:  $\frac{A}{A}S^1t_A^A$ . Denote  $S_0^1fA$ .

Definition B.2.4. The S<sup>1</sup>e<sup>1</sup>-capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously:  $\frac{B}{A}S^1t_B^A$ . Denote  $S_1^1f_B^A$ .

Definition B.2.5. The S<sup>1</sup>e<sup>1</sup>-capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously:  $\frac{B}{B}S^1t_B^A$ . Denote  $S_2^1f_B^A$ .

Definition B.2.6. The S<sup>1</sup>e<sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of A from B simultaneously:  $\frac{B}{A}S^1t_B^B$ . Denote  $S_3^1f_B^A$ .

Definition B.2.7. S<sup>1</sup>e -capacity A in itself of the fourth type is called S<sup>1</sup>e -capacity in itself, which contains itself and expels oneself or contains elements from which it can be generated, and it can degenerate, or both simultaneously. Let us denote  $S_4^1fA$ .

Definition B.2.7.1. S<sup>1</sup>e -capacity A in itself of the fifth type is called S<sup>1</sup>e -capacity in itself, which contains itself in part and expels oneself in part or contains elements from which it can be generated in part, and it can degenerate in part, or both simultaneously. Let us denote  $S_5^1fA$ .

Consider a fifth type of self-capacity. For example,  $S_5^1fA$ , where  $A = (A_1, A_2, \dots, A_n)$  it is possible to consider S<sup>1</sup>e -capacity in itself  $S_5^1fA$  with m elements from A, at m<n, which is formed by the form (1.1), that is, only m elements are located in the structure  $S_5^1fA$ . S<sup>1</sup>e -capacity in itself of the fourth type can be formed for any other structure, not necessarily S<sup>1</sup>e, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^1fA$  can be introduced. Consider mathematics S<sup>1</sup>e -itself:

1. Similarly, for the simultaneous execution of various operators:  $\frac{F_0B}{F_1D}S^1t_{F_0B}^{F_2A}$ , where  $F_0, F_1, F_2$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^1fFA$ , j=1,2,3,4, where  $\{F\} = (F_0, F_1, F_2)$  are operators.
3. Operations are taking place:

$$\frac{B}{D}S^1t_B^A = (\frac{B}{A}S^1t_B^A, \mu(\frac{B}{D}S^1t_B^A)) = (\mu^s(\frac{B}{A}S^1t_B^A), \mu(A) + 2\mu(B) - \mu(D - A))$$

$$\begin{aligned}
{}^B S^1 t_B^A &= ({}^B_A S^1 t_B^A, {}^B_A S^1 t_B^A), \quad \mu({}^B_A S^1 t_B^A) = (2\mu(B) - \mu(A) + \mu(A - B)) \\
{}^B S^1 t_B^A &= ({}^B_{A-B} S^1 t_B^A, {}^B_{A-B} S^1 t_B^A), \quad \mu({}^B_{A-B} S^1 t_B^A) = (2\mu(B) + \mu(A) - \mu(A - B)) \\
{}^B S^1 t_B^A &= ({}^B_{Q-B} S^1 t_B^A, {}^B_{Q-B} S^1 t_B^A), \quad \mu({}^B_{Q-B} S^1 t_B^A) = (2\mu(B) + \mu(A - B) - \mu(Q - B)) \\
{}^B S^1 t_B^A &= ({}^B_Q S^1 t_B^A, {}^B_Q S^1 t_B^A), \quad \mu({}^B_Q S^1 t_B^A) = (2\mu(B) + \mu(A - B) - \mu(Q)) \\
{}^B S^1 t_B^A &= ({}^B_{Q-B} S^1 t_B^A, {}^B_{Q-B} S^1 t_B^A), \quad \mu({}^B_{Q-B} S^1 t_B^A) = (2\mu(B) + \mu(A) - \mu(Q - B))
\end{aligned}$$

There is the same for structures if it's considered as sets.

The concepts of  $S^1e$  – force:  ${}^{F_2}_{F_3} S^1 t_{F_2}^{F_1}$  – the containment of force  $F_1$  into force  $F_2$  and the displacement of force  $F_3$  from force  $F_2$  simultaneously,  $S^1e$  – energy:  ${}^{E_3}_{E_4} S^1 t_{E_2}^{E_1}$  – the containment of energy  $E_1$  into energy  $E_2$  and the displacement of energy  $E_3$  from energy  $E_2$  simultaneously.

Consider the concepts of  $S^1e$  -capacity in itself of physical objects A, B. Similar to the concepts of publication: The  $S^1e$ -capacity of the first type is the capacity A containing into B and expelling out of B simultaneously:  $S^1e_1 f_B^A$ .  $S^1e$ -capacity A in itself of the fourth type is called  $S^1e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains a program that allows it to be generated in part and it to be degenerated in part, or both simultaneously:  $S^1e_4 f A$ .

By analogy, for  $S^1e_2 f_B^A$ ,  $S^1e_3 f_B^A$ .

Also, you can consider these types of  $S^1e$  -capacity in itself for other objects. For example:  $S^1e_i f$  operator A,  $S^1e_i f$  action B,  $S^1e_i f$  made Q  $i=1,2,3,4$  etc.

Remark. The concept of elements of physics  $S^1e$  is introduced for energy space. The corresponding concept of elements of chemistry  $S^1e$  is introduced accordingly. Consider the dynamical  $S^1e$ – elements.

Definition B.2.8. The process of the containment of A(t) into B(t) and the displacement of D(t) from B(t) at time t simultaneously we shall call dynamical  $S^1e$  – element. Let's denote  ${}^{B(t)}_{D(t)} S^1 t(t)_{B(t)}^{A(t)}$ .

Definition B.2.9.  ${}^{B(t)}_{D(t)} S^1 t(t)_{B(t)}^{\vec{A}(t)}$  with ordered elements  $\vec{A}(t)$  and  $\vec{D}(t)$  is called an ordered dynamical  $S^1e$  – element.

It is allowed to multiply dynamical  $S^1e$ – elements:

$$\begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^1 t(t) \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} * \begin{matrix} B_1(t) \\ D_2(t) \end{matrix} S^1 t(t) \begin{matrix} A_2(t) \\ B_1(t) \end{matrix} = \begin{matrix} B_1(t) \\ D_1(t) \cup D_2(t) \end{matrix} S^1 t(t) \begin{matrix} A_1(t) \cup A_2(t) \\ B_1(t) \end{matrix} \quad (*_{B.2.2})$$

where some or any elements may be ordered elements.

Dynamical  $S^1e$  – elements can be group elements by multiplication  $(*_{B.2.2})$ .

Consider the dynamical  $S^1e$  -capacity in itself.

Definition B.2.10. The dynamical  $S^1e^1$ -capacity of the first type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  out of  $A(t)$  at time  $t$  simultaneously:  $\begin{matrix} A(t) \\ B(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ A(t) \end{matrix}$ . Denote  $S^1e_1(t) f_{A(t)}^{B(t)}$ .

Definition B.2.11. The dynamical  $S^1e^1$ -capacity of the second type is the process of putting  $A(t)$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}$ . Denote  $S^1e_2(t) f_{B(t)}^{A(t)}$ .

Definition B.2.12. Dynamical  $S^1e^1$ -capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $A(t)$  from  $B(t)$  at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ B(t) \end{matrix}$ . Denote  $S^1e_3(t) f_{B(t)}^{A(t)}$ .

Definition B.2.13. Dynamical  $S^1e$  -capacity  $A(t)$  in itself of the fourth type is the process of containment of itself and expelling oneself or the process of the elements containment from which it can be generated, and it can degenerate at time  $t$  simultaneously through the structure  $S^1e$ . Let's denote  $S^1e_4(t) fA(t)$ .

Definition B.2.14. Dynamical  $S^1e$ -capacity  $A(t)$  in itself of the fifth type is the process of containment of itself in part and expelling oneself in part or process of the elements containment from which it can be generated in part, and it to be degenerated in part at time  $t$  through the structure  $S^1e$ , or both simultaneously. Let us denote  $S^1e_5(t) fA(t)$ .

Consider dynamical  $S^1e$ -capacity  $A(t)$  in itself of the fifth type:  $S^1e_5(t) fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical  $S^1e$ -capacity in itself of the fifth type  $A(t)$ :  $S^1e_5(t) fA(t)$ . with  $m$  elements and from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $\begin{matrix} B(t) \\ D(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}$ .

The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical  $S^1e$  -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^2et$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^1e_5(t) fA(t)$ . can be introduced.

Consider the dynamical mathematics  $S^1e$  -itself.

1. Similarly, for the simultaneous execution of various operators:  $\begin{matrix} F_0(t)C(t) \\ F_1(t)D(t) \end{matrix} S^1 t(t) \begin{matrix} F_2(t)A(t) \\ F_0(t)C(t) \end{matrix}$ , where  $F_0(t), F_1(t), F_2(t)$  are operators.

2. Similarly, for the simultaneous execution of various operators:  $S_j^{1e}(t)fF(t)A(t)$ ,  $j=4,5$ , and  $S_k^{1e}(t)f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.

3. Operations are taking place:

$$\begin{aligned}
A) \quad & \{_{D(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{D(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^s( \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( \mu(A(t)) + 2\mu(B(t)) - \mu(D(t) - A(t)) ) \\
b) \quad & \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{A(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^{ss}( \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( 2\mu(B(t)) - \mu(A(t)) + \mu(A(t) - B(t)) ) \\
c) \quad & \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{A(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^{ss}( \begin{smallmatrix} B(t) \\ B(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( 2\mu(B(t)) + \mu(A(t)) - \mu(A(t) - B(t)) ) \\
d) \quad & \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{Q(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^{ss}( \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t) - B(t)) ) \\
e) \quad & \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{Q(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^{ss}( \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t)) ) \\
g) \quad & \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)} = ( \begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix} )^*, \mu_{Q(t)}^{B(t)} S^1 t(t)_{B(t)}^{A(t)} = \\
& \mu^{ss}( \begin{smallmatrix} B(t) \\ B(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)*} ) \\
& ( 2\mu(B(t)) + \mu(A(t)) - \mu(Q(t) - B(t)) )
\end{aligned}$$

There is the same for structures if it's considered as sets.

The concepts of dynamical S<sup>1</sup>e –force:  $\frac{F_2(t)}{F_3(t)} S^1 t(t) \frac{F_1(t)}{F_2(t)}$  –the containment of force F<sub>1</sub>(t) into force F<sub>2</sub>(t) and the displacement of force F<sub>3</sub>(t) from force F<sub>2</sub>(t) at time t simultaneously, dynamical S<sup>1</sup>e– energy:  $\frac{E_2(t)}{E_3(t)} S^1 t \frac{E_1(t)}{E_2(t)}$  –the containment of energy E<sub>1</sub>(t) into energy E<sub>2</sub>(t) and the displacement of energy E<sub>3</sub>(t) from energy E<sub>2</sub>(t) at time t simultaneously.

Consider the concepts of dynamical S<sup>1</sup>e –capacity in itself of physical objects A(t), B(t). Similar to the concepts of publication: the dynamical S<sup>1</sup>e –capacity in itself of the fifth type contains itself in part and expels oneself in part or contains a program that allows it to be generated and it to be degenerated at time t simultaneously partially, or both:  $S^{1e}_5(t)fA(t)$ ,  $S^{1e}_5(t)fB(t)$ . By analogy, for  $S^{1e}_k(t)f_{B(t)}^{A(t)}$ ,  $S^{1e}_k(t)f_{B(t)}^{A(t)}$ , k=1, 2,  $S^{1e}_3(t)f_{B(t)}^{A(t)}$ ,  $S^{1e}_4(t)fA(t)$ .

Also, you can consider these types of dynamical S<sup>1</sup>e –capacity in itself for other objects. For example:  $S^{1e}_i(t)f$  operator A(t),  $S^{1e}_i(t)f$  action B(t),  $S^{1e}_i(t)f$  made Q(t) i=1,2,3,4,5 etc.

Remark. The concept of elements of physics dynamical S<sup>1</sup>e is introduced for energy space. The corresponding concept of elements of chemistry dynamical S<sup>1</sup>e is introduced accordingly.

Consider S<sup>1</sup>e – elements for continual sets.

Here we consider some continual S<sup>1</sup>e –elements and continual self-capacity in itself as an element.

Definition B.2.15. The containment of A into B and the displacement of D from B simultaneously, where A, B, D- sets of continual elements, we shall call continual S<sup>1</sup>e – element. Let's denote  $\frac{B}{D} S^1 t_B^A$ .

Definition B.2.16.  $\frac{B}{D} S^1 t_B^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where A, B, D- sets of continual elements, is called an ordered continual S<sup>1</sup>e – element.

It is allowed to multiply continual S<sup>1</sup>e – elements:

$$\frac{C_1}{D_1} S^1 t_{B_1}^{A_1} * \frac{C_2}{D_2} S^1 t_{B_2}^{A_2} = \frac{C_1}{D_1 \cup D_2} S^1 t_{B_1}^{A_1 \cup A_2} \quad (*_{B.2.3}),$$

where some or any elements may be by ordered elements.

Continual S<sup>1</sup>e – elements can be group elements by multiplication (\*<sub>B.2.3</sub>).

Consider S<sup>1</sup>e –capacity in itself for continual sets.

Definition B.2.17. The continual S<sup>1</sup>e<sup>1</sup> –capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously, where A, B- sets of continual elements:  $\frac{B}{A} S^1 t_B^A$ . Denote  $S^{1e}_1 f_B^A$ .

Definition B.2.18. The continual S<sup>1</sup>e<sup>1</sup> –capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously,

where A, B- sets of continual elements:

${}^B S^1 t_B^A$ . Denote  $S^1_2 f_B^A$ .

Definition B.2.19. The continual  $S^1e^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of A from B simultaneously, where A, B- sets of continual elements:  ${}^B S^1 t_B^B$ . Denote  $S^1_3 f_B^A$ .

Definition B.2.20. The continual  $S^1e^1$ -capacity A in itself of the fourth type, where A- set of continual elements, is called  $S^1e^1$ -capacity in itself, which contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S^1_4 f_A^A$ .

Definition B.2.20.1. The continual  $S^1e^1$ -capacity A in itself of the fifth type, where A- set of continual elements, is called  $S^1e^1$ -capacity in itself, which contains itself in part and expels oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S^1_5 f_A^A$ .

Definition B.2.21. The ordered continual  $Se^1$ -capacity of the first type is the capacity containing  $\vec{A}$  into B and expelling  $\vec{A}$  out of B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  ${}^B S^1 t_B^{\vec{A}}$ . Denote  $S^1_1 f_B^{\vec{A}}$ .

Definition B.2.22. The ordered continual  $S^1e^2$ -capacity of the first type is the capacity containing A into  $\vec{B}$  and expelling A out of  $\vec{B}$  simultaneously, where  $\vec{B}$ - ordered set of continual elements, A- set of continual elements:  ${}^{\vec{B}} S^1 t_{\vec{B}}^A$ . Denote  $S^1_1 f_{\vec{B}}^A$ .

Definition B.2.23. The ordered continual  $S^1e^3$ -capacity of the first type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{A}$  out of  $\vec{B}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  ${}^{\vec{B}} S^1 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^1_1 f_{\vec{B}}^{\vec{A}}$ .

Definition B.2.24. The ordered continual  $S^1e^1$ -capacity of the second type is the capacity containing  $\vec{A}$  into B and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  ${}^B S^1 t_B^{\vec{A}}$ . Denote  $S^1_2 f_B^{\vec{A}}$ .

Definition B.2.25. The ordered continual  $S^1e^2$ -capacity of the second type is the capacity containing A into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  ${}^{\vec{B}} S^1 t_{\vec{B}}^A$ . Denote  $S^1_2 f_{\vec{B}}^A$ .

Definition B.2.26. The ordered continual  $S^1e^3$ -capacity of the second type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself

simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{B} S^1 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^1_e f_{\vec{B}}^{\vec{A}}$ .

Definition B.2.27. The ordered continual  $S^2e^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of  $\vec{A}$  from B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B} S^1 t_B^{\vec{A}}$ . Denote  $S^1_e f_B^{\vec{A}}$ .

Definition B.2.28. The ordered continual  $S^1e^2$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of A from  $\vec{B}$  simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  $\vec{B} S^1 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^1_e f_{\vec{B}}^{\vec{A}}$ .

Definition B.2.29. The ordered continual  $S^1e^3$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{A}$  from  $\vec{B}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{B} S^1 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^1_e f_{\vec{B}}^{\vec{A}}$ .

Definition B.2.30. The ordered continual  $S^1e$  -capacity  $\vec{A}$  in itself of the fourth type, where  $\vec{A}$  - ordered set of continual elements, is called  $S^1e$  -capacity in itself, which contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S^1_e f_{\vec{A}}^{\vec{A}}$ .

Definition B.2.30.1. The ordered continual  $S^1e$  -capacity  $\vec{A}$  in itself of the fifth type, where  $\vec{A}$  - ordered set of continual elements, is called  $S^1e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S^1_e f_{\vec{A}}^{\vec{A}}$ .

Also, we consider the following elements:  $S^1_e f_{B \downarrow I \uparrow_{-\infty}}^{\uparrow I \downarrow_{-1}^1}$ ,  $S^1_e f_B^{\overrightarrow{A \downarrow I \uparrow_{-1}^1}}$ ,  $S^1_e f_B^{\overrightarrow{A \uparrow I \downarrow_{-\infty}^1}}$ ,  $S^1_e f_{\vec{A} \uparrow}^{\overrightarrow{A \downarrow}^d}$  etc.

Consider a fifth type of continual self-capacity in itself as an element. For

example,  $S^1_e f_A^{\vec{A}}$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $A_i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-capacity in itself as an element  $S^1_e f_A^{\vec{A}}$  with m continual elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m continual elements are located in the structure  $S^1_e f_A^{\vec{A}}$ .

Continual self-capacities in itself, as an element of the fifth type, can be formed for any other structure, not necessarily  $S^1e$ , 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  $S^1_e f A$  can be introduced. The same for  $S^1_e f \vec{A}$ .

Consider mathematics itself for continual  $S^1_e$ -elements:

1. Let's introduce operator to transform capacity to self-consistency in itself as an element:  $Q_4 S^1_e (A)$  transforms  $A$  to  $S^1_e f A$ ,  $Q_i S^1_e (A, B)$  transforms  $A$  to  $S^1_e f_B^A$ , where  $A, B$  may be ordered sets of continual elements,  $i=1,2,3$ .
2. Simultaneous addition of sets  $A$ ,  $B$ , and  $D$  with continual elements are realized by  $\frac{B}{D \cup} S^1_e t_{B \cup}^{A \cup}$  where  $A$ ,  $B$ ,  $D$  maybe ordered sets of continual elements.
3. Similarly, for the simultaneous execution of various operators:  $\frac{F_0 B}{F_1 D} S^1_e t_{F_0 B}^{F_2 A}$ , where  $F_0, F_1, F_2$  are operators.
4. Similarly, for the simultaneous execution of various operators:  $S^1_e f_j F A$ ,  $j=1,2,3,4$ , where  $\{F\} = (F_0, F_1, F_2)$  are operators.
5. Operations are taking place:

$$\begin{aligned}
 a) \quad \frac{B}{D-A} S^1_e t_B^A &= \left( \frac{B}{B} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{D-A} S^1_e t_B^A \right) = \left( \mu(A) + 2\mu(B) - \mu(D-A) \right) \\
 b) \quad \frac{B}{A} S^1_e t_B^A &= \left( \frac{B}{B} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{A} S^1_e t_B^A \right) = \left( 2\mu(B) - \mu(A) + \mu(A-B) \right) \\
 c) \quad \frac{B}{A-B} S^1_e t_B^A &= \left( \frac{B}{B} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{A-B} S^1_e t_B^A \right) = \left( 2\mu(B) + \mu(A) - \mu(A-B) \right) \\
 d) \quad \frac{B}{Q} S^1_e t_B^A &= \left( \frac{S^1_e f_B^A}{Q-B} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{Q} S^1_e t_B^A \right) = \left( 2\mu(B) + \mu(A-B) - \mu(Q-B) \right) \\
 e) \quad \frac{B}{Q} S^1_e t_B^A &= \left( \frac{B}{Q} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{Q} S^1_e t_B^A \right) = \left( 2\mu(B) + \mu(A-B) - \mu(Q) \right) \\
 g) \quad \frac{B}{Q} S^1_e t_B^A &= \left( \frac{B}{Q-B} S^1_e t_B^{A*} \right), \quad \mu \left( \frac{B}{Q} S^1_e t_B^A \right) = \left( 2\mu(B) + \mu(A) - \mu(Q-B) \right)
 \end{aligned}$$

There is the same for structures if it's considered as sets.

Consider the dynamical continual  $S^1_e$  - elements.

Definition B.2.31. The process of the containment of continual  $A(t)$  into continual  $B(t)$  and the displacement of continual  $D(t)$  from continual  $B(t)$  at time  $t$  simultaneously we shall call dynamical continual  $S^1_e$  - element. Let's denote  $\frac{B(t)}{D(t)} S^1_e t_{B(t)}^{A(t)}$ .

Definition B.2.32.  $\frac{B(t)}{D(t)} S^1_e t_{B(t)}^{\vec{A}(t)}$  with ordered continual elements  $\vec{A}(t)$  and  $\vec{D}(t)$  is called an ordered dynamical continual  $S^1_e$  - element.

It is allowed to multiply dynamical  $S^1e$ - elements:

$$\begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^1 t \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} * \begin{matrix} B_1(t) \\ D_2(t) \end{matrix} S^1 t \begin{matrix} A_2(t) \\ B_1(t) \end{matrix} = \begin{matrix} B_1(t) \\ D_1(t) \cup D_2(t) \end{matrix} S^1 t \begin{matrix} A_1(t) \cup A_2(t) \\ B_1(t) \end{matrix} \quad (*_{B.2.4})$$

where some or any elements may be by ordered elements.

Dynamical  $S^1e$  – elements can be group elements by multiplication  $(*_{B.2.4})$ .

Consider the dynamical continual containment of oneself.

Definition B.2.33. The dynamical continual  $S^1e^1$ -capacity of the first type is the process of putting continual  $B(t)$  into continual  $A(t)$  and expelling continual  $B(t)$  out of  $A(t)$  at time  $t$  simultaneously:  $\begin{matrix} A(t) \\ B(t) \end{matrix} S^1 t \begin{matrix} B(t) \\ A(t) \end{matrix}$ . Denote  $S^1_1(t) f_{A(t)}^{B(t)}$ .

Definition B.2.34. The dynamical continual  $S^1e^1$ -capacity of the second type is the process of putting continual  $A(t)$  into continual  $B(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t \begin{matrix} A(t) \\ B(t) \end{matrix}$ . Denote  $S^1_2(t) f_{B(t)}^{A(t)}$ .

Definition B.2.35. Dynamical continual  $S^2e^1$ -capacity of the third type is the process of a containment of continual  $B(t)$  itself as an element and the displacement of continual  $A(t)$  from  $B(t)$  at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t \begin{matrix} B(t) \\ B(t) \end{matrix}$ . Denote  $S^1_3(t) f_{B(t)}^{A(t)}$ .

Definition B.2.36. Dynamical continual  $S^1e$  -capacity  $A(t)$  in itself of the fourth type is the process of containment of  $A(t)$  itself and expelling  $A(t)$  oneself or the process of the elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure continual  $S^1e$ . Let's denote  $S^1_4(t) f A(t)$ .

Definition B.2.37. Dynamical continual  $S^1e$ -capacity in itself of the fifth type is the process of containment of  $A(t)$  itself in part and expelling  $A(t)$  oneself in part or process of elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure's continual  $S^1e$ , or both simultaneously. Let us denote  $S^1_5(t) f A(t)$ .

Definition B.2.38. The ordered dynamic continual  $S^1e^1$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $\overrightarrow{A(t)}$  out of  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t \begin{matrix} \overrightarrow{A(t)} \\ B(t) \end{matrix}$ . Denote  $S^1_1(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition B.2.39. The ordered dynamic continual  $S^1e^2$ -capacity of the first type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $A(t)$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$ -ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{A(t)} S^1 t(t) \overrightarrow{A(t)}_{B(t)}$ . Denote  $S^1_1(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition B.2.40. The ordered dynamical continual  $S^1e^3$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{A(t)}$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{A(t)}} S^1 t(t) \overrightarrow{A(t)}_{\overrightarrow{B(t)}}$ . Denote  $S^1_1(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.2.41. The ordered dynamic continual  $S^1e^1$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ -ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} S^1 t(t) \overrightarrow{A(t)}_{B(t)}$ . Denote  $S^1_2(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition B.2.42. The ordered dynamic continual  $S^1e^2$ -capacity of the second type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S^1 t(t) \overrightarrow{A(t)}_{\overrightarrow{B(t)}}$ . Denote  $S^1_2(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition B.2.43. The ordered dynamic continual  $S^1e^3$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S^1 t(t) \overrightarrow{A(t)}_{\overrightarrow{B(t)}}$ . Denote  $S^1_2(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.2.44. The ordered dynamic continual  $S^1e^1$ -capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{A(t)} S^1 t(t) \overrightarrow{A(t)}_{B(t)}$ . Denote  $S^1_3(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition B.2.45. The ordered dynamical continual  $S^1e^2$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $A(t)$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of

dynamical continual elements,  $A(t)$  - set of dynamical continual elements:

$$\overrightarrow{B(t)}_{A(t)} S^1 t(t) \overrightarrow{B(t)}. \text{ Denote } S^1_3(t) f_{\overrightarrow{B(t)}}^{A(t)}.$$

Definition B.2.46. The ordered dynamic continual  $S^1e^3$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B}$ - ordered sets

$$\text{of dynamical continual elements: } \overrightarrow{B(t)}_{A(t)} S^1 t(t) \overrightarrow{B(t)}. \text{ Denote } S^1_3 f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}.$$

Definition B.2.47. The ordered dynamical continual  $S^1e$ -capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S^1_4(t) f \overrightarrow{A(t)}$ .

Definition B.2.48. The ordered dynamical continual  $S^1e$ -capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time  $t$ , or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements. Let us denote  $S^1_5(t) f \overrightarrow{A(t)}$ .

$$\text{Also, we consider some elements: } S^1_5(t) f \overrightarrow{I \downarrow_{-1}^1}, S^1_1(t) f_{B(t) \downarrow I \uparrow_{-\infty}^1}, \\ S^1_2(t) f_{B(t)}^{\overrightarrow{A(t) \uparrow I \uparrow_{-1}^1}}, S^1_3(t) f_{B(t)}^{A(t) \uparrow I \downarrow_{-\infty}^1}, S^1_4(t) f \overrightarrow{I \downarrow_{d(t)}^{a(t)}} \text{ etc.}$$

Consider the dynamical continual mathematics  $S^1e$ -itself.

1. Similarly, for the simultaneous execution of various operators:

$$\frac{F_0(t)C(t)}{F_1(t)D(t)} S^1 t(t) \frac{F_2(t)A(t)}{F_0(t)C(t)}, \text{ where } F_0(t), F_1(t), F_2(t) \text{ are operators.}$$

2. Similarly, for the simultaneous execution of various operators:  $S^1_j(t) f F(t) A(t)$ ,  $j=4,5$ , and  $S^1_k(t) f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.

3. Operations are taking place:

$$a) \frac{B(t)}{D(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} * \right)_{D(t)-A(t)} \mu_{D(t)} \left( \frac{B(t)}{D(t)} S^1 t(t) \frac{A(t)}{B(t)} \right) = \\ \left( \mu^s \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} * \right) \right)_{\mu(A(t)) + 2\mu(B(t)) - \mu(D(t) - A(t))}$$

$$\begin{aligned}
b) \quad & \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ A(t)-B(t) \end{matrix} \right)^*, \quad \mu \left( \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ A(t)-B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) - \mu(A(t)) + \mu(A(t) - B(t)) \end{matrix} \right) \\
c) \quad & \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ A(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^*, \quad \mu \left( \begin{matrix} B(t) \\ A(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ A(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) + \mu(A(t)) - \mu(A(t) - B(t)) \end{matrix} \right) \\
d) \quad & \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^*, \quad \mu \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t) - B(t)) \end{matrix} \right) \\
e) \quad & \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^*, \quad \mu \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t)) \end{matrix} \right) \\
g) \quad & \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^*, \quad \mu \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) + \mu(A(t)) - \mu(Q(t) - B(t)) \end{matrix} \right)
\end{aligned}$$

There is the same for structures if it's considered as sets.

Consider dynamical continual  $S^1e$ -capacity in itself of the fifth type continual  $A(t)$ :  $S^1_5(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical continual  $S^1e$ -capacity in itself of the fifth type  $A(t)$ :  $S^2_5(t)fA(t)$ . with  $m$  elements from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $\begin{matrix} B(t) \\ D(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}$ . The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it.

Dynamical continual  $S^1e$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^1e$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^1_5(t)fA(t)$ . can be introduced.

Consider the dynamical continual  $S^1e$  – elements with target weights.

Definition B.2.49. The process of the containment of continual  $A(t)$  with target weights  $\{g_1(t)\}$  into continual  $B(t)$  and the displacement of  $D(t)$  with target weights  $\{g_2(t)\}$  from  $B(t)$  at time  $t$  simultaneously, where some or any elements

may be by dynamical continual elements, we shall call dynamical continual  $S^1e$  – element with target weights. Let's denote  $\frac{B(t)}{D(t)\{g_2(t)\}} S^1 t(t)_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.2.50. The process  $\frac{B(t)}{D(t)\{g_2(t)\}} S^1 t(t)_{B(t)}^{\overrightarrow{A(t)\{g_1(t)\}}}$  is called an ordered dynamical continual  $S^1e$  – element with target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time  $t$ , or both simultaneously, if some or any elements from  $A(t)$ ,  $B(t)$ ,  $D(t)$  maybe by ordered dynamical continual elements with target weights.

It is allowed to multiply dynamical continual  $S^1e$  – elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\}$   $\frac{B_1(t)}{D_1(t)\{g_2(t)\}} S^1 t(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} * \frac{B_2(t)}{D_2(t)\{g_2(t)\}} S^1 t(t)_{B_2(t)}^{A_2(t)\{g_1(t)\}} = \frac{B_1(t)}{(D_1(t) \cup D_2(t))\{g_2(t)\}} S^1 t(t)_{B_1(t)}^{(A_1(t) \cup A_2(t))\{g_1(t)\}}$  (\*<sub>B.2.5</sub>),

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual  $S^1e$  – elements with target weights can be group elements by multiplication (\*<sub>B.2.5</sub>).

Consider the dynamical continual containment of oneself with the target weights.

Definition B.2.51'. The dynamical continual  $S^1e$  -capacity with target weights of the first type is the process of a containment  $A(t)$  with target weights  $\{g_1(t)\}$  into  $B(t)$  and expelling  $A(t)$  with target weights  $\{g_1(t)\}$  out of  $B(t)$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:  $\frac{B(t)}{A(t)\{g_1(t)\}} S^1 t(t)_{B(t)}^{A(t)\{g_1(t)\}}$ . Denote  $S^1_1(t) f_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.2.52. The dynamical continual  $S^1e$  -capacity  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the second type is the process of a containment of  $A(t)$  itself as an element and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$\frac{B(t)}{B(t)\{g_2(t)\}} S^1 t(t)_{B(t)}^{A(t)\{g_1(t)\}}$ . Denote  $S^1_1(t) f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}$ .

Definition B.2.53. The dynamical continual  $S^1e^1$ -capacity with target weights of the third type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  in itself and expelling  $A(t)$  with target weights  $\{g_2(t)\}$  out of  $B(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual

elements with target weights, or both:

$$\begin{matrix} B(t) \\ A(t)\{g_2(t)\} \end{matrix} S^1 t(t) \begin{matrix} B(t)\{g_1(t)\} \\ B(t) \end{matrix}. \text{ Denote } S^{1et}_2(t) f_{B(t)\{g_1(t)\}}^{A(t)\{g_2(t)\}}.$$

Definition B.2.55. The dynamical continual  $S^1e$ -capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process of containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements or both. Denote  $S^{1e}_4(t) f_{A(t)\{g(t)\}}$ .

Definition B.2.56. The ordered dynamical continual  $S^1e$ -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is contains elements from which it can be generated in part with the target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements or both. Denote  $S^{1e}_5(t) f_{A(t)\{g(t)\}}$ .

Also, we consider some elements:  $S^{1e}_5(t) f \uparrow \overline{I \downarrow_{-1} \{g(t)\}}^{\rightarrow}$ ,  $S^{1e}_1(t) f \uparrow_{B(t) \downarrow I \uparrow_{-\infty}}^{I \downarrow_{-1} \{g(t)\}}$ ,  $S^{1e}_2(t) f \overline{A(t) \downarrow I \uparrow_{-1} \{g(t)\}}^{\rightarrow}$ ,  $S^{1e}_3(t) f \overline{A(t) \uparrow I \downarrow_{-\infty}}^{\rightarrow}$ ,  $S^{1e}_4(t) f \uparrow \overline{I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}}}$  etc.

Consider the dynamical continual mathematics  $S^1e$ -itself with target weights  $g_1(t)$ ,  $g_2(t)$ :

1. Similarly, for the simultaneous execution of various operators:

$$\begin{matrix} F_0(t)C(t) \\ F_1(t)D(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} F_2(t)A(t)g_1(t) \\ F_0(t)C(t) \end{matrix}, \text{ where } F_0(t), F_1(t), F_2(t) \text{ are operators.}$$

2. Similarly, for the simultaneous execution of various operators:

$$S^{1e}_j(t) f F(t) A(t) g_1(t), \quad j=4,5, \text{ and } S^{1e}_k(t) f_{B(t)}^{A(t)g_1(t)}, \quad k=1,2,3, \text{ where } \{F(t)\} = (F_0(t), F_1(t), F_2(t)) \text{ are operators.}$$

3. Operations are taking place:

$$\begin{aligned} a) \quad & \begin{matrix} B(t) \\ D(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right)^* \cdot \mu \left( \begin{matrix} B(t) \\ D(t)g_1(t) - A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right) = \\ & \left( \begin{matrix} \mu^s \left( \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right)^* \\ \mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu(D(t)g_1(t) - A(t)g_1(t)) \end{matrix} \right) \\ b) \quad & \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} = \left( \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ A(t)g_1(t) - B(t) \end{matrix} \right)^* \cdot \\ & \mu \left( \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right) = \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t) \begin{matrix} B(t) \\ A(t)g_1(t) - B(t) \end{matrix} \right)^* \\ 2\mu(B(t)) - \mu(A(t)g_1(t)) + \mu(A(t)g_1(t) - B(t)) \end{matrix} \right) \end{aligned}$$

$$\begin{aligned}
c) \quad & \begin{matrix} B(t) \\ A(t)g_1(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} * \\ \begin{matrix} B(t) \\ A(t)g_1(t)-B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ A(t)g_1(t) \end{pmatrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)}} = \begin{pmatrix} \mu^{ss} \left( \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} * \right) \\ 2\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(A(t)g_1(t) - B(t)) \end{pmatrix} \\
d) \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} S^1_0 f(t) B(t) * \\ Q(t)g_2(t)-B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)}} = \begin{pmatrix} \mu^{ss} \left( \begin{matrix} S^1_0 f(t) B(t) * \\ Q(t)g_2(t)-B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \right) \\ 2\mu(B(t)) + \mu(A(t)g_1(t) - B(t)) - \mu(Q(t)g_2(t) - B(t)) \end{pmatrix} \\
e) \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{B(t)} * \\ \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)}} = \begin{pmatrix} \mu^{ss} \left( \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{B(t)} * \right) \\ 2\mu(B(t)) + \mu(A(t)g_1(t) - B(t)) - \mu(Q(t)g_2(t)) \end{pmatrix} \\
g) \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} * \\ \begin{matrix} B(t) \\ Q(t)g_2(t)-B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)}} = \begin{pmatrix} \mu^{ss} \left( \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t)_{B(t)}^{A(t)g_1(t)} * \right) \\ 2\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(Q(t)g_2(t) - B(t)) \end{pmatrix}
\end{aligned}$$

There is the same for structures if it's considered as sets.

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S^1_5(t)fA(t)\{g(t)\}$ , where  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S^1_5(t)fA(t)\{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S^1_5(t)fA(t)\{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily  $S^2et$ , only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S^1_5(t)fA(t)\{g(t)\}$  can be introduced.

#### Supplement

We consider  $S^1e$ -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 1 corresponds to the logical value "yes". Then for joint statements  $S^1 t_B^A, {}^B_D S^1 t, A, B, D, {}^B_D S^1 t_B^A$ :  $f({}^B_D S^1 t_B^A) = f({}^B_D S^1 t) + f(S^1 t_B^A) - f({}^B_D S^1 t \cap S^1 t_B^A) = (f^{os^1}(B \cap D) + f^{s^1}(A \cap B) + f^{-s^1}(\{ \}_{B-B \cap D} S^1 t)) - f(A) - f(A \cap B) + f(D) - f(S^1 t_B^A \cap {}^B_D S^1 t), f^{s^1}(x)$ - the value of self-truth for self-statement  $x$ ,  $f^{os^1}(x)$ -

the value of oself-truth for oself- 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 the statement A,  $f(A/B)$ - conditional truth of the statement A at the statement B, for dependent statements:  $f({}^B_D S^1 t \cap S^1 t^A_B) = f({}^B_D S^1 t) * f(S^1 t^A_B / {}^B_D S^1 t) = f(S^1 t^A_B) * f({}^B_D S^1 t / S^1 t^A_B)$ . Adding the truth values of inconsistent propositions:  $f(A+B) = F(A)+f(B)$ . The formula of complete truth:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition B.2.55.  $S^1$ e-probability of events  ${}^B_D S^1 t^A_B$  is  $p({}^B_D S^1 t^A_B)$ , denote  ${}^B_D S^1 p_B^A$ .

In particular,  ${}^B_D S^1 p_B^A$  for joint events  $S^1 t^A_B, {}^B_D S^1 t, A, B, D, {}^B_D S^1 t^A_B$ :

$$p({}^B_D S^1 t^A_B) = p({}^B_D S^1 t) + p(S^1 t^A_B) - p(S^1 t^A_B \cap {}^B_D S^1 t) = (p^{os^1}(B \cap D) + p^{s^1}(A \cap B) + p^{-s^1}(\left\{ \begin{smallmatrix} \{ \} \\ B-B \cap D \end{smallmatrix} \right\} S^1 t)) - p(S^1 t^A_B \cap {}^B_D S^1 t),$$

$$p(A) - p(A \cap B) + p(D)$$

for dependent events:  $p({}^B_D S^1 t \cap S^1 t^A_B) = p({}^B_D S^1 t) * p(S^1 t^A_B / {}^B_D S^1 t) = p(S^1 t^A_B) * p({}^B_D S^1 t / S^1 t^A_B)$ .  $p^{s^1}(x)$ - the value of self-P for self- event  $x, p^{os^1}(x)$ - the value of oself-P for oself- event  $x$ .

### B.3 $S^2$ e - elements

Definition B.3.1. The containment of A into B and the displacement of D from B simultaneously we shall call  $S^2$ e - element. Let's denote  ${}^B_D S t^A_B$ .

A, B, C, D-are any, in particular A may be action, action in the right direction and with the right goal (action with the so-called target weights).

Definition B.3.2.  ${}^B_D S t^A_B$  with ordered elements  $\vec{A}$  and  $\vec{D}$  is called an ordered  $S^2$ e -element.

The addition of  $S^2$ e- elements:

$${}^{B_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{B_1}_{D_1} S^2 t^{A_2}_{B_1} = {}^{B_1}_{D_1} S^2 t^{A_1 \cup A_2}_{B_1} \quad (*_{B.3.1}),$$

$${}^{B_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{B_1}_{D_2} S^2 t^{A_1}_{B_1} = {}^{B_1}_{D_1 \cup D_2} S^2 t^{A_1}_{B_1} \quad (*_{B.3.2}),$$

the multiplication of  $S^2$ e - elements:

$${}^{B_1}_{D_1} S^2 t^{A_1}_{B_1} * {}^{B_1}_{D_1} S^2 t^{A_2}_{B_1} = {}^{B_1}_{D_1} S^2 t^{A_1 \cap A_2}_{B_1} \quad (*_{B.3.3}),$$

$${}^{B_1}_{D_1} S^2 t^{A_1}_{B_1} * {}^{B_1}_{D_2} S^2 t^{A_1}_{B_1} = {}^{B_1}_{D_1 \cap D_2} S^2 t^{A_1}_{B_1} \quad (*_{B.3.4}),$$

where some or any elements may be ordered elements.

$S^2e$  – elements can be elements of a group both by multiplication (\*<sub>B.3.3</sub>), (\*<sub>B.3.4</sub>) and by addition (\*<sub>B.3.1</sub>), (\*<sub>B.3.2</sub>) and also form algebraic ring, field by these operations.

Consider  $S^2e$  -capacity in itself.

Definition B.3.3. The  $S^2e^1$ -capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously:  ${}_A^BS^2t_B^A$ . Denote  $S^{2e}_1f_B^A$ .

Definition B.3.4. The  $S^2e^1$ -capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously:  ${}_B^BS^2t_B^A$ . Denote  $S^{2e}_2f_B^A$ .

Definition B.3.5. The  $S^2e^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of A from B simultaneously:  ${}_A^BS^2t_B^B$ . Denote  $S^{2e}_3f_B^A$ .

Definition B.3.6.  $S^2e$  -capacity A in itself of the fourth type is called  $S^2e$  -capacity in itself, which contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S^{2e}_4fA$ .

Definition B.3.6.1.  $S^2e$  -capacity A in itself of the fifth type is called  $S^2e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can degenerate in part, or both simultaneously. Let us denote  $S^{2e}_5fA$ .

Consider a fifth type of self- capacity. For example,  $S^{2e}_5fA$ , where  $A = (A_1, A_2, \dots, A_n)$  it is possible to consider  $S^2e$  -capacity in itself  $S^{2e}_5fA$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S^{2e}_5fA$ .  $S^2e$  -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^2e$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{2e}_4fA$  can be introduced.

Consider mathematics  $S^2e$  -itself:

1. Similarly, for the simultaneous execution of various operators:  ${}_{F_1D}^{F_0B}S^2t_{F_0B}^{F_2A}$ , where  $F_0, F_1, F_2$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S^{2e}_j fFA$ ,  $j=1,2,3,4$ , where  $\{F\} = (F_0, F_1, F_2)$  are operators.
3.  ${}_Q^BS^2t_B^A$  – is the result of the holding operator action and of the expelling operator action, the dynamical hierarchical set of null type  ${}_Q^BS^2t_B^A$  – a kind of product of  $PN(A, B) * OPN(Q, B)$ . Let's call it the  $PN_1$  – product. For sets A, B, Q we have two variants of hierarchical distribution of dynamic hierarchical set  ${}_Q^BS^2t_B^A$ :

$$\begin{matrix} Q \cap B \\ Q \cap B \end{matrix} S^2 t_B^{A \cap B} = \{ \begin{matrix} B \\ Q \end{matrix} S^2 t_{A \cap B}^{A \cap B} + \begin{matrix} Q \cap B \\ Q \cap B \end{matrix} S^2 t_B^A \} \quad (B.3.1)$$

$$R_{11} + R_{21} + R_{31}$$

$$\begin{aligned} R_{11} &= \begin{matrix} B-Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A-A \cap B} + \begin{matrix} B-Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{A \cap B}^{A-A \cap B} + \begin{matrix} B-Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A \cap B} \\ R_{21} &= \begin{matrix} B-Q \cap B \\ Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A-A \cap B} + \begin{matrix} B-Q \cap B \\ Q \cap B \end{matrix} S^2 t_{A \cap B}^{A-A \cap B} + \begin{matrix} B-Q \cap B \\ Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A \cap B} \\ R_{31} &= \begin{matrix} Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A-A \cap B} + \begin{matrix} Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{A \cap B}^{A-A \cap B} + \begin{matrix} Q \cap B \\ Q-Q \cap B \end{matrix} S^2 t_{B-A \cap B}^{A \cap B} \end{aligned}$$

The measure:

$$\begin{aligned} \mu(B St_B^A) &= ({}^o \mu^s(\begin{matrix} Q \cap B \\ Q \cap B \end{matrix} S^2 t_{A \cap B}^{A \cap B}) \\ &\quad + {}^o \mu(\begin{matrix} B \\ Q \end{matrix} S^2 t_{A \cap B}^{A \cap B}) + \mu^s(\begin{matrix} Q \cap B \\ Q \cap B \end{matrix} S^2 t_B^A)) \quad (B.3.2) \\ &\quad \mu(A) + 2\mu(B) - \mu(Q) \end{aligned}$$

$$\begin{matrix} S^{2e} \\ 1 f_B \end{matrix} Q \cap A$$

$$\begin{matrix} B \\ Q \end{matrix} S^2 t_B^A = \{ \begin{matrix} B \\ Q \end{matrix} S^2 t_{A \cap B + Q \cap A}^{A \cap B + Q \cap A} + \begin{matrix} (Q \cap B + Q \cap A) \\ (Q \cap B + Q \cap A) \end{matrix} S^2 t_B^A \} \quad (B.3.3)$$

$$R_{12} + R_{22} + R_{32}$$

$$\begin{aligned} R_{12} &= \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + \\ &\quad \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A} \\ R_{22} &= \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q \cap B+Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q \cap B+Q \cap A \end{matrix} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + \\ &\quad \begin{matrix} B-(Q \cap B + Q \cap A) \\ Q \cap B+Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A} \\ R_{32} &= \begin{matrix} Q \cap B+Q \cap A \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \begin{matrix} Q \cap B+Q \cap A \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} + \\ &\quad \begin{matrix} Q \cap B+Q \cap A \\ Q-Q \cap B-Q \cap A \end{matrix} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A} \end{aligned}$$

The measure:

$$\begin{aligned} \mu(B St_B^A) &= ({}^o \mu^s(S^{2e} 1 f_B^{Q \cap A}) \\ &\quad + {}^o \mu(\begin{matrix} B \\ Q \end{matrix} S^2 t_{A \cap B + Q \cap A}^{A \cap B + Q \cap A}) + \mu^s(\begin{matrix} (Q \cap B + Q \cap A) \\ (Q \cap B + Q \cap A) \end{matrix} S^2 t_B^A)) \quad (B.3.4) \\ &\quad \mu(A) + 2\mu(B) - \mu(Q) \end{aligned}$$

There is the same for structures if it's considered as sets.

The concepts of  $S^2e$ - force:  $\begin{matrix} F_3 \\ F_4 \end{matrix} S^2 t_{F_2}^{F_1}$  -the containment of force  $F_1$  into force  $F_2$  and the displacement of force  $F_4$  from force  $F_3$  simultaneously,  $S^2e$ - energy:  $\begin{matrix} E_3 \\ E_4 \end{matrix} S^2 t_{E_2}^{E_1}$  -the containment of energy  $E_1$  into energy  $E_2$  and the displacement of energy  $E_4$  from energy  $E_3$  simultaneously.

Consider the concepts of  $S^2e$  -capacity in itself of physical objects A, B. Similar to the concepts of publication: The  $S^2e$  <sup>1</sup>-capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously:  $S^{2e} 1 f_B^A$ .  $S^2e$  -capacity A in itself of the fourth type is called  $S^2e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains a

program that allows it to be generated in part and it to be degenerated in part, or both simultaneously:  $S^2_e f A$ . By analogy, for  $S^2_e f_B^A$ ,  $S^2_e f_B^A$ . Also, you can consider these types of  $S^2_e$ -capacity in itself for other objects. For example:  $S^2_e f$ -operator A,  $S^2_e f$ -action B,  $S^2_e f$ -made Q  $i=1,2,3,4$  etc.

Remark. The concept of elements of physics  $S^2_e$  is introduced for energy space. The corresponding concept of elements of chemistry  $S^2_e$  is introduced accordingly.

Consider the dynamical  $S^2_e$  – elements.

Definition B.3.7. The process of the containment of A(t) into B(t) and the displacement of D(t) from B(t) at time t simultaneously we shall call dynamical  $S^2_e$  – element. Let's denote  $\frac{B(t)}{D(t)} S^2 t(t)_{B(t)}^{A(t)}$ .

Definition B.3.9.  $\frac{B(t)}{D(t)} S^2 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{D}(t)$  is called an ordered dynamical  $S^2_e$  – element.

The addition of dynamical  $S^2_e$  – elements:

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*_{B.3.5}),$$

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{B_1(t)}{D_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = \frac{B_1(t)}{D_1(t) \cup D_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{B.3.6}),$$

the multiplication of dynamical  $S^2_e$  – elements:

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * \frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cap A_2(t)} \quad (*_{B.3.7}),$$

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * \frac{B_1(t)}{D_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = \frac{B_1(t)}{D_1(t) \cap D_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{B.3.8}),$$

where some or any elements may be by ordered elements.

Dynamical  $S^2_e$  – elements can be elements of a group both by multiplication ( $*_{B.3.7}$ ), ( $*_{B.3.8}$ ) and by addition ( $*_{B.3.5}$ ), ( $*_{B.3.6}$ ) and also form an algebraic ring, field by these operations.

Consider the dynamical  $S^2_e$  -capacity in itself.

Definition B.3.10. The dynamical  $S^2_e$  <sup>1</sup>-capacity of the first type is the process of putting B(t) into A(t) and expelling B(t) out of A(t) at time t simultaneously:  $\frac{A(t)}{B(t)} S^2 t(t)_{A(t)}^{B(t)}$ . Denote  $S^2_e f_{A(t)}^{B(t)}$ .

Definition B.3.11. The dynamical  $S^2_e$  <sup>1</sup>-capacity of the second type is the process of putting A(t) into B(t) and expelling B(t) oneself out of oneself at time t simultaneously:  $\frac{B(t)}{B(t)} S^2 t(t)_{B(t)}^{A(t)}$ . Denote  $S^2_e f_{B(t)}^{A(t)}$ .

Definition B.3.12. Dynamical  $S^2e$  <sup>1</sup>-capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $A(t)$  from  $B(t)$  at time  $t$  simultaneously:  $\begin{smallmatrix} B(t) \\ A(t) \end{smallmatrix} S^2 t \begin{smallmatrix} B(t) \\ B(t) \end{smallmatrix}$ . Denote  $S^{2e}_3(t) f_{B(t)}^{A(t)}$ .

Definition B.3.13. Dynamical  $S^2e$  -capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure  $S^2e$ . Let's denote  $S^{2e}_4(t) f A(t)$ .

Definition B.3.14. Dynamical  $S^2e$ -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or process of a elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $S^2e$ , or both simultaneously. Let us denote  $S^{2e}_5(t) f A(t)$ .

Consider dynamical  $S^2e$ -capacity  $A(t)$  in itself of the fifth type:  $S^{2e}_5(t) f A(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical  $S^2e$ -capacity in itself of the fifth type  $A(t)$ :  $S^{2e}_5(t) f A(t)$ . with  $m$  elements and from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $\begin{smallmatrix} B(t) \\ D(t) \end{smallmatrix} S^2 t \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix}$ .

The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical  $S^2e$  -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^2et$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{2e}_5(t) f A(t)$ . can be introduced.

Consider the dynamical mathematics  $S^2e$  -itself.

1. Similarly, for the simultaneous execution of various operators:  $\begin{smallmatrix} F_0(t)C(t) \\ F_1(t)D(t) \end{smallmatrix} S^2 t \begin{smallmatrix} F_2(t)A(t) \\ F_0(t)C(t) \end{smallmatrix}$ , where  $F_0(t), F_1(t), F_2(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S^{2e}_j(t) f F(t) A(t)$ ,  $j=4,5$ , and  $S^{2e}_k(t) f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.
3.  $\begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^2 t \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix}$  — is the result of the holding operator action and of the expelling operator action, the dynamical hierarchical set of null type  $\begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^2 t \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix}$  - a kind of product of  $PN(A(t), B(t)) * OPN(Q(t), B(t))$ . Let's call it the  $PN_1$  - product. For sets  $A(t), B(t), Q(t)$  variants of hierarchical distribution of dynamic hierarchical set  $\begin{smallmatrix} B(t) \\ Q(t) \end{smallmatrix} S^2 t \begin{smallmatrix} A(t) \\ B(t) \end{smallmatrix}$ :

$$\begin{aligned} \mu_{Q(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)} &= \left\{ \mu_{Q(t)}^{B(t)} S^2 t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)} + \mu_{Q(t) \cap B(t)}^{Q(t) \cap B(t)} S^2 t(t)_{B(t)}^{A(t)} \right\} \quad (\text{B.3.5}) \\ &\quad R_{11} + R_{21} + R_{31} \end{aligned}$$

$$\begin{aligned} R_{11} &= \mu_{Q(t)-Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \mu_{Q(t)-Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t) \cap B(t)} \\ R_{21} &= \mu_{Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \mu_{Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \\ &\quad \mu_{Q(t) \cap B(t)}^{B(t)-Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t) \cap B(t)} \\ R_{31} &= \mu_{Q(t)-Q(t) \cap B(t)}^{Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \mu_{Q(t)-Q(t) \cap B(t)}^{Q(t) \cap B(t)} S^2 t(t)_{A(t) \cap B(t)}^{A(t)-A(t) \cap B(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)}^{Q(t) \cap B(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)}^{A(t) \cap B(t)} \end{aligned}$$

The measure:

$$\begin{aligned} \mu_{Q(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)} &= \left( \mu_{Q(t)}^{B(t)} S^2 t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)} + \mu_{Q(t) \cap B(t)}^{Q(t) \cap B(t)} S^2 t(t)_{B(t)}^{A(t)} \right) \quad (\text{B.3.6}) \\ &\quad \mu(A(t)) + 2\mu(B(t)) - \mu(Q(t)) \end{aligned}$$

$$\begin{aligned} \mu_{Q(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)} &= \left\{ \mu_{Q(t)}^{B(t)} S^2 t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)} + \mu_{Q(t) \cap B(t) + Q(t) \cap A(t)}^{Q(t) \cap B(t) + Q(t) \cap A(t)} S^2 t(t)_{B(t)}^{A(t)} \right\} \\ &\quad R_{12} + R_{22} + R_{32} \quad (\text{B.3.7}) \end{aligned}$$

$$\begin{aligned} R_{12} &= \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{A(t) \cap B(t)+Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t) \cap B(t)+Q(t) \cap A(t)} \\ R_{22} &= \mu_{Q(t) \cap B(t)+Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t) \cap B(t)+Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{A(t) \cap B(t)+Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t) \cap B(t)+Q(t) \cap A(t)}^{B(t)-(Q(t) \cap B(t)+Q(t) \cap A(t))} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t) \cap B(t)+Q(t) \cap A(t)} \\ R_{32} &= \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{Q(t) \cap B(t)+Q(t) \cap A(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{Q(t) \cap B(t)+Q(t) \cap A(t)} S^2 t(t)_{A(t) \cap B(t)+Q(t) \cap A(t)}^{A(t)-A(t) \cap B(t)-Q(t) \cap A(t)} + \\ &\quad \mu_{Q(t)-Q(t) \cap B(t)-Q(t) \cap A(t)}^{Q(t) \cap B(t)+Q(t) \cap A(t)} S^2 t(t)_{B(t)-A(t) \cap B(t)-Q(t) \cap A(t)}^{A(t) \cap B(t)+Q(t) \cap A(t)} \end{aligned}$$

The measure:  $\mu_{Q(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)} =$

$$\begin{aligned} &\quad \mu_{Q(t)}^{B(t)} S^2 t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)} + \mu_{Q(t) \cap B(t) + Q(t) \cap A(t)}^{Q(t) \cap B(t) + Q(t) \cap A(t)} S^2 t(t)_{B(t)}^{A(t)} \quad (\text{B.3.8}) \\ &\quad \mu(A(t)) + 2\mu(B(t)) - \mu(Q(t)) \end{aligned}$$

There is the same for structures if it's considered as sets.

The concepts of dynamical  $S^2e$  –force:  $\frac{F_2(t)}{F_3(t)} S^2 t \frac{F_1(t)}{F_2(t)}$  –the containment of force  $F_1(t)$  into force  $F_2(t)$  and the displacement of force  $F_3(t)$  from force  $F_2(t)$  at time  $t$  simultaneously, dynamical  $S^2e$ – energy:  $\frac{E_2(t)}{E_3(t)} S^2 t \frac{E_1(t)}{E_2(t)}$  –the containment of energy  $E_1(t)$  into energy  $E_2(t)$  and the displacement of energy  $E_3(t)$  from energy  $E_2(t)$  at time  $t$  simultaneously.

Consider the concepts of dynamical  $S^2e$  -capacity in itself of physical objects  $A(t)$ ,  $B(t)$ . Similar to the concepts of publication: the dynamical  $S^2e$  -capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time  $t$  simultaneously partially, or both:  $S^2_5(t)fA(t)$ ,  $S^2_5(t)fB(t)$ . By analogy, for  $S^2_k(t)f_{B(t)}^{A(t)}$ ,  $S^2_k(t)f_{B(t)}^{A(t)}$ ,  $k=1, 2$ ,  $S^2_3(t)f_{B(t)}^{A(t)}$ ,  $S^2_4(t)fA(t)$ . Also, you can consider these types of dynamical  $S^2e$  -capacity in itself for other objects. For example:  $S^2_i(t)f$  operator  $A(t)$ ,  $S^2_i(t)f$  action  $B(t)$ ,  $S^2_i(t)f$  made  $Q(t)$   $i=1,2,3,4,5$  etc.

Remark. The concept of elements of physics dynamical  $S^2e$  is introduced for energy space. The corresponding concept of elements of chemistry dynamical  $S^2e$  is introduced accordingly.

Consider  $S^2e$  – elements for continual sets. Here we consider some continual  $S^2e$  -elements and continual self-capacity in itself as an element.

Definition B.3.15. The containment of  $A$  into  $B$  and the displacement of  $D$  from  $B$  simultaneously, where  $A$ ,  $B$ ,  $D$ - sets of continual elements, we shall call continual  $S^2e$  – element. Let's denote  $\frac{B}{D} S^2 t_B^A$ .

Definition B.3.16.  $\frac{B}{D} S^2 t_B^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where  $A$ ,  $B$ ,  $D$ - sets of continual elements, is called an ordered continual  $S^2e$  – element.

The addition of continual  $S^2e$ – elements:

$$\frac{B_1}{D_1} S^2 t_{B_1}^{A_1} + \frac{B_1}{D_1} S^2 t_{B_1}^{A_2} = \frac{B_1}{D_1} S^2 t_{B_1}^{A_1 \cup A_2} \quad (*_{B.3.9}),$$

$$\frac{B_1}{D_1} S^2 t_{B_1}^{A_1} + \frac{B_1}{D_2} S^2 t_{B_1}^{A_1} = \frac{B_1}{D_1 \cup D_2} S^2 t_{B_1}^{A_1} \quad (*_{B.3.10}),$$

the multiplication of continual  $S^2e$  – elements:

$$\frac{B_1}{D_1} S^2 t_{B_1}^{A_1} * \frac{B_1}{D_1} S^2 t_{B_1}^{A_2} = \frac{B_1}{D_1} S^2 t_{B_1}^{A_1 \cap A_2} \quad (*_{B.3.11}),$$

$$\frac{B_1}{D_1} S^2 t_{B_1}^{A_1} * \frac{B_1}{D_2} S^2 t_{B_1}^{A_1} = \frac{B_1}{D_1 \cap D_2} S^2 t_{B_1}^{A_1} \quad (*_{B.3.12}),$$

where some or any elements may be by ordered elements.

Continual  $S^2e$  – elements can be elements of a group both by multiplication (\*<sub>B.3.11</sub>), (\*<sub>B.3.12</sub>) and by addition (\*<sub>B.3.9</sub>), (\*<sub>B.3.10</sub>) and also form algebraic ring, field by these operations.

Consider mathematics continual  $S^2e$  -itself.

1. Similarly, for the simultaneous execution of various operators:  $\frac{F_0 B}{F_1 D} S^2 t_{F_0 B}^{F_2 A}$ , where  $F_0, F_1, F_2$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^{2e} f F A$ ,  $j=1,2,3,4$ , where  $\{F\} = (F_0, F_1, F_2)$  are operators.
3.  $\frac{B}{Q} S^2 t_B^A$  – is the result of the holding operator action and of the expelling operator action, the continual dynamical hierarchical set of null type  $\frac{B}{Q} S^2 t_B^A$  – a kind of product of  $PN(A, B) * OPN(Q, B)$ . Let's call it the  $PN_1$  – product. For sets A, B, Q we have two variants of hierarchical distribution of continual dynamic hierarchical set  $\frac{B}{Q} S^2 t_B^A$ :

$$\frac{B}{Q} S^2 t_B^A = \left\{ \frac{Q \cap B}{Q \cap B} S^2 t_{A \cap B}^{A \cap B} + \frac{Q \cap B}{Q \cap B} S^2 t_B^A \right\} \quad (B.3.9)$$

$$R_{11} + R_{21} + R_{31}$$

$$R_{11} = \frac{B-Q \cap B}{Q-Q \cap B} S^2 t_{B-A \cap B}^{A-A \cap B} + \frac{B-Q \cap B}{Q-Q \cap B} S^2 t_{A \cap B}^{A-A \cap B} + \frac{B-Q \cap B}{Q-Q \cap B} S^2 t_{B-A \cap B}^{A \cap B}$$

$$R_{21} = \frac{B-Q \cap B}{Q \cap B} S^2 t_{B-A \cap B}^{A-A \cap B} + \frac{B-Q \cap B}{Q \cap B} S^2 t_{A \cap B}^{A-A \cap B} + \frac{B-Q \cap B}{Q \cap B} S^2 t_{B-A \cap B}^{A \cap B}$$

$$R_{31} = \frac{Q \cap B}{Q-Q \cap B} S^2 t_{B-A \cap B}^{A-A \cap B} + \frac{Q \cap B}{Q-Q \cap B} S^2 t_{A \cap B}^{A-A \cap B} + \frac{Q \cap B}{Q-Q \cap B} S^2 t_{B-A \cap B}^{A \cap B}$$

The measure:

$$\mu(\frac{B}{Q} S^2 t_B^A) = (\mu(\frac{Q \cap B}{Q \cap B} S^2 t_{A \cap B}^{A \cap B}) + \mu(\frac{Q \cap B}{Q \cap B} S^2 t_B^A)) \quad (B.310)$$

$$\mu(A) + 2\mu(B) - \mu(Q)$$

$$\frac{B}{Q} S^2 t_B^A = \left\{ \frac{S_1^{2e} f_B^{Q \cap A}}{Q \cap B + Q \cap A} S^2 t_{A \cap B + Q \cap A}^{A \cap B + Q \cap A} + \frac{(Q \cap B + Q \cap A)}{(Q \cap B + Q \cap A)} S^2 t_B^A \right\} \quad (B.3.11)$$

$$R_{12} + R_{22} + R_{32}$$

$$R_{12} = \frac{B-(Q \cap B + Q \cap A)}{Q-Q \cap B-Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \frac{B-(Q \cap B + Q \cap A)}{Q-Q \cap B-Q \cap A} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} +$$

$$\frac{B-(Q \cap B + Q \cap A)}{Q-Q \cap B-Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

$$R_{22} = \frac{B-(Q \cap B + Q \cap A)}{Q \cap B+Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \frac{B-(Q \cap B + Q \cap A)}{Q \cap B+Q \cap A} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} +$$

$$\frac{B-(Q \cap B + Q \cap A)}{Q \cap B+Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

$$R_{32} = \frac{Q \cap B+Q \cap A}{Q-Q \cap B-Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A-A \cap B-Q \cap A} + \frac{Q \cap B+Q \cap A}{Q-Q \cap B-Q \cap A} S^2 t_{A \cap B+Q \cap A}^{A-A \cap B-Q \cap A} +$$

$$\frac{Q \cap B+Q \cap A}{Q-Q \cap B-Q \cap A} S^2 t_{B-A \cap B-Q \cap A}^{A \cap B+Q \cap A}$$

The measure:

$$\mu({}_Q^B S t_B^A) = \left( {}^o \mu({}_Q^B S^2 t_{A \cap B + Q \cap A}^A) + \mu^s({}_{(Q \cap B + Q \cap A)}^{(Q \cap B + Q \cap A)} S^2 t_B^A) \right) \quad (\text{B.3.12})$$

$$\mu(A) + 2\mu(B) - \mu(Q)$$

There is the same for structures if it's considered as sets.

Consider  $S^2e$  -capacity in itself for continual sets.

Definition B.3.17. The continual  $S^2e^1$ -capacity of the first type is the capacity containing A into B and expelling A out of B simultaneously, where A, B- sets of continual elements:  ${}_A^B S^2 t_B^A$ . Denote  $S^2e_1 f_B^A$ .

Definition B.3.18. The continual  $S^2e^1$ -capacity of the second type is the capacity containing A into B and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:

$${}_B^B S^2 t_B^A. \text{ Denote } S^2e_2 f_B^A.$$

Definition B.3.19. The continual  $S^2e^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of A from B simultaneously, where A, B- sets of continual elements:  ${}_A^B S^2 t_B^B$ . Denote  $S^2e_3 f_B^A$ .

Definition B.3.20. The continual  $S^2e$  -capacity A in itself of the fourth type, where A- set of continual elements, is called  $S^2e$  -capacity in itself, which contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S^2e_4 f_A$ .

Definition B.3.20.1. The continual  $S^2e$  -capacity A in itself of the fifth type, where A- set of continual elements, is called  $S^2e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S^2e_5 f_A$ .

Definition B.3.21. The ordered continual  $S^2e^1$ -capacity of the first type is the capacity containing  $\vec{A}$  into B and expelling  $\vec{A}$  out of B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  ${}_A^B S^2 t_B^{\vec{A}}$ . Denote  $S^2e_1 f_B^{\vec{A}}$ .

Definition B.3.22. The ordered continual  $S^2e^2$ -capacity of the first type is the capacity containing A into  $\vec{B}$  and expelling A out of  $\vec{B}$  simultaneously, where  $\vec{B}$  -ordered set of continual elements, A- set of continual elements:  ${}_{\vec{A}}^{\vec{B}} S^2 t_{\vec{B}}^A$ . Denote  $S^2e_1 f_{\vec{B}}^A$ .

Definition B.3.23. The ordered continual  $S^2e^3$ -capacity of the first type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{A}$  out of  $\vec{B}$  simultaneously, where  $\vec{A}, \vec{B}$  -ordered sets of continual elements:  $\vec{B}_A S^2 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^{2e}_1 f_{\vec{B}}^{\vec{A}}$ .

Definition B.3.24. The ordered continual  $S^2e^1$ -capacity of the second type is the capacity containing  $\vec{A}$  into B and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}_B S^2 t_B^{\vec{A}}$ . Denote  $S^{2e}_2 f_B^{\vec{A}}$ .

Definition B.3.25. The ordered continual  $S^2e^2$ -capacity of the second type is the capacity containing A into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  $\vec{B}_B S^2 t_{\vec{B}}^A$ . Denote  $S^{2e}_2 f_{\vec{B}}^A$ .

Definition B.3.26. The ordered continual  $S^2e^3$ -capacity of the second type is the capacity containing  $\vec{A}$  into  $\vec{B}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{B}_B S^2 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^{2e}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition B.3.27. The ordered continual  $S^2e^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of  $\vec{A}$  from B simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}_A S^2 t_B^{\vec{A}}$ . Denote  $S^{2e}_3 f_B^{\vec{A}}$ .

Definition B.3.28. The ordered continual  $S^2e^2$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of A from  $\vec{B}$  simultaneously, where  $\vec{B}$ - ordered sets of continual elements, A- set of continual elements:  $\vec{B}_A S^2 t_{\vec{B}}^{\vec{B}}$ . Denote  $S^{2e}_3 f_{\vec{B}}^A$ .

Definition B.3.29. The ordered continual  $S^2e^3$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{A}$  from  $\vec{B}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{B}_A S^2 t_{\vec{B}}^{\vec{A}}$ . Denote  $S^{2e}_3 f_{\vec{B}}^{\vec{A}}$ .

Definition B.3.30. The ordered continual  $S^2e$  -capacity  $\vec{A}$  in itself of the fourth type, where  $\vec{A}$  - ordered set of continual elements, is called  $S^2e$  -capacity in itself, which contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated, or both simultaneously. Let us denote  $S^{2e}_4 f_{\vec{A}}^{\vec{A}}$ .

Definition B.3.30.1. The ordered continual  $S^2e$  -capacity  $\overrightarrow{A}$  in itself of the fifth type, where  $\overrightarrow{A}$  - ordered set of continual elements, is called  $S^2e$  -capacity in itself, which contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S^2e_5 f \overrightarrow{A}$ .

Also we consider next elements:  $S^2e_1 f_{B \downarrow I \uparrow -\infty}^{\uparrow I \downarrow -1}$ ,  $S^2e_2 f_B^{\overrightarrow{A \downarrow I \uparrow -1}}$ ,  $S^2e_3 f_B^{\overrightarrow{A \uparrow I \downarrow -\infty}}$ ,  $S^2e_4 f_{\uparrow I \downarrow d}^{\overrightarrow{A}}$  etc.

Consider a fifth type of continual self-capacity in itself as an element. For

example,  $S^2e_4 f A$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $A_i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-capacity in itself as an element  $S^2e_5 f A$  with  $m$  continual elements from  $A$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S^2e_5 f A$ .

Continual self-capacity in itself as an element of the fifth type can be formed for any other structure, not necessarily  $S^2e$ , 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  $S^2e_5 f A$  can be introduced. The same for  $S^2e_5 f \overrightarrow{A}$ .

Consider mathematics itself for continual  $S^2e$  -elements:

Simultaneous addition of sets  $A, B, D$  with continual elements is realized by  $\frac{B}{D \cup} S^2 t_{B \cup}^{\overrightarrow{A \cup}}$  where  $A, B, D$  may be ordered sets of continual elements. Let's introduce the operator to transform capacity to self-capacity in itself as an element:  $Q_4 S^2e$  ( $A$ ) transforms  $A$  to  $S^2e_4 f A$ ,  $Q_i S^2e$  ( $A, B$ ) transforms  $A$  to  $S^2e_i f_B^A$ , where  $A, B$  may be ordered sets of continual elements,  $i=1, 2, 3$ .

Consider the dynamical continual  $S^2e$  - elements.

Definition B.3.31. The process of the containment of continual  $A(t)$  into continual  $B(t)$  and the displacement of continual  $D(t)$  from continual  $B(t)$  at time  $t$  simultaneously we shall call dynamical continual  $S^2e$  - element. Let's denote  $\frac{B(t)}{D(t)} S^2 t(t)_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition B.3.32.  $\frac{B(t)}{D(t)} S^2 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered continual elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{D}(t)$  is called an ordered dynamical continual  $S^2e$  - element.

The addition of dynamical continual  $S^2e$  - elements:

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{B_2(t)}{D_2(t)} S^2 t(t)_{B_2(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*_{B.3.13}),$$

$$\frac{B_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{B_2(t)}{D_2(t)} S^2 t(t)_{B_2(t)}^{A_2(t)} = \frac{B_1(t)}{D_1(t) \cup D_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{B.3.14}),$$

the multiplication of dynamical continual  $S^2e$  – elements:

$$\begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^2 t(t) \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} * \begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^2 t(t) \begin{matrix} A_2(t) \\ B_1(t) \end{matrix} = \begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^2 t \begin{matrix} A_1(t) \cap A_2(t) \\ B_1(t) \end{matrix} \quad (*_{B.3.15}),$$

$$\begin{matrix} B_1(t) \\ D_1(t) \end{matrix} S^2 t(t) \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} * \begin{matrix} B_1(t) \\ D_2(t) \end{matrix} S^2 t(t) \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} = \begin{matrix} B_1(t) \\ D_1(t) \cap D_2(t) \end{matrix} S^2 t \begin{matrix} A_1(t) \\ B_1(t) \end{matrix} \quad (*_{B.3.16}),$$

where some or any elements may be ordered elements.

Dynamical continual  $S^2et$  – elements can be elements of a group both by multiplication  $(*_{B.3.15})$ ,  $(*_{B.3.16})$  and by addition  $(*_{B.3.13})$ ,  $(*_{B.3.14})$  and also form algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself.

**Definition B.3.33.** The dynamical continual  $S^2e^1$ -capacity of the first type is the process of putting continual  $B(t)$  into continual  $A(t)$  and expelling continual  $B(t)$  out of  $A(t)$  at time  $t$  simultaneously:  $\begin{matrix} A(t) \\ B(t) \end{matrix} S^2 t(t) \begin{matrix} B(t) \\ A(t) \end{matrix}$ . Denote  $S^{2e}_1(t) f_{A(t)}^{B(t)}$ .

**Definition B.3.34.** The dynamical continual  $S^2e^1$ -capacity of the second type is the process of putting continual  $A(t)$  into continual  $B(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ B(t) \end{matrix} S^2 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}$ . Denote  $S^{2e}_2(t) f_{B(t)}^{A(t)}$ .

**Definition B.3.35.** Dynamical continual  $S^2e^1$ -capacity of the third type is the process of a containment of the continual  $B(t)$  itself as an element and the displacement of the continual  $A(t)$  from  $B(t)$  at time  $t$  simultaneously:  $\begin{matrix} B(t) \\ A(t) \end{matrix} S^2 t \begin{matrix} B(t) \\ B(t) \end{matrix}$ . Denote  $S^{2e}_3(t) f_{B(t)}^{A(t)}$ .

**Definition B.3.36.** Dynamical continual  $S^2e$  -capacity  $A(t)$  in itself of the fourth type is the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure continual  $S^2e$ . Let's denote  $S^{2e}_4(t) f A(t)$ .

**Definition B.3.37.** Dynamical continual  $S^2e$ -capacity  $A(t)$  in itself of the fifth type continual is the process of a containment of the continual  $A(t)$  of itself in part and expelling oneself in part or process of a elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure continual  $S^2e$ , or both simultaneously. Let us denote  $S^{2e}_5(t) f A(t)$ .

**Definition B.3.38.** The ordered dynamic continual  $S^2e^1$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $\overrightarrow{A(t)}$  out of  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual

elements,  $B(t)$  - set of dynamical continual elements:  $\frac{B(t)}{A(t)} S^2 t(t) \frac{\overrightarrow{A(t)}}{B(t)}$ . Denote  $S^{2e}_1(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.3.39. The ordered dynamic continual  $S^2e^2$ -capacity of the first type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $A(t)$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$ -ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{A(t)} S^2 t(t) \frac{A(t)}{\overrightarrow{B(t)}}$ . Denote  $S^{2e}_1(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition B.3.40. The ordered dynamical continual  $S^2e^3$ -capacity of the first type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{A(t)}$  out of  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{A(t)} S^2 t(t) \frac{\overrightarrow{A(t)}}{\overrightarrow{B(t)}}$ . Denote  $S^{2e}_1(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.3.41. The ordered dynamic continual  $S^2e^1$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $B(t)$  and expelling  $B(t)$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ -ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\frac{B(t)}{B(t)} S^2 t(t) \frac{\overrightarrow{A(t)}}{B(t)}$ . Denote  $S^{2e}_2(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.3.42. The ordered dynamic continual  $S^2e^2$ -capacity of the second type is the process of a containment of  $A(t)$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{B(t)} S^2 t(t) \frac{A(t)}{\overrightarrow{B(t)}}$ . Denote  $S^{2e}_2(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition B.3.43. The ordered dynamic continual  $S^2e^3$ -capacity of the second type is the process of a containment of  $\overrightarrow{A(t)}$  into  $\overrightarrow{B(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{B(t)} S^2 t(t) \frac{\overrightarrow{A(t)}}{\overrightarrow{B(t)}}$ . Denote  $S^{2e}_2(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition B.3.44. The ordered dynamic continual  $S^2e^1$ -capacity of the third type is the process of a containing the continual  $B(t)$  into itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $B(t)$  simultaneously, where  $\overrightarrow{A(t)}$ -ordered

set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  
 $\overrightarrow{A(t)} S^2 t(t) \overrightarrow{B(t)}$ . Denote  $S^2_3(t) f \overrightarrow{A(t)}_{B(t)}$ .

Definition B.3.45. The ordered dynamical continual  $S^2e^2$ -capacity of the third type is the process of a containing the continual  $\overrightarrow{B(t)}$  into itself as an element and the displacement of  $A(t)$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{A(t)} S^2 t(t) \overrightarrow{B(t)}$ . Denote  $S^2_3(t) f \overrightarrow{A(t)}_{B(t)}$ .

Definition B.3.46. The ordered dynamic continual  $S^2e^3$ -capacity of the third type is the process of a containing the continual  $\overrightarrow{B(t)}$  into itself as an element and the displacement of  $\overrightarrow{A(t)}$  from  $\overrightarrow{B(t)}$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$ -ordered sets of dynamical continual elements:  $\overrightarrow{A(t)} S^2 t(t) \overrightarrow{B(t)}$ . Denote  $S^2_3(t) f \overrightarrow{A(t)}_{B(t)}$ .

Definition B.3.47. The ordered dynamical continual  $S^2e$ -capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S^2_4(t) f \overrightarrow{A(t)}$ .

Definition B.3.48. The ordered dynamical continual  $S^2e$ -capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time  $t$ , or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements. Let us denote  $S^2_5(t) f \overrightarrow{A(t)}$ .

Also, we consider some elements:  $S^2_5(t) f \uparrow I \downarrow_{-1}^1$ ,  $S^2_1(t) f \uparrow I \downarrow_{-1}^1$ ,  $S^2_2(t) f \overrightarrow{A(t)} \downarrow I \uparrow_{-1}^1$ ,  $S^2_3(t) f \overrightarrow{A(t)} \uparrow I \downarrow_{-\infty}^{\infty}$ ,  $S^2_4(t) f \uparrow I \downarrow_{d(t)}^{a(t)}$  etc.

Consider the dynamical continual mathematics  $S^1e$ -itself.

1. Similarly, for the simultaneous execution of various operators:  
 $\overrightarrow{F_0(t)C(t)} S^2 t(t) \overrightarrow{F_2(t)A(t)}_{F_1(t)D(t)}$ , where  $F_0(t), F_1(t), F_2(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S^2_j(t) f F(t) A(t)$ ,  $j=4,5$ , and  $S^2_k(t) f \overrightarrow{A(t)}_{B(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.
3.  $\overrightarrow{B(t)} S^2 t(t) \overrightarrow{A(t)}_{B(t)}$  - is the result of the holding operator action and of the expelling operator action, the dynamical hierarchical set of

null type  ${}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)}$  - a kind of product of  $PN(A(t), B(t)) * OPN(Q(t), B(t))$ . Let's call it the  $PN_1$  - product. For sets  $A(t), B(t), Q(t)$  we have two variants of hierarchical distribution of the dynamic hierarchical set  ${}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)}$ :

$${}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)} = \frac{{}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)}}{{}_{Q(t) \cap B(t)}^{A(t) \cap B(t)} + {}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{B(t)}^{A(t)}} \quad (B.3.13)$$

$$R_{11} + R_{21} + R_{31}$$

$$R_{11} = \frac{{}_{B(t) - Q(t) \cap B(t)}^{B(t) - Q(t) \cap B(t)}S^2t(t)_{B(t) - A(t) \cap B(t)}^{A(t) - A(t) \cap B(t)}}{{}_{B(t) - Q(t) \cap B(t)}^{A(t) \cap B(t)} + {}_{B(t) - Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{B(t) - A(t) \cap B(t)}^{A(t) \cap B(t)}} +$$

$$R_{21} = \frac{{}_{B(t) - Q(t) \cap B(t)}^{B(t) - Q(t) \cap B(t)}S^2t(t)_{B(t) - A(t) \cap B(t)}^{A(t) - A(t) \cap B(t)}}{{}_{B(t) - Q(t) \cap B(t)}^{A(t) \cap B(t)} + {}_{Q(t) \cap B(t)}^{B(t) - Q(t) \cap B(t)}S^2t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)}} +$$

$$R_{31} = \frac{{}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{B(t) - A(t) \cap B(t)}^{A(t) - A(t) \cap B(t)}}{{}_{Q(t) \cap B(t)}^{A(t) \cap B(t)} + {}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)}} +$$

The measure:

$$\mu({}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)}) = ({}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)}) = ({}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)}) + \mu^s({}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{B(t)}^{A(t)}) \quad (B.3.14)$$

$$\mu(A(t)) + 2\mu(B(t)) - \mu(Q(t))$$

$${}_{Q(t)}^{B(t)}S^2t(t)_{B(t)}^{A(t)} = \frac{{}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{A(t) \cap B(t)}^{A(t) \cap B(t)}}{{}_{Q(t) \cap B(t)}^{A(t) \cap B(t)} + {}_{Q(t) \cap B(t)}^{Q(t) \cap B(t)}S^2t(t)_{B(t)}^{A(t)}} \quad (B.3.15)$$

$$R_{12} + R_{22} + R_{32}$$

$$R_{12} = \frac{{}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}S^2t(t)_{B(t) - A(t) \cap B(t) - Q(t) \cap A(t)}^{A(t) - A(t) \cap B(t) - Q(t) \cap A(t)}}{{}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{A(t) \cap B(t) - Q(t) \cap A(t)} + {}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{Q(t) \cap B(t) + Q(t) \cap A(t)}S^2t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)}} +$$

$$R_{22} = \frac{{}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}S^2t(t)_{B(t) - A(t) \cap B(t) - Q(t) \cap A(t)}^{A(t) - A(t) \cap B(t) - Q(t) \cap A(t)}}{{}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{A(t) \cap B(t) + Q(t) \cap A(t)} + {}_{B(t) - (Q(t) \cap B(t) + Q(t) \cap A(t))}^{Q(t) \cap B(t) + Q(t) \cap A(t)}S^2t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)}} +$$

$$\begin{aligned}
R_{32} &= \frac{Q(t) \cap B(t) + Q(t) \cap A(t)}{Q(t) - Q(t) \cap B(t) - Q(t) \cap A(t)} S^2 t(t)_{B(t) - A(t) \cap B(t) - Q(t) \cap A(t)}^{A(t) - A(t) \cap B(t) - Q(t) \cap A(t)} + \\
&\frac{Q(t) \cap B(t) + Q(t) \cap A(t)}{Q(t) - Q(t) \cap B(t) - Q(t) \cap A(t)} S^2 t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) - A(t) \cap B(t) - Q(t) \cap A(t)} + \\
&\frac{Q(t) \cap B(t) + Q(t) \cap A(t)}{Q(t) - Q(t) \cap B(t) - Q(t) \cap A(t)} S^2 t(t)_{B(t) - A(t) \cap B(t) - Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)} \\
\text{The measure: } &\mu_{Q(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)} = \\
&\quad {}^o \mu^s (S^2_1 f(t)_{B(t)}^{Q(t) \cap A(t)}) \\
&({}^o \mu_{Q(t)}^{B(t)} S^2 t(t)_{A(t) \cap B(t) + Q(t) \cap A(t)}^{A(t) \cap B(t) + Q(t) \cap A(t)} + \mu^s_{(Q(t) \cap B(t) + Q(t) \cap A(t))} S^2 t(t)_{B(t)}^{A(t)}) \quad (\text{B.3.16}) \\
&\quad \mu(A(t)) + 2\mu(B(t)) - \mu(Q(t))
\end{aligned}$$

There is the same for structures if it's considered as sets.

Consider the dynamical continual  $S^2e$ -capacity in itself of the fifth type continual  $A(t)$ :  $S^2_5(t) f A(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical continual  $S^2e$ -capacity in itself of the fifth type  $A(t)$ :  $S^2_5(t) f A(t)$ . with  $m$  elements and from  $\{t\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $\frac{B(t)}{D(t)} S^2 t(t)_{B(t)}^{A(t)}$ . The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it.

Dynamical continual  $S^2e$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^2e$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^2_5(t) f A(t)$ . can be introduced.

Consider the dynamical continual  $S^2e$  – elements with target weights.

Definition B.3.49. The process of the containment of continual  $A(t)$  with target weights  $\{g_1(t)\}$  into continual  $B(t)$  and the displacement of  $D(t)$  with target weights  $\{g_2(t)\}$  from  $B(t)$  at time  $t$  simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual  $S^2e$  – element with target weights. Let's denote  $\frac{B(t)}{D(t)\{g_2(t)\}} S^2 t(t)_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.3.50. The process  $\frac{B(t)}{D(t)\{g_2(t)\}} \xrightarrow{\overrightarrow{A(t)\{g_1(t)\}}} S^2 t(t)_{B(t)}$  is called an ordered dynamical continual  $S^2e$  – element with target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time  $t$ , or both simultaneously, if some or any elements from  $A(t)$ ,  $B(t)$ ,  $D(t)$  maybe by ordered dynamical continual elements with target weights.

It is allowed to add dynamical continual  $S^2e$  –elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\}$ :

$$\begin{aligned}
&\frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} + \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_2(t)g_1(t)} = \\
&\frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{(A_1(t) \cup A_2(t))g_1(t)} \quad (*_{\text{B.3.17}}),
\end{aligned}$$

$$\begin{aligned} & \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)g_1(t)} + \frac{B_1(t)}{D_2(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)g_1(t)} = \\ & \frac{B_1(t)}{(D_1(t) \cup D_2(t))g_2(t)} S^2 t_{B_1(t)}^{A_1(t)g_1(t)} \quad (*_{B.3.18}), \end{aligned}$$

the multiplication of dynamical continual  $S^2e$  -elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\}$ :

$$\begin{aligned} & \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)g_1(t)} * \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_2(t)g_1(t)} = \\ & \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t_{B_1(t)}^{(A_1(t) \cap A_2(t))g_1(t)} \quad (*_{B.3.19}), \end{aligned}$$

$$\begin{aligned} & \frac{B_1(t)}{D_1(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * \frac{B_1(t)}{D_2(t)g_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)g_1(t)} = \\ & \frac{B_1(t)}{(D_1(t) \cap D_2(t))g_2(t)} S^2 t_{B_1(t)}^{A_1(t)g_1(t)} \quad (*_{B.3.20}), \end{aligned}$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual  $S^2e$  - elements with target weights can be elements of a group both by multiplication  $(*_{B.3.19})$ ,  $(*_{B.3.20})$  and by addition  $(*_{B.3.17})$ ,  $(*_{B.3.18})$  and also form algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself with the target weights.

Definition B.3.51. The dynamical continual  $S^2e$  -capacity with target weights of the first type is the process of a containment  $A(t)$  with target weights  $\{g_1(t)\}$  into  $B(t)$  and expelling  $A(t)$  with target weights  $\{g_1(t)\}$  out of  $B(t)$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:  $\frac{B(t)}{A(t)\{g_1(t)\}} S^2 t(t)_{B(t)}^{A(t)\{g_1(t)\}}$ . Denote  $S_1^{2e}(t) f_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition B.3.52. The dynamical continual  $S^2e$  -capacity  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the second type is the process of containment itself as an element  $A(t)$  and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{B(t)}{B(t)\{g_2(t)\}} S^2 t(t)_{B(t)}^{A(t)\{g_1(t)\}}. \text{ Denote } S_1^{2e}(t) f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}.$$

Definition B.3.53. The dynamical continual  $S^2e^1$ -capacity with target weights of the third type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  in itself  $B(t)$  and expelling  $A(t)$  with target weights  $\{g_2(t)\}$  out of  $B(t)$  at

time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ A(t)\{g_2(t)\} \end{matrix} S^2 t(t) \begin{matrix} B(t)\{g_1(t)\} \\ B(t) \end{matrix}. \text{ Denote } S_2^{2et}(t) f_{B(t)\{g_1(t)\}}^{A(t)\{g_2(t)\}}.$$

Definition B.3.54. The dynamical continual  $S^2e$ -capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process of a containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements or both. Denote  $S_4^{2e}(t) f A(t)\{g(t)\}$ .

Definition B.3.55. The ordered dynamical continual  $S^2e$ -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with the target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_5^{2e}(t) f A(t)\{g(t)\}$ .

Also, we consider some elements:  $S_5^{2e}(t) f \uparrow I \downarrow_{-1}^1 \{g(t)\}$ ,  $S_1^{2e}(t) f_{B(t)\downarrow I \uparrow_{-\infty}^\infty}^{\uparrow I \downarrow_{-1}^1 \{g(t)\}}$ ,  $S_2^{2e}(t) f_{B(t)}^{\overline{A(t)\downarrow I \uparrow_{-1}^1 \{g(t)\}}}$ ,  $S_3^{2e}(t) f_{B(t)\{g(t)\}}^{A(t)\uparrow I \downarrow_{-\infty}^\infty}$ ,  $S_4^{2e}(t) f \uparrow I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}}$  etc.

Consider the dynamical mathematics  $S^2e$ -itself with target weights.

1. Similarly, for the simultaneous execution of various operators:  
 $\begin{matrix} F_0(t)C(t) \\ F_1(t)D(t)g_2(t) \end{matrix} S^2 t(t) \begin{matrix} F_2(t)A(t)g_1(t) \\ F_0(t)C(t) \end{matrix}$ , where  $F_0(t), F_1(t), F_2(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  
 $S_j^{2e}(t) f F(t) A(t) g_1(t)$ ,  $j=4,5$ , and  $S_k^{2e}(t) f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t))$  are operators.
3.  $\begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^2 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix}$  - is the result of the holding operator's action and of the the expelling operator action, the dynamical hierarchical set of null type  $\begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^2 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix}$  - a kind of product of  $PN(A(t), B(t)) * OPN(Q(t), B(t))$ . Let's call it the  $PN_1$  - product. For sets  $A(t)$ ,  $B(t), Q(t)$  we have two variants of hierarchical distribution of the dynamic hierarchical set  $\begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^2 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix}$ :

$$\begin{aligned} \frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} &= \left\{ \frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{A(t)g_1(t) \cap B(t)} + \frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} \right\} \\ &R_{11} + R_{21} + R_{31} \end{aligned}$$

(B.3.17)

$$\begin{aligned} R_{11} &= \frac{B(t) - Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} + \\ &\frac{B(t) - Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t)}{A(t)g_1(t) \cap B(t)} + \\ &\frac{B(t) - Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} \\ R_{21} &= \frac{B(t) - Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} + \\ &\frac{B(t) - Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t)}{A(t)g_1(t) \cap B(t)} + \\ &- Q(t)g_2(t) \cap B(t) \frac{B - Q(t)g_2(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} \\ R_{31} &= \frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} + \\ &\frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t) - A(t) \cap B(t)}{A(t) \cap B(t)} + \\ &\frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{B(t) - A(t)g_1(t) \cap B(t)} \end{aligned}$$

The measure:

$$\begin{aligned} \mu \left( \frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} \right) &= \\ &{}_o \mu^s \left( \frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{A(t)g_1(t) \cap B(t)} \right) \\ &({}_o \mu \left( \frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t)}{A(t)g_1(t) \cap B(t)} \right) + \mu^s \left( \frac{Q(t)g_2(t) \cap B(t)}{Q(t)g_2(t) \cap B(t)} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} \right)) \quad (\text{B.3.18}) \\ &\mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu(Q(t)g_2(t)) \end{aligned}$$

$$\begin{aligned} \frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} &= \\ &S_1^2 f(t) \frac{Q(t)g_2(t) \cap A(t)g_1(t)}{B(t)} \\ &\frac{B(t)}{Q(t)g_2(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \frac{(Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{(Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))} S^2 t(t) \frac{A(t)g_1(t)}{B(t)} \} \\ &R_{12} + R_{22} + R_{32} \end{aligned}$$

(B.3.19)

$$\begin{aligned} R_{12} &= \frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t) - Q(t) \cap B(t) - Q(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{B(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} + \\ &\frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \\ &\frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{B(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} \\ R_{22} &= \frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{B(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} + \\ &\frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \\ &\frac{B(t) - (Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{B(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} \end{aligned}$$

$$R_{32} = \frac{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \\ \frac{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \\ \frac{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}{Q(t)g_2(t) - Q(t)g_2(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t) \frac{A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}{B(t) - A(t)g_1(t) \cap B(t) - Q(t)g_2(t) \cap A(t)g_1(t)}$$

$$\text{The measure: } \mu_{Q(t)g_2(t)}^{B(t)} S^2 t(t)_{B(t)}^{A(t)g_1(t)} = \\ {}^o \mu^s(S^2_1 f(t)_{B(t)}^{Q(t)g_2(t) \cap A(t)g_1(t)}) \\ ( \frac{U(t)}{U(t)} ) \quad (\text{B.3.20})$$

$$\mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu(Q(t)g_2(t)) \\ U(t) = - {}^o \mu_{Q(t)g_2(t)}^{B(t)} S^2 t(t)_{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)}^{A(t)g_1(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} + \\ \mu^s_{(Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t))}^{Q(t)g_2(t) \cap B(t) + Q(t)g_2(t) \cap A(t)g_1(t)} S^2 t(t)_{B(t)}^{A(t)g_1(t)}. \text{ There is the same for structures if it's considered as sets.}$$

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S^2_5(t) f A(t) \{g(t)\}$ , where  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S^2_5(t) f A(t) \{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S^2_5(t) f A(t) \{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily  $S^2$ et, only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S^2_5(t) f A(t) \{g(t)\}$  can be introduced.

#### Supplement

We consider  $S^2$ e-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 1 corresponds to the logical value "yes" [8]. Then for joint statements  $S^2 t_B^A, {}^B_D S^2 t, A, B, D, {}^B_D S^2 t_B^A$ :  $f({}^B_D S^2 t_B^A) = f({}^B_D S^2 t) + f(S^2 t_B^A) - f({}^B_D S^2 t \cap S^2 t_B^A) = (f^{os^2}(B \cap D) + f^{s^2}(A \cap B) + f^{-s^2}(\frac{\{ \}}{B - B \cap D} S^2 t)) - f(A) - f(A \cap B) + f(D)$

$-f({}^C_D S^2 t \cap S^2 t_B^A), f^{s^2}(x)$ - the value of self-truth for self- statement  $x$   $f^{os^2}(x)$ - the value of oself-truth for oself- 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 the statement  $A$ ,  $f(A/B)$ - conditional truth of the statement  $A$  at the statement  $B$ , for dependent statements:  $f({}^B_D S^2 t \cap S^2 t_B^A) = f({}^B_D S^2 t) * f(S^2 t_B^A / {}^B_D S^2 t) = f(S^2 t_B^A) * f({}^B_D S^2 t / S^2 t_B^A)$ . Adding the truth values of inconsistent propositions:  $f(A + B) = f(A) + f(B)$ . The formula of com-

plete truth:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition B.3.56.  $S^2$ e-probability of events  ${}^B_D S^2 t_B^A$  is  $p({}^B_D S^2 t_B^A)$ , denote  ${}^B_D S^2 p_B^A$ .

In particular,  ${}^B_D S^2 p_B^A$  for joint events  $S^2 t_B^A, {}^B_D S^2 t, A, B, D, {}^B_D S^2 t_B^A$ :

$$p({}^B_D S^2 t_B^A) = p({}^B_D S^2 t) + p(S^2 t_B^A) - p(S^2 t_B^A \cap {}^B_D S^2 t) = \\ ((p^{os^2}(B \cap D) + p^{s^2}(A \cap B) + p^{-s^2}(\{ \}_{B-B \cap D} S^2 t)) - p(S^2 t_B^A \cap {}^B_D S^2 t), \\ p(A) - p(A \cap B) + p(D))$$

for dependent events:  $p({}^B_D S^2 t \cap S^2 t_B^A) = p({}^B_D S^2 t) * p(S^2 t_B^A / {}^B_D S^2 t) = p(S^2 t_B^A) * p({}^B_D S^2 t / S^2 t_B^A)$ .  $p^{s^2}(x)$ - the value of self-P for self- event  $x$ ,  $p^{os^2}(x)$ - the value of oself-P for oself- event  $x$ .

## C Set-elements and their modifications

### C.1 Set - elements

Definition C.1.1. The containment of A into B and the displacement of D from C simultaneously we shall call Set - element [9]. Let's denote  ${}^C_D St_B^A$ .

A, B, C, D-are any, in particular, A may be action in the right direction and with the right goal (action with the so-called target weights [1]), any action [9].

Definition C.1.2.  ${}^C_D St_B^{\vec{A}}$  is called an ordered Set - element, if some or any elements from A, B, C, D may be by ordered elements.

It is allowed to add Set - elements:

$${}^{C_1}_{D_1} St_{B_1}^{A_1} + {}^{C_1}_{D_1} St_{B_1}^{A_2} = {}^{C_1}_{D_1} St_{B_1}^{A_1 \cup A_2} (*_{C.1.1}),$$

$${}^{C_1}_{D_1} St_{B_1}^{A_1} + {}^{C_1}_{D_1} St_{B_2}^{A_1} = {}^{C_1}_{D_1} St_{B_1 \cup B_2}^{A_1} (*_{C.1.1.1}),$$

$${}^{C_1}_{D_1} St_{B_1}^{A_1} + {}^{C_2}_{D_1} St_{B_1}^{A_1} = {}^{C_1 \cup C_2}_{D_1} St_{B_1}^{A_1} (*_{C.1.2}),$$

$${}^{C_1}_{D_1} St_{B_1}^{A_1} + {}^{C_1}_{D_2} St_{B_1}^{A_1} = {}^{C_1}_{D_1 \cup D_2} St_{B_1}^{A_1} (*_{C.1.2.1}),$$

where some or any elements may be ordered elements.

Set - elements can be elements of a group both by addition (\*<sub>C.1.1</sub>), (\*<sub>C.1.1.1</sub>), (\*<sub>C.1.2</sub>), (\*<sub>C.1.2.1</sub>) and form algebraic ring, field by these operations.

Consider Set-capacity in itself.

Definition C.1.3. The Set-capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously:  ${}^A St_A^A$ . Denote  $S_0^{et} f A$ .

Definition C.1.4. The Set-capacity in itself A and from itself B of the first type is the capacity containing itself as an element and expelling B oneself out of oneself simultaneously:  ${}^B_B St_A^A$ . Denote  $S_1^{et} f_B^A$ .

Definition C.1.5. The Set<sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously:  ${}^B_B St_A^B$ . Denote  $S_2^{et} f_B^A$ .

Definition C.1.6. The Set<sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously:  ${}^A_B St_B^B$ . Denote  $S_3^{et} f_B^A$ .

Definition C.1.7. Set-capacity A in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can degenerate simultaneously. Let's denote  $S_4^{et} fA$ .

Definition C.1.8. Set-capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part, or both simultaneously. Let us denote  $S_5^{et} fA$ .

Consider a fifth type of self-capacity. For example, based on  $S_5^{et} fA$ , where  $A = (A_1, A_2, \dots, A_n)$  it is possible to consider Set-capacity in itself  $S_5^{et} fA$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S_5^{et} fA$ . Set-capacity in itself of the fifth type can be formed for any other structure, not necessarily Set, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^{et} fA$ . can be introduced.

Consider mathematics Set-itself [9]:

1. Similarly, for the simultaneous execution of various operators:  ${}^{F_0 C}_{F_1 D} St_{F_3 B}^{F_2 A}$ , where  $F_0, F_1, F_2, F_3$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^{et} fFA$ ,  $j=0,1,2,3,4,5$ , where  $\{F\} = (F_0, F_1, F_2, F_3)$  are operators.

The concepts of Set – force:  ${}^{F_3}_{F_4} St_{F_2}^{F_1}$  -the containment of force  $F_1$  into force  $F_2$  and the displacement of force  $F_4$  from force  $F_3$  simultaneously, Set – energy:  ${}^{E_3}_{E_4} St_{E_2}^{E_1}$  -the containment of energy  $E_1$  into energy  $E_2$  and the displacement of energy  $E_4$  from energy  $E_3$  simultaneously.

Consider the concepts of Set-capacity in itself of physical objects A, B. Similar to the concepts of publication: the Set-capacity in itself of the first type is the capacity containing itself A as an element and expelling B oneself out of oneself simultaneously:  ${}^B_B St_A^A$ , Set-capacity in itself of the third type contains itself in part and expelling oneself in part or contains a program that allows

it to be generated and it to be degenerated simultaneously partially, or both:  $S_5^{et} f A, S_5^{et} f B$ . By analogy, for  $S_0^{et} f A, S_2^{et} f_B^A, S_3^{et} f_B^A, S_4^{et} f A$ .

Also, you can consider these types of Set-capacity in itself for other objects. For example:  $S_i^{et} f$  operator A,  $S_i^{et} f$  action B,  $S_i^{et} f$  made Q  $i=0,1,2,3,4,5$  etc.

Remark. The concept of elements of physics Set is introduced for energy space. The corresponding concept of elements of the chemistry Set is introduced accordingly.

Consider the dynamical Set – elements [9].

Definition C.1.9. The process of the containment of A(t) into B(t) and the displacement of D(t) from C(t) at time t simultaneously we shall call dynamical Set – element. Let's denote  $\frac{C(t)}{D(t)} St(t) \xrightarrow{A(t)}_{B(t)}$ .

Definition C.1.10.  $\frac{C(t)}{D(t)} St(t) \xrightarrow{A(t)}_{B(t)}$  with ordered elements  $\vec{A}(t)$  and  $\vec{D}(t)$  is called an ordered dynamical Set – element.

It is allowed to add dynamical Set – elements:

$$\begin{aligned} \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} + \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_2(t)}_{B_1(t)} &= \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t) \cup A_2(t)}_{B_1(t)} \quad (*_{C.1.3}), \\ \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} + \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_2(t)} &= \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t) \cup B_2(t)} \quad (*_{C.1.3.1}), \\ \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} + \frac{C_2(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} &= \frac{C_1(t) \cup C_2(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} \quad (*_{C.1.4}), \\ \frac{C_1(t)}{D_1(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} + \frac{C_1(t)}{D_2(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} &= \frac{C_1(t)}{D_1(t) \cup D_2(t)} St(t) \xrightarrow{A_1(t)}_{B_1(t)} \quad (*_{C.1.4.1}), \end{aligned}$$

where some or any elements may be by ordered elements.

Dynamical Set – elements can be elements of a group both by addition  $(*_{C.1.3}), (*_{C.1.3.1}), (*_{C.1.4}), (*_{C.1.4.1})$  and form an algebraic ring, field by these operations.

Consider the dynamical Set-capacity in itself.

Definition C.1.11. The dynamical Set-capacity A(t) in itself and from itself of the null type is the process of a containment itself as an element and expelling oneself out of oneself at time t simultaneously:  $\frac{A(t)}{A(t)} St(t) \xrightarrow{A(t)}_{A(t)}$ . Denote  $S_0^{et}(t) f A(t)$ .

Definition C.1.12. The dynamical Set-capacity in itself A(t) and from itself B(t) of the first type is the process of containment itself as an element and expelling B(t) oneself out of oneself at time t simultaneously:  $\frac{B(t)}{B(t)} St(t) \xrightarrow{A(t)}_{A(t)}$ . Denote  $S_1^{et}(t) f_{B(t)}^{A(t)}$ .

Definition C.1.13. The dynamical Set<sup>1</sup>-capacity of the second type is the process of putting B(t) into A(t) and expelling B(t) oneself out of oneself at time t simultaneously:  ${}_{B(t)}^{B(t)}St(t)_{A(t)}^{B(t)}$ . Denote  $S_2^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.1.14. Dynamical Set<sup>1</sup>-capacity of the third type is the process of containment of B(t) itself as an element and the displacement of B(t) from A(t) at time t simultaneously:  ${}_{B(t)}^{A(t)}St_{B(t)}^{B(t)}$ . Denote  $S_3^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.1.15. Dynamical Set-capacity A(t) in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time t simultaneously through the structure Set. Let's denote  $S_4^{et}(t)fA(t)$ .

Definition C.1.16. Dynamical Set-capacity A(t) in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or process of a elements containment from which it can be generated in part, and it can be degenerated in part at time t through the structure Set, or both simultaneously. Let us denote  $S_5^{et}(t)fA(t)$ .

Consider dynamical Set-capacity A(t) in itself of the fifth type:  $S_5^{et}(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical Set-capacity in itself of the fifth type A(t):  $S_5^{et}(t)fA(t)$  with m elements and from  $\{A(t)\}$ , at  $m < n$ , which is the process to be formed by the form (1.1),

that is, only m elements from A(t) are located in the structure  ${}_{D(t)}^{C(t)}St(t)_{B(t)}^{A(t)}$ . The same for D(t) =  $(d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical Set-capacity in itself of the fifth type can be formed for any other structure, not necessarily Set, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^{et}(t)fA(t)$  can be introduced.

Consider the dynamical mathematics Set-itself:

1. Similarly, for the simultaneous execution of various operators:  ${}_{F_1(t)D(t)}^{F_0(t)C(t)}St(t)_{F_3(t)B(t)}^{F_2(t)A(t)}$ , where  $F_0(t), F_1(t), F_2(t), F_3(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^{et}(t)fF(t)A(t)$ ,  $j=0,4,5$ , and  $S_k^{et}(t)f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t))$  are operators.

The concepts of dynamical Set-force:  ${}_{F_4(t)}^{F_3(t)}St(t)_{F_2(t)}^{F_1(t)}$  -the containment of force F<sub>1</sub>(t) into force F<sub>2</sub>(t) and the displacement of force F<sub>4</sub>(t) from force F<sub>3</sub>(t) at time t simultaneously, dynamical Set – energy:  ${}_{E_4(t)}^{E_3(t)}St_{E_2(t)}^{E_1(t)}$  -the containment of energy E<sub>1</sub>(t) into energy E<sub>2</sub>(t) and the displacement of energy E<sub>4</sub>(t) from energy E<sub>3</sub>(t) at time t simultaneously.

Consider the concepts of dynamical Set-capacity in itself of physical objects  $A(t)$ ,  $B(t)$ . Similar to the concepts of publication: the dynamical Set-capacity in itself of the null type is the dynamical capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously:  $S_0^{et}(t)fA(t) = \frac{A(t)}{A(t)}St(t)_{A(t)}^{A(t)}$ , dynamical Set-capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time  $t$  simultaneously partially, or both:  $S_5^{et}(t)fA(t)$ ,  $S_5^{et}(t)fB(t)$ . By analogy, for  $S_1^{et}(t)f_{B(t)}^{A(t)}$   $S_2^{et}(t)f_{B(t)}^{A(t)}$ ,  $S_3^{et}(t)f_{B(t)}^{A(t)}$ ,  $S_4^{et}(t)fA(t)$ .

Also, you can consider these types of dynamical Set-capacity in itself for other objects. For example:  $S_i^{et}(t)f$ operator  $A(t)$ ,  $S_i^{et}(t)f$  action  $B(t)$ ,  $S_i^{et}(t)f$  made  $Q(t)$   $i=0,1,2,3,4,5$  etc.

Remark. The concept of elements of physics dynamical Set is introduced for energy space. The corresponding concept of elements of a chemistry dynamical Set is introduced accordingly.

Consider Set – elements for continual sets.

Here we consider some continual Set-elements and continual self-consistencies in itself as an element [9].

Definition C.1.17. The containment of  $A$  into  $B$  and the displacement of  $D$  from  $C$  simultaneously, where  $A$ ,  $B$ ,  $D$ ,  $C$ - sets of continual elements we shall call continual Set – element. Let's denote  $\frac{C}{D}St_B^A$ .

Definition C.1.18.  $\frac{C}{D}St_B^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where  $A$ ,  $B$ ,  $D$ ,  $C$ - sets of continual elements, is called an ordered Set – element.

It is allowed to add continual Set – elements:

$$\frac{C_1}{D_1}St_{B_1}^{A_1} + \frac{C_1}{D_1}St_{B_1}^{A_2} = \frac{C_1}{D_1}St_{B_1}^{A_1 \cup A_2} \quad (*_{C.5.1}),$$

$$\frac{C_1}{D_1}St_{B_1}^{A_1} + \frac{C_1}{D_1}St_{B_2}^{A_1} = \frac{C_1}{D_1}St_{B_1 \cup B_2}^{A_1} \quad (*_{C.1.5.1}),$$

$$\frac{C_1}{D_1}St_{B_1}^{A_1} + \frac{C_2}{D_1}St_{B_1}^{A_1} = \frac{C_1 \cup C_2}{D_1}St_{B_1}^{A_1} \quad (*_{C.1.6}),$$

$$\frac{C_1}{D_1}St_{B_1}^{A_1} + \frac{C_1}{D_2}St_{B_1}^{A_1} = \frac{C_1}{D_1 \cup D_2}St_{B_1}^{A_1} \quad (*_{C.1.6.1}),$$

where some or any elements may be ordered elements.

Continual Set – elements can be elements of a group both by addition  $(*_{C.1.5})$ ,  $(*_{C.1.5.1})$ ,  $(*_{C.1.6})$ ,  $(*_{C.1.6.1})$  and form algebraic ring, field by these operations.

Consider Set-capacity in itself for continual sets [9].

Definition C.1.19. The continual Set-capacity  $A$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where  $A$  - set of continual elements:  $\frac{A}{A}St_A^A$ . Denote  $S_0^{et}fA$ .

Definition C.1.20. The ordered continual Set-capacity  $\vec{A}$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where  $\vec{A}$  - ordered set of continual elements:  $\vec{A}St_{\vec{A}}^{\vec{A}}$ . Denote  $S_0^{et}f\vec{A}$ .

Definition C.1.21. The continual Set-capacity in itself A and from itself B of the first type is the capacity containing itself as an element and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^BSt_A^A$ . Denote  $S_1^{et}f_B^A$ .

Definition C.1.22. The continual Set<sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^BSt_A^B$ . Denote  $S_2^{et}f_B^B$ .

Definition C.1.23. The continual Set<sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously, where A, B- sets of continual elements:  ${}^ASt_B^B$ . Denote  $S_3^{et}f_B^B$ .

Definition C.1.24. The continual Set-capacity A in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, where A- set of continual elements. Let's denote  $S_4^{et}fA$ .

Definition C.1.25. The continual Set-capacity A in itself of the fifth type contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both, where A- set of continual elements. Let us denote  $S_5^{et}fA$ .

Definition C.1.26. The ordered continual Set-capacity in itself  $\vec{A}$  and from itself B of the first type is the capacity containing itself as an element and expelling B oneself out of oneself simultaneously, where  $\vec{A}$  - ordered set of continual elements, B- set of continual elements:  ${}^BSt_{\vec{A}}^{\vec{A}}$ . Denote  $S_1^{et}f_B^{\vec{A}}$ .

Definition C.1.27. The ordered continual Set<sup>1</sup>-capacity in itself A and from itself  $\vec{B}$  of the first type is the capacity containing itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$  - ordered set of continual elements, A- set of continual elements:  ${}^{\vec{B}}St_A^A$ . Denote  $S_1^{et}f_{\vec{B}}^A$ .

Definition C.1.28. The ordered continual Set<sup>2</sup>-capacity in itself  $\vec{A}$  and from itself  $\vec{B}$  of the first type is the capacity containing  $\vec{A}$  itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$  - ordered sets of continual elements:  ${}^{\vec{B}}St_{\vec{A}}^{\vec{A}}$ . Denote  $S_1^{et}f_{\vec{B}}^{\vec{A}}$ .

Definition C.1.29. The continual Set<sup>1</sup>-capacity of the second type is the capacity containing B into  $\vec{A}$  and expelling B oneself out of oneself simultaneously,

where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}St_{\vec{A}}^B$ . Denote  $S_2^{et}f_{\vec{B}}^{\vec{A}}$ .

Definition C.1.30. The continual Set<sup>2</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into A and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$  -ordered set of continual elements, A- set of continual elements:  $\vec{B}St_{\vec{A}}^{\vec{B}}$ . Denote  $S_2^{et}f_{\vec{B}}^A$ .

Definition C.1.31. The continual Set<sup>3</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$  -ordered sets of continual elements:  $\vec{B}St_{\vec{A}}^{\vec{B}}$ . Denote  $S_2^{et}f_{\vec{B}}^{\vec{A}}$ .

Definition C.1.32. The continual Set<sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from  $\vec{A}$  simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{A}St_B^B$ . Denote  $S_3^{et}f_B^{\vec{A}}$ .

Definition C.1.33. The continual Set<sup>2</sup>-capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from A simultaneously, where  $\vec{B}$  ordered set of continual elements, A- set of continual elements:  $\vec{A}St_{\vec{B}}^{\vec{B}}$ . Denote  $S_3^{et}f_{\vec{B}}^A$ .

Definition C.1.34. The continual Set<sup>3</sup>-capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\vec{A}St_{\vec{B}}^{\vec{B}}$ . Denote  $S_3^{et}f_{\vec{B}}^{\vec{A}}$ .

Definition C.1.35. The ordered continual Set-capacity  $\vec{A}$  in itself of the fourth type is the capacity that contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, where  $\vec{A}$ - set of continual elements. Let's denote  $S_4^{et}f^{\vec{A}}$ .

Definition C.1.36. The ordered continual Set-capacity  $\vec{A}$  in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both simultaneously, where  $\vec{A}$ - ordered set of continual elements. Let us denote  $S_5^{et}f^{\vec{A}}$ .

Also, we consider the following elements:  $S_0^{et}f^{\overrightarrow{I \downarrow_{-1}^1}}$ ,  $S_1^{et}f_{B \downarrow I \uparrow_{-\infty}}^{\uparrow I \downarrow_{-1}^1}$ ,  $S_2^{et}f_B^{\overrightarrow{A \downarrow I \uparrow_{-1}^1}}$ ,  $S_3^{et}f_B^{A \uparrow I \downarrow_{-\infty}^{\infty}}$ ,  $S_4^{et}f^{\overrightarrow{I \downarrow_d^a}}$  etc.

Consider a fifth type of continual self-capacity in itself as an element. For

example,  $S_5^{et} f A$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-capacity in itself as an element  $S_5^{et} f A$  with  $m$  continual elements from  $A$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S_5^{et} f A$ . Continual self-capacity in itself as an element of the fifth type can be formed for any other structure, not necessarily Set, only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2). The same for  $S_5^{et} f \vec{A}$ . Structures more complex than  $S_5^{et} f A$  can be introduced.

Consider mathematics itself for continual Set-elements [9]:

Simultaneous addition of sets  $A, B, C, D$  with continual elements are realized by  $\frac{C}{D \cup} St_{B \cup}^{A \cup}$ , where  $A, B, C, D$  maybe ordered sets of continual elements.

Let's introduce operator to transform capacity to self-consistency in itself as an element:  $Q_j \text{Set}(A)$  transforms  $A$  to  $S_j^{et} f A$ ,  $j=0,5$ ,  $Q_i \text{Set}(A,B)$  transforms  $A$  to  $S_i^{et} f_B^A$ , where  $A,B$  may be ordered sets of continual elements,  $i=1,2,3,4$ .

Consider the dynamical continual Set - elements [9].

Definition C.1.37. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by ordered elements, we shall call dynamical continual Set - element. Let's denote  $\frac{C(t)}{D(t)} St(t)_{B(t)}^{A(t)}$ .

Definition C.1.38. The process  $\frac{C(t)}{D(t)} St(t)_{B(t)}^{\vec{A(t)}}$  is called an ordered dynamical continual Set - element, if some or any elements from  $A(t), B(t), C(t), D(t)$  may be by ordered dynamical continual elements.

It is allowed to add a dynamical continual Set - elements:

$$\begin{aligned} \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_2(t)} &= \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*_{C.1.7}), \\ \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_1(t)} St(t)_{B_2(t)}^{A_1(t)} &= \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t) \cup B_2(t)}^{A_1(t)} \quad (*_{C.1.7.1}), \\ \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} + \frac{C_2(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} &= \frac{C_1(t) \cup C_2(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} \quad (*_{C.1.8}), \\ \frac{C_1(t)}{D_1(t)} St(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_2(t)} St(t)_{B_1(t)}^{A_1(t)} &= \frac{C_1(t)}{D_1(t) \cup D_2(t)} St(t)_{B_1(t)}^{A_1(t)} \quad (*_{C.1.8.1}), \end{aligned}$$

where some or any continual elements may be by ordered continual elements.

Dynamical continual Set - elements can be elements of a group both by addition  $(*_{C.1.7}), (*_{C.1.7.1}), (*_{C.1.8}), (*_{C.1.8.1})$  and form an algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself.

Definition C.1.39. The dynamical continual Set-capacity  $A(t)$  in itself and from itself of the null type is the process of containment itself as an element

and expelling oneself out of oneself at time  $t$  simultaneously, where  $A(t)$  - set of dynamical continual elements:  $\frac{A(t)}{A(t)}St(t)_{A(t)}^{A(t)}$ . Denote  $S_0^{et}(t)fA(t)$ .

Definition C.1.40. The ordered dynamical continual Set-capacity  $\vec{A}(t)$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $\vec{A}(t)$  ordered set of dynamical continual elements:  $\frac{\vec{A}(t)}{A(t)}St(t)_{A(t)}^{\vec{A}(t)}$ . Denote  $S_0^{et}(t)f\vec{A}(t)$ .

Definition C.1.41. The dynamical continual Set-capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment of  $A(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  $\frac{B(t)}{B(t)}St(t)_{A(t)}^{A(t)}$ . Denote  $S_1^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.1.42. The dynamical continual Set<sup>1</sup>-capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  $\frac{B(t)}{B(t)}St(t)_{A(t)}^{B(t)}$ . Denote  $S_2^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.1.43. The dynamical continual Set<sup>1</sup>-capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously, where  $A, B$ - sets of dynamical continual elements:  $\frac{A(t)}{B(t)}St(t)_{B(t)}^{B(t)}$ . Denote  $S_3^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.1.44. The dynamical continual Set-capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously, where  $A(t)$ - set of dynamical continual elements. Let's denote  $S_4^{et}(t)fA(t)$ .

Definition C.1.45. The dynamical continual Set-capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or containing elements from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure Set, or both simultaneously, where  $A(t)$ - set of dynamical continual elements. Let us denote  $S_5^{et}(t)fA(t)$ .

Definition C.1.46. The ordered dynamical continual Set-capacity in itself  $\vec{A}(t)$  and from itself  $B(t)$  of the first type is the process of a containment of  $\vec{A}(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\vec{A}(t)$ - ordered set of dynamical continual elements,  $B(t)$ - set of dynamical continual elements:  $\frac{B(t)}{B(t)}St(t)_{A(t)}^{\vec{A}(t)}$ . Denote  $S_1^{et}(t)f_{B(t)}^{\vec{A}(t)}$ .

Definition C.1.47. The ordered dynamical continual Set<sup>1</sup>-capacity in itself  $A(t)$  and from itself  $\overrightarrow{B(t)}$  of the first type is the process of a containment of  $A(t)$  itself as an element and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B(t)}$  - ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} St(t) \xrightarrow{A(t)}_{A(t)}$ . Denote  $S_1^{et}(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.1.48. The ordered dynamical continual Set<sup>2</sup>-capacity in itself  $\overrightarrow{A(t)}$  and from itself  $\overrightarrow{B(t)}$  of the first type is the process of a containment of  $\overrightarrow{A(t)}$  itself as an element and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} St(t) \xrightarrow{\overrightarrow{A(t)}}_{\overrightarrow{A(t)}}$ . Denote  $S_1^{et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.1.49. The dynamical continual Set<sup>1</sup>-capacity of the second type is the process of a containment  $B(t)$  into  $\overrightarrow{A(t)}$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} St(t) \xrightarrow{B(t)}_{A(t)}$ . Denote  $S_2^{et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.1.50. The dynamical continual Set<sup>2</sup>-capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $A(t)$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B(t)}$  - ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} St(t) \xrightarrow{B(t)}_{A(t)}$ . Denote  $S_2^{et}(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.1.51. The dynamical continual Set<sup>3</sup>-capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $\overrightarrow{A(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} St(t) \xrightarrow{\overrightarrow{B(t)}}_{\overrightarrow{A(t)}}$ . Denote  $S_2^{et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.1.52. The dynamical continual Set<sup>1</sup>-capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $\overrightarrow{A(t)}$  at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{A(t)}_{\overrightarrow{A(t)}} St(t) \xrightarrow{B(t)}_{B(t)}$ . Denote  $S_3^{et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.1.53. The dynamical continual Set<sup>2</sup>-capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{B(t)}$  from A at time t simultaneously, where  $\overrightarrow{B(t)}$  - ordered set of dynamical continual elements, A- set of dynamical continual elements:  $\overrightarrow{A(t)}St(t)\overrightarrow{B(t)}$ . Denote  $S_3^{et}(t)f\overrightarrow{B(t)}$ .

Definition C.1.54. The dynamical continual Set<sup>3</sup>-capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of from  $\overrightarrow{A(t)}$  at time t simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\overrightarrow{A(t)}St(t)\overrightarrow{B(t)}$ . Denote  $S_3^{et}(t)f\overrightarrow{B(t)}$ .

Definition C.1.55. The ordered dynamical continual Set-capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time t simultaneously, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S_4^{et}(t)f\overrightarrow{A(t)}$ .

Definition C.1.56. The ordered dynamical continual Set-capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time t, or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements. Let us denote  $S_5^{et}(t)f\overrightarrow{A(t)}$ .

Also, we consider some elements:  $S_0^{et}(t)f\overrightarrow{I\downarrow_{-1}^1}$ ,  $S_1^{et}(t)f\overrightarrow{I\downarrow_{-1}^1}$ ,  $S_2^{et}(t)f\overrightarrow{A(t)\downarrow_{I\downarrow_{-1}^1}}$ ,  $S_3^{et}(t)f\overrightarrow{A(t)\uparrow_{I\downarrow_{-1}^1}}$ ,  $S_4^{et}(t)f\overrightarrow{I\downarrow_{d(t)}^{a(t)}}$  etc.

Consider a fifth type of dynamical partial containment of oneself. For example,  $S_5^{et}(t)f\overrightarrow{A^n(t)}$ , where  $\{A^n(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e. n - continual elements, it is possible to consider the dynamical containment of oneself  $S_5^{et}(t)f\overrightarrow{A^m(t)}$  with m continual elements from  $\{A^n(t)\}$ , at  $m < n$ , which is the process to be formed by the form (1.1), that is, only m continual elements from  $\{A^n(t)\}$  are located in the structure  $S_5^{et}(t)f\overrightarrow{A^n(t)}$ . Dynamical continual containments of oneself of the fifth type can be formed for any other structure, not necessarily Set, 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  $S_5^{et}(t)f\overrightarrow{A^n(t)}$  can be introduced.

Consider the dynamical continual Set – elements with target weights [9].

Definition C.1.57. The process of the containment of  $A(t)$  with the target weights  $\{g_1(t)\}$  into  $B(t)$  and the displacement of  $D(t)$  with target weights  $\{g_2(t)\}$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual Set – element with the target weights. Let's denote  $\frac{C(t)}{D(t)\{g_2(t)\}}St(t)_{B(t)}^{A(t)\{g_1(t)\}}$ .

Definition C.1.58. The process  $\frac{C(t)}{D(t)\{g_2(t)\}}St(t)_{B(t)}^{\overrightarrow{A(t)\{g_1(t)\}}}$  is called an ordered dynamical continual Set – element with the target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time  $t$ , or both simultaneously, if some or any elements from  $A, B, C, D$  may be by ordered dynamical continual elements with target weights. It is allowed to add dynamical continual Set – elements with target weights  $\{g_1(t)\}, \{g_2(t)\}$ :

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)\{g_2(t)\}}St(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} + \frac{C_2(t)}{D_2(t)\{g_2(t)\}}St(t)_{B_2(t)}^{A_2(t)\{g_1(t)\}} = \\ & \frac{C_1(t)}{(D_1(t) \cup D_2(t))\{g_2(t)\}}St(t)_{B_1(t)}^{(A_1(t) \cup A_2(t))\{g_1(t)\}} \quad (*_{C.1.9}), \end{aligned}$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual Set – elements with target weights can be elements of a group by addition  $(*_{C.1.9})$  and also form an algebraic ring, field by this operation.

Consider the dynamical continual containment of oneself with the target weights.

Definition C.1.59. The dynamical continual Set-capacity  $A(t)$  in itself and from itself with target weights  $\{g(t)\}$  of the null type is the process of containment itself as an element with target weights  $\{g(t)\}$  and expelling oneself out of oneself with the target weights  $\{g(t)\}$  at time  $t$  simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_0^{et}(t)fA(t)\{g(t)\}$ .

Definition C.1.60. The dynamical continual Set-capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process of a containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_4^{et}(t)fA(t)\{g(t)\}$ .

Definition C.1.61. The ordered dynamical continual Set-capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with

target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with target weights  $\{g(t)\}$ , and it can degenerate in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_5^{et}(t)fA(t)\{g(t)\}$  .

Definition C.1.62. The dynamical continual Set-capacity in itself  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the first type is the process of a containment of  $A(t)$  itself as an element and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} St(t) \begin{matrix} A(t)\{g_1(t)\} \\ A(t) \end{matrix} . \text{ Denote } S_1^{et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}} .$$

Definition C.1.63. The dynamical continual Set<sup>1</sup>-capacity with target weights of the second type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  into  $A(t)$  and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously , where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} St(t) \begin{matrix} B(t)\{g_1(t)\} \\ A(t) \end{matrix} . \text{ Denote } S_2^{et}(t)f_{B(t)\{g_1(t)\},\{g_2(t)\}}^{A(t)} .$$

Definition C.1.64. The dynamical continual Set<sup>1</sup>-capacity of the third type with target weights is the process of a containment of  $B(t)$  itself as an element with target weights  $\{g_1(t)\}$  and the displacement of  $B(t)$  with target weights  $\{g_1(t)\}$  from  $A(t)$  at time  $t$  simultaneously , where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} A(t) \\ B(t)\{g_1(t)\} \end{matrix} St(t) \begin{matrix} B(t)\{g_1(t)\} \\ B(t) \end{matrix} . \text{ Denote } S_3^{et}(t)f_{B(t)\{g_1(t)\}}^{A(t)} .$$

Also we consider some elements:  $S_0^{et}(t)f \overrightarrow{I \downarrow_{-1}^1 \{g(t)\}} , S_1^{et}(t)f \overrightarrow{I \downarrow_{-1}^1 \{g(t)\} \uparrow_{B(t)\downarrow I \uparrow_{-\infty}^1} } , S_2^{et}(t)f \overrightarrow{A(t)\downarrow I \uparrow_{-1}^1 \{g(t)\}} , S_3^{et}(t)f \overrightarrow{A(t)\uparrow I \downarrow_{-\infty}^{\infty} } , S_4^{et}(t)f \overrightarrow{I \uparrow I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}}} \text{ etc.}$

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S_5^{et}(t)fA(t)\{g(t)\}$ , where  $A = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S_5^{et}(t)fA(t)\{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A$  are located in the structure  $S_5^{et}(t)fA(t)\{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily Set, only through the obligatory reduction in the

number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^{et}(t)fA(t)\{g(t)\}$  can be introduced.

#### Supplement

We consider Set-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 1 corresponds to the logical value "yes". Then for joint statements  $St_B^A, {}^C_D St, A, B, C, D$ :  $f({}^C_D St_B^A) = f({}^C_D St) + f(St_B^A) - f({}^C_D St \cap St_B^A) = (f^{os}({}^C_D St \cap St_B^A) + f^s(A \cap B) + f^{-s}(\left\{ \begin{smallmatrix} \{ \} \\ C-C \cap D \end{smallmatrix} St \right\})) - f({}^C_D St \cap St_B^A)$ ,  $f^s(x)$ - the value of self-truth for self- statement  $x$ ,  $f^{os}(x)$ - the value of oself-truth for oself-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 the statement  $A$ ,  $f(A/B)$ - conditional truth of the statement  $A$  at the statement  $B$ , for dependent statements:  $f({}^C_D St \cap St_B^A) = f({}^C_D St)*f(St_B^A/{}^C_D St) = f(St_B^A)*f({}^C_D St/{}^C_D St_B^A)$ . Adding the truth values of inconsistent propositions:  $f(A+B) = F(A)+f(B)$ . The formula of complete truth:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition C.1.65. Set-probability of events  ${}^C_D St_B^A$  is  $p({}^C_D St_B^A)$ , denote  ${}^C_D Sp_B^A$ .

Then for joint events  $St_B^A, {}^B_A St, A, B, C, D$ :  $p({}^C_D St_B^A) = p({}^C_D St) + p(St_B^A) - p({}^C_D St \cap St_B^A) = (p^{oss}({}^C_D St \cap St_B^A) + p^{ss}(A \cap B) + p^{-ss}(\left\{ \begin{smallmatrix} \{ \} \\ C-C \cap D \end{smallmatrix} St \right\})) - p(A) + p(B) - p(A \cap B) + p(D) - p(C)$ ,  $p({}^C_D St \cap St_B^A)$ , for dependent events:  $p({}^C_D St \cap St_B^A) = p({}^C_D St)*p(St_B^A/{}^C_D St) = p(St_B^A)*p({}^C_D St/{}^C_D St_B^A)$ .  $p^{ss}(x)$ - the value of self-P for self- event  $x$ ,  $p^{oss}(x)$ - the value of oself-P for oself- event  $x$ .

$p(St_B^A) = p_{SSt_B^A} * p(St_B^A/E_{St_B^A})$ ,  $p_{SSt_B^A}$  - probability of random placement  $A$  into  $B$ ,  $E_{St_B^A}$  -the event of random placement  $A$  into  $B$ ,  $p({}^C_D St) = p_{C_D St} * p({}^C_D St/E_{C_D St})$ ,  $p_{C_D St}$  - probability of accidental displacement  $D$  from  $C$ ,  $E_{C_D St}$  - the event of accidental displacement  $D$  from  $C$ .

Set- model corresponds to the distribution of self-energy of a living organism, in particular a human one. The left part  ${}^C_D St$  corresponds to the distribution of self-energy of the left half of a living organism, the right part  $St_B^A$  corresponds to the distribution of self-energy of the right half of a living organism. For example, based on operations :  $St_{B_1}^{A_1} + {}^{C_2}_{D_2} St_{B_2}^{A_2} = {}^{B_1 \cup C_2}_{A_1 \cup D_2} St_{B_1 \cup B_2}^{A_1 \cup A_2}$ ,  $S_1 t_{B_1}^{A_1} + {}^{C_2}_{D_2} St_{B_2}^{A_2} = {}^{C_2}_{D_2} St_{B_1 \cup B_2}^{A_1 \cup A_2}$  we get

$$St_{virus\ C*}^{virus\ C*+culture\ medium\ for\ A} St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} =$$

$$virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A}$$

$$St_B^{B+culture\ medium\ for\ A} St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} =$$

$$culture\ medium\ for\ A St_{B+culture\ medium\ for\ A}^{B+culture\ medium\ for\ A}$$

It is clear that a chemical agent (tablets)  $St_B^B$  cannot destroy the virus, since  $St_B^B$  cannot actually enter  
 $(virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A})$  incompatible objects in the addition operation, there is no interaction directly with the virus, but a simple overlay. The aggressiveness of the virus is modeled here by the target weight \*. Here, virus cure is modeled by an antivirus model  $St_{-virus\ C*}^{-virus\ C*}$  with a target weight \*:  $St_{-virus\ C*}^{-virus\ C*} + virus\ C+culture\ medium\ for\ A St_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A} =$   
 $= \frac{culture\ medium\ for\ A St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A}}{culture\ medium\ for\ A St_{culture\ medium\ for\ A}^{culture\ medium\ for\ A}}$ . Here, an antivirus ( $-virus\ C$ ) can be an appropriate agent, a virus-antagonist to this virus etc.

### Some applications of Set to neuroscience

Ideology Set can be used to describe processes in the central nervous system and other vital systems at the energy and chemical levels etc [9]. For example,  $\frac{B}{D} St_B^A$ , where B denotes an organ, a complex of neurons, an individual neuron, R- what goes into it, D- what comes out of it. For example, if by B we mean the energy of the central nervous system, then in the case of degenerations of type  $\frac{B}{B} St_B^A$ ,  $\frac{B}{D} St_B^B$ ,  $\frac{B}{B} St_B^B$ ,  $\frac{B}{A} St_B^A$  we get descriptions of the energy of unusual states of consciousness: random for a normal person, pathological for a patient, consciously controlled for a magician, yogi. More details about this in future publications. For example,  $\frac{q_B}{D} St_{d_B}^A$  makes it possible to describe processes through the entry point  $d_B$  into B and the exit point  $q_B$  from B. Model  $St_{the\ energy\ of\ the\ central\ nervous\ system}^{the\ energy\ of\ the\ central\ nervous\ system}$  corresponds to the exit of the ordinary energy of the central nervous system to its border with the space of subtler, more structured energies and the involvement of the central nervous system of its part from subtler, more structured energies. This happens through its activation:  $St_{activation}^{the\ central\ nervous\ system}$ . It can be carried out through the epiphysis, hypothalamus, and other formations of the central nervous system.  $\frac{energy\ of\ the\ central\ nervous\ system}{energy\ of\ the\ central\ nervous\ system} St_{energy\ of\ the\ central\ nervous\ system}^{energy\ of\ the\ central\ nervous\ system}$  corresponds to the exit of the ordinary energy of the central nervous system to its border with the space of subtler, even more structured energies and the involvement of the central nervous system of its part from subtler, even more structured energies.

### The usage of Set-elements for networks [9]

The same simple executing programs are in the cores of simple artificial neurons of type Set (designation - mnSet) for simple information processing. More complex executing programs are used for mnSet nodes. Set-threshold element  $-\text{sgn}(\sum_b \{qy\} St_b^{\{ax\}})$ ,  $b$ - mnSet,  $x=(x_1, x_2, \dots, x_n)$  – source signals values,  $a=(a_1, a_2, \dots, a_n)$  – Set-synapses weights,  $\{qy\}$ -output signals. The first level of mnSet consists of simple mnSet. The second level of mnSet consists of  $\sum_D St_D^{\{mnSet\}}$  – Set-node of mnSet in range  $D$ ,  $D$ - capacity for mnSet node. The third level of mnSet consists of  $\sum_D St_D^{\{mnSet\}} St_D^{\{mnSet\}} St_D^{\{mnSet\}}$  – Set<sup>2</sup>- node of mnSet in range  $D$ , thus  $D$  becomes capacity of itself in itself as an element for mnSet. For our networks, it is sufficient to use Set<sup>2</sup>- nodes of mnSet, but self-level is higher in living organisms, particularly Set<sup>n</sup>- node with  $n=3$  and etc. 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. 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. mnSet contains  $\sum_{\{esprograms\}} St_{\{mnSet\}}^{\{esprograms\}}$ , *esprogram*—executing program in Set-OS. Set-OS (or Self-OS) is based on Set-assembly language (or Self-assembly language), which is based on assembly language through Set-approach in turn, if the base of elements of Set-networks is sufficient. The esprograms are in Set-programming environments (or Self-programming environments), but this question and Set-networks base will be considered in the following monographs. In particular, eprograms may contain Set- programming operators. In mnSet cores, the constant memory Set with correspondent esprograms depending on mnSet.

The ideology of Set and S<sub>3f</sub> [2], [8] can be used here for programming. Here are some of the Set programming operators.

The ideology of Set and S<sub>5</sub><sup>et</sup>  $f$  can be used for programming. Here are some of the Set- program operators.

1. Simultaneous the containment of assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $A = (A_1, A_2, \dots, A_n)$  and expelling it away. It's implemented through  $\sum_{\{=: \{p\}\}} St_A^{\{=: \{p\}\}}$ .
2. Simultaneous check the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$  and expelling it away. It's implemented through  $\sum_{IF\{\{B\}\{f\}\} \text{ then } Q} St_x^{IF\{\{B\}\{f\}\} \text{ then } Q}$  where  $Q$  can be any.

3. Similarly for loop operators and others.

$S_5^{et}f$  – software operators will differ only just because aggregates  $\{A\}, \{p\}, \{B\}, \{f\}$  will be formed from corresponding Set-program operators in form (1.1) for more complex operators in form (1.2).

The OS (operating system) and the principles and modes of operation of the Set-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 rotors based on Set – physics and special neural networks with artificial neurons operating in normal and Set-modes. Let's denote this model through Snnset. To do this, it's proposed to use mnSet of different levels; for example, for the usual mode, mnSet 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 Set-mode with the desired "target weight" is realized in this section, etc., to the center. In the case of a monster during the test, Snnset is activated with the desired "target weight." Here are realized other tasks also. To reach the self-energy level, the mode  $\frac{Snnset}{Snnset} St_{Snnset}^{Snnset}$  is used. In normal mode, it's planned to carry out the movement of Snnst 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 Snnset 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 Snnset. Snnset is represented by a neural network that extends from the center of one of the main clusters of Set - 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 Snnset's actions is below the operator's cab. In Set – mode, the entire network or its sections are Set – activated to perform specific tasks, in particular, with "target weights." In the target, block used Set-coding, Set-translation for activation of all networks to "target weights" simultaneously, then –the reset of this Set-coding after activation. Unfortunately, triodes are not suitable for Set -neural networks. In the most primitive case, usual separators with corresponding resistances and cores for esprograms may be used instead triodes since there is no necessity to unbend the alternating current to direct. The Set-operative memory belt is disposed around a central core of Snnset. There are Set-coding, Set-translation, and Set-realize of esprograms and the programs from the archives without extraction, Set-coding and Set-translation may be used in high-intensity, ultra-short optical pulses laser of Nobel laureates 2018-year Gerard Mourou, Donna, Strickland. Set – structure or an esprogram if one is present of needed «target weight» are taken in target block at Set –

activation of the networks.  $\frac{activation}{S_{mnset} f} St_{activation}^{S_{mnSet}, f}$  derives  $S_{mnSet}$  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 Set – structures in Set-modes by its nature to activate the networks or some of its parts in Set-modes and locally using Set-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.”

## C.2 S<sup>1</sup>et – elements [10]

Definition C.2.1. The expression

$$\frac{C_1}{D_j} S^1 t_{B_1}^{A_k}, j, k=1,2 (*_{C.2.0}),$$

where  $A_1, A_2$  is contained into  $B_1, D_1, D_2$  is expelled from  $C_1$  and for structure  $(*)$  is performed the next operation- multiplication [2]:

$$\frac{C_1}{D_1} S^1 t_{B_1}^{A_1} * \frac{C_1}{D_2} S^1 t_{B_1}^{A_2} = \frac{C_1}{D_1 \cup D_2} S^1 t_{B_1}^{A_1 \cup A_2} (*_{C.2.1}),$$

then we shall call S<sup>1</sup>et- elements, in case  $A_1, A_2, B_1, D_1, D_2, C_1$  are sets we shall call  $(*)$  the dynamical hierarchical set S<sup>1</sup>et.

$A_1, A_2, B_1, D_1, D_2, C_1$  -are any, in particular,  $A_i, i=1, 2$ , maybe actions in the right direction, actions with the right goal (action with the so-called target weights [2]), any actions.

Definition C.2.2.  $\frac{C}{D} S^1 t_B^{\vec{A}}$  is called an ordered S<sup>1</sup>et– element, if some or any elements from  $A, B, C, D$  may be by ordered elements.

where some or any elements may be ordered elements.

S<sup>1</sup>et– elements can be elements of a group by multiplication  $(*_{C.2.1})$ .

Consider S<sup>1</sup>et -capacity in itself [2].

Definition C.2.3. The S<sup>1</sup>et -capacity  $A$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously:  $\frac{A}{A} S^1 t_A^A$ . Denote  $S^{1et}_0 f A$ .

Definition C.2.4. The S<sup>1</sup>et -capacity in itself  $A$  and from itself  $B$  of the first type is the capacity containing  $A$  itself as an element and expelling  $B$  oneself out of oneself simultaneously:  $\frac{B}{B} S^1 t_A^A$ . Denote  $S^{1et}_1 f_B^A$ .

Definition C.2.5. The S<sup>1</sup>et <sup>1</sup>-capacity of the second type is the capacity containing  $B$  into  $A$  and expelling  $B$  oneself out of oneself simultaneously:  $\frac{B}{B} S^1 t_A^B$ . Denote  $S^{1et}_2 f_B^A$ .

Definition C.2.6. The  $S^1\text{et}^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously:  ${}^A_B S^1 t^B_B$ . Denote  $S^{1\text{et}}_3 f^A_B$ .

Definition C.2.7.  $S^1\text{et}$ -capacity A in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously. Let's denote  $S^{1\text{et}}_4 fA$ .

Definition C.2.8.  $S^1\text{et}$ -capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can degenerate in part, or both simultaneously. Let us denote  $S^{1\text{et}}_5 fA$ .

Consider a fifth type of self- capacity [2]. For example, based on  $S^{1\text{et}}_5 fA$ , where  $A = (A_1, A_2, \dots, A_n)$  it is possible to consider  $S^1\text{et}$ -capacity in itself  $S^{1\text{et}}_5 fA$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S^{1\text{et}}_5 fA$ .  $S^1\text{et}$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^1\text{et}$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{1\text{et}}_5 fA$ . can be introduced.

Consider mathematics  $S^1\text{et}$  itself [2].

1. Similarly, for the simultaneous execution of various operators:  ${}^{F_0 C}_{F_1 D} S^1 t^{F_2 A}_{F_3 B}$ , where  $F_0, F_1, F_2, F_3$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S^{1\text{et}}_j fFA$ ,  $j=0,1,2,3,4,5$ , where  $\{F\} = (F_0, F_1, F_2, F_3)$  are operators.
3. Operations are taking place:
4.  ${}^B_D S^1 t^A_B = ({}^B_A S^1 t^A_B, {}^B_{D-A} S^1 t^A_B)$ ,  
 $\mu({}^B_D S^1 t^A_B) = (\mu^s({}^B_A S^1 t^A_B), \mu(A) + 2\mu(B) - \mu(D - A))$
5.  ${}^B_A S^1 t^A_B = ({}^B_A S^1 t^B_B, {}^B_A S^1 t^{A-B}_B)$ ,  
 $\mu({}^B_A S^1 t^A_B) = (\mu^{ss}({}^B_A S^1 t^B_B), 2\mu(B) - \mu(A) + \mu(A - B))$
6.  ${}^B_A S^1 t^A_B = ({}^B_B S^1 t^A_B, {}^B_{A-B} S^1 t^A_B)$ ,  
 $\mu({}^B_A S^1 t^A_B) = (\mu^{ss}({}^B_B S^1 t^A_B), 2\mu(B) + \mu(A) - \mu(A - B))$

$$\begin{aligned}
7. \quad {}^B_Q S^1 t_B^A &= ( \begin{smallmatrix} S^{1et}_0 f B^* \\ {}^B_{Q-B} S^1 t_B^{A-B} \end{smallmatrix} ), \\
\mu({}^B_A S^1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss} ( S^{1et}_0 f B^* ) \\ 2\mu(B) + \mu(A-B) - \mu(Q-B) \end{smallmatrix} ) \\
8. \quad {}^B_Q S^1 t_B^A &= ( \begin{smallmatrix} {}^B_Q S^1 t_B^B \\ {}^B_Q S^1 t_B^{A-B} \end{smallmatrix} ), \\
\mu({}^B_A S^1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss} ( {}^B_Q S^1 t_B^B ) \\ 2\mu(B) + \mu(A-B) - \mu(Q) \end{smallmatrix} ) \\
9. \quad {}^B_Q S^1 t_B^A &= ( \begin{smallmatrix} {}^B_B S^1 t_B^A \\ {}^B_{Q-B} S^1 t_B^A \end{smallmatrix} ), \\
\mu({}^B_A S^1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss} ( {}^B_B S^1 t_B^A ) \\ 2\mu(B) + \mu(A) - \mu(Q-B) \end{smallmatrix} ) \\
10. \quad {}^R_Q S^1 t_B^A &= ( \begin{smallmatrix} S^{1et}_3 f_R^B \\ {}^R_{Q-B} S^1 t_B^{A-B} \end{smallmatrix} ), \\
\mu({}^B_A S^1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss} ( S^{1et}_3 f_R^B ) \\ \mu(B) + \mu(A-B) + \mu(R) - \mu(Q-B) \end{smallmatrix} )
\end{aligned}$$

The concepts of  $S^{1et}$  – force:  $\begin{smallmatrix} F_3 \\ F_4 \end{smallmatrix} S^1 t_{F_2}^{F_1}$  -the containment of force  $F_1$  into force  $F_2$  and the displacement of force  $F_4$  from force  $F_3$  simultaneously,  $S^{1et}$  – energy:  $\begin{smallmatrix} E_3 \\ E_4 \end{smallmatrix} S^1 t_{E_2}^{E_1}$  -the containment of energy  $E_1$  into energy  $E_2$  and the displacement of energy  $E_4$  from energy  $E_3$  simultaneously [2].

Consider the concepts of  $S^{1et}$  -capacity in itself of physical objects A, B. Similar to the concepts of publication: the  $S^{1et}$  -capacity in itself of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously:  $\begin{smallmatrix} B \\ B \end{smallmatrix} S^1 t_A^A$ ,  $S^{1et}$  -capacity in itself of the third type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated simultaneously partially, or both:  $S^{1et}_5 f A$ ,  $S^{1et}_5 f B$ . By analogy, for  $S^{1et}_0 f A$ ,  $S^{1et}_2 f_B^A$ ,  $S^{1et}_3 f_B^A$ ,  $S^{1et}_4 f A$ .

Also, you can consider these types of  $S^{1et}$  -capacity in itself for other objects. For example:  $S^{1et}_i f$  operator A,  $S^{1et}_i f$  action B,  $S^{1et}_i f$  made Q  $i=0,1,2,3,4,5$  and etc.

Remark. The concept of elements of physics  $S^{1et}$  is introduced for energy space. The corresponding concept of elements of chemistry  $S^{1et}$  is introduced accordingly.

Consider the dynamical  $S^{1et}$  – elements [2].

Definition C.2.9. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously we shall call dynamical  $S^{1et}$  – element. Let's denote  $\begin{smallmatrix} C(t) \\ D(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{A(t)}$ .

Definition C.2.10.  $\begin{smallmatrix} C(t) \\ D(t) \end{smallmatrix} S^1 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{D}(t)$  is called an ordered dynamical  $S^{1et}$  – element.

It is allowed to multiply dynamical  $S^1\text{et}$  – elements:

$${}_{D_1(t)}^{C_1(t)}S^1t(t)_{B_1(t)}^{A_1(t)} * {}_{D_2(t)}^{C_2(t)}S^1t(t)_{B_2(t)}^{A_2(t)} = {}_{D_1(t) \cup D_2(t)}^{C_1(t)}S^1t(t)_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*_{C.2.2}),$$

where some or any elements may be by ordered elements.

Dynamical  $S^1\text{et}$  – elements can be elements of a group by multiplication (\*<sub>C.2.2</sub>).

Consider the dynamical  $S^1\text{et}$  -capacity in itself.

Definition C.2.11. The dynamical  $S^1\text{et}$  -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment itself as an element and expelling oneself out of oneself at time  $t$  simultaneously:  ${}_{A(t)}^{A(t)}S^1t(t)_{A(t)}^{A(t)}$ .

Denote  $S_0^{1et}(t)fA(t)$ .

Definition C.2.12. The dynamical  $S^2\text{et}$  -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment of  $A(t)$  in itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  ${}_{B(t)}^{B(t)}S^1t(t)_{A(t)}^{A(t)}$ . Denote  $S_1^{1et}(t)f_{B(t)}^{A(t)}$ .

Definition C.2.13. The dynamical  $S^1\text{et}$  <sup>1</sup>-capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  ${}_{B(t)}^{B(t)}S^1t(t)_{A(t)}^{B(t)}$ . Denote  $S_2^{1et}(t)f_{B(t)}^{A(t)}$ .

Definition C.2.14. Dynamical  $S^1\text{et}$  <sup>1</sup>-capacity of the third type is the process of a containment of  $B(t)$  in itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously:  ${}_{B(t)}^{A(t)}S^1t(t)_{B(t)}^{B(t)}$ . Denote  $S_3^{1et}(t)f_{B(t)}^{A(t)}$ .

Definition C.2.15. Dynamical  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure  $S^1\text{et}$ , or both. Let's denote  $S_4^{1et}(t)fA(t)$ .

Definition C.2.16. Dynamical  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or process of a elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $S^1\text{et}$ , or both simultaneously. Let us denote  $S_5^{1et}(t)fA(t)$ .

Consider dynamical  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fifth type:  $S_5^{1et}(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fifth type:  $S_5^{1et}(t)fA(t)$ . with  $m$  elements and from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  ${}_{D(t)}^{C(t)}S^1t(t)_{B(t)}^{A(t)}$ .

The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical  $S^1\text{et}$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^1\text{et}$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{1\text{et}}_5(t)fA(t)$ . can be introduced.

Consider the dynamical mathematics  $S^1\text{et}$ -itself [2].

1. Similarly, for the simultaneous execution of various operators:  

$$\frac{F_0(t)C(t)}{F_1(t)D(t)} S^1 t(t) \frac{F_2(t)A(t)}{F_3(t)B(t)},$$
where  $F_0(t), F_1(t), F_2(t), F_3(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  

$$S^{1\text{et}}_j(t)fF(t)A(t), \quad j=0,4,5, \quad \text{and} \quad S^{1\text{et}}_k(t)f_{B(t)}^{A(t)}, \quad k=1,2,3,$$
where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t))$  are operators.
3. 
$$\frac{B(t)}{D(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} * \right)_{\frac{B(t)}{D(t)-A(t)} S^1 t(t) \frac{A(t)}{B(t)}}$$

$$\mu_{\left( \frac{B(t)}{D(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)} = \left( \frac{\mu^s \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} * \right)}{\mu(A(t)) + 2\mu(B(t)) - \mu(D(t) - A(t))} \right)$$
4. 
$$\frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{B(t)}{A(t)-B(t)} * \right)_{\frac{B(t)}{A(t)} S^1 t(t) \frac{B(t)}{B(t)}}$$

$$\mu_{\left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)} = \left( \frac{\mu^{ss} \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{B(t)}{A(t)-B(t)} * \right)}{2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(A(t))} \right)$$
5. 
$$\frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)_{\frac{B(t)}{A(t)-B(t)} S^1 t(t) \frac{A(t)}{B(t)}}$$

$$\mu_{\left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)} = \left( \frac{\mu^{ss} \left( \frac{B(t)}{A(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)}{2\mu(B(t)) + \mu(A(t)) - \mu(A(t) - B(t))} \right)$$
6. 
$$\frac{B(t)}{Q(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{S^{1\text{et}}_0 f(t) B(t) *}{\frac{B(t)}{Q(t)-B(t)} S^1 t(t) \frac{A(t)-B(t)}{B(t)}} \right),$$

$$\mu_{\left( \frac{B(t)}{Q(t)} S^1 t(t) \frac{A(t)}{B(t)} \right)} = \left( \frac{\mu^{ss} \left( S^{1\text{et}}_0 f(t) B(t) * \right)}{2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t) - B(t))} \right)$$
13. 
$$\frac{B(t)}{Q(t)} S^1 t(t) \frac{A(t)}{B(t)} = \left( \frac{B(t)}{Q(t)} S^1 t(t) \frac{B(t)}{Q(t)} * \right)_{\frac{B(t)}{Q(t)} S^1 t(t) \frac{A(t)-B(t)}{B(t)}}$$

$$\mu_{Q(t)}^{(B(t))} S^1 t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} \mu^{ss} ( \begin{array}{c} B(t) \\ Q(t) \end{array} S^1 t(t)_{B(t)}^{A(t)*} ) \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t)) \end{array} \right)$$

$$14. \begin{array}{c} B(t) \\ Q(t) \end{array} S^1 t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} \begin{array}{c} B(t) \\ B(t) \end{array} S^1 t(t)_{B(t)}^{A(t)*} \\ \begin{array}{c} B(t) \\ Q(t)-B(t) \end{array} S^1 t(t)_{B(t)}^{A(t)} \end{array} \right),$$

$$\mu_{Q(t)}^{(B(t))} S^1 t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} \mu^{ss} ( \begin{array}{c} B(t) \\ B(t) \end{array} S^1 t(t)_{B(t)}^{A(t)*} ) \\ 2\mu(B(t)) + \mu(A(t)) - \mu(Q(t) - (B(t))) \end{array} \right)$$

$$15. \begin{array}{c} R(t) \\ Q(t) \end{array} S^1 t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} S^{1et}_3 f(t)_{R(t)}^{B(t)*} \\ \begin{array}{c} R(t) \\ Q(t)-B(t) \end{array} S^1 t(t)_{B(t)}^{A(t)-B(t)} \end{array} \right),$$

$$\mu_{Q(t)}^{(R(t))} S^1 t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} \mu^{ss} ( S^{1et}_3 f(t)_{R(t)}^{B(t)*} ) \\ \mu(B(t)) + \mu(A(t) - B(t)) + \mu(R(t)) - \mu(Q(t) - B(t)) \end{array} \right)$$

The concepts of dynamical  $S^1et$  -force [2]:  $\begin{array}{c} F_3(t) \\ F_4(t) \end{array} S^1 t(t)_{F_2(t)}^{F_1(t)}$  -the containment of force  $F_1(t)$  into force  $F_2(t)$  and the displacement of force  $F_4(t)$  from force  $F_3(t)$  at time  $t$  simultaneously, dynamical  $S^1et$  - energy:  $\begin{array}{c} E_3(t) \\ E_4(t) \end{array} S^1 t(t)_{E_2(t)}^{E_1(t)}$  -the containment of energy  $E_1(t)$  into energy  $E_2(t)$  and the displacement of energy  $E_4(t)$  from energy  $E_3(t)$  at time  $t$  simultaneously.

Consider the concepts of dynamical  $S^1et$  -capacity in itself of physical objects  $A(t)$ ,  $B(t)$ . Similar to the concepts of publication: the dynamical  $S^1et$  -capacity in itself of the null type is the dynamical capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously:  $S^{1et}_0(t) f A(t) = \begin{array}{c} A(t) \\ A(t) \end{array} S^1 t(t)_{A(t)}^{A(t)}$ , dynamical  $S^1et$  -capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time  $t$  simultaneously partially, or both:  $S^{1et}_5(t) f A(t)$ ,  $S^{1et}_5(t) f B(t)$ . By analogy, for  $S^{1et}_k(t) f_{B(t)}^{A(t)}$ ,  $S^{1et}_k(t) f_{B(t)}^{A(t)}$ ,  $S^{1et}_3(t) f_{B(t)}^{A(t)}$ ,  $S^{1et}_4(t) f A(t)$ .

Also, you can consider these types of dynamical  $S^1et$  -capacity in itself for other objects. For example:  $S^{1et}_i(t) f$  operator  $A(t)$ ,  $S^{1et}_i(t) f$  action  $B(t)$ ,  $S^{1et}_i(t) f$  made  $Q(t)$   $i=0, 1, 2, 3, 4, 5$  etc.

Remark. The concept of elements of physics dynamical  $S^1et$  is introduced for energy space. The corresponding concept of elements of chemistry dynamical  $S^1et$  is introduced accordingly.

Here we consider some continual  $S^1et$  -elements and continual self-capacity in itself as an element.

Definition C.2.17. The containment of A into B and the displacement of D from C simultaneously, where A, B, D, C- sets of continual elements we shall call continual S<sup>1</sup>et – element. Let's denote  ${}^C_D S^1 t^A_B$ .

Definition C.2.18.  ${}^C_D S^1 t^{\vec{A}}_B$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where A, B, D, C- sets of continual elements, is called an ordered S<sup>1</sup>et – element.

It is allowed to multiply continual S<sup>1</sup>et – elements:

$${}^{C_1}_{D_1} S^1 t^{A_1}_{B_1} * {}^{C_2}_{D_2} S^1 t^{A_2}_{B_2} = {}^{C_1 \cup C_2}_{D_1 \cup D_2} S^1 t^{A_1 \cup A_2}_{B_1 \cup B_2} (*_{C.2.3}),$$

where some or any elements may be ordered elements.

Continual S<sup>1</sup>et – elements can be elements of a group by multiplication (\*<sub>C.2.3</sub>).

Consider S<sup>1</sup>et -capacity in itself for continual sets.

Definition C.2.19. The continual S<sup>1</sup>et -capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where A - set of continual elements:  ${}^A_A S^1 t^A_A$ . Denote  $S^{1et}_0 fA$ .

Definition C.2.20. The ordered continual S<sup>1</sup>et -capacity  $\vec{A}$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where  $\vec{A}$  ordered set of continual elements:  ${}^{\vec{A}}_{\vec{A}} S^1 t^{\vec{A}}_{\vec{A}}$ . Denote  $S^{1et}_0 f\vec{A}$ .

Definition C.2.21. The continual S<sup>1</sup>et -capacity in itself A and from itself B of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^B_B S^1 t^A_A$ . Denote  $S^{1et}_1 f^A_B$ .

Definition C.2.22. The continual S<sup>1</sup>et <sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^B_B S^1 t^B_A$ . Denote  $S^{1et}_2 f^A_B$ .

Definition C.2.23. The continual S<sup>1</sup>et <sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously, where A, B- sets of continual elements:  ${}^A_B S^1 t^B_B$ . Denote  $S^{1et}_3 f^A_B$ .

Definition C.2.24. The continual S<sup>1</sup>et -capacity A in itself of the fourth type is the capacity that contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, or both, where A- set of continual elements. Let's denote  $S^{1et}_4 fA$ .

Definition C.2.25. The continual  $S^1\text{et}$  -capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both, where A- set of continual elements. Let us denote  $S^{1\text{et}}_5 fA$ .

Definition C.2.26. The ordered continual  $S^1\text{et}$  -capacity in itself  $\vec{A}$  and from itself B of the first type is the capacity containing  $\vec{A}$  itself as an element and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}S^1t_{\vec{A}}$ . Denote  $S^{1\text{et}}_1 f\vec{A}$ .

Definition C.2.27. The ordered continual  $S^1\text{et}$  <sup>1</sup>-capacity in itself A and from itself  $\vec{B}$  of the first type is the capacity containing A itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$  -ordered set of continual elements, A- set of continual elements:  $\vec{B}S^1t_A^A$ . Denote  $S^{1\text{et}}_1 f_B^A$ .

Definition C.2.28. The ordered continual  $S^1\text{et}$  <sup>2</sup>-capacity in itself  $\vec{A}$  and from itself  $\vec{B}$  of the first type is the capacity containing  $\vec{A}$  itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$  -ordered sets of continual elements:  $\vec{B}S^1t_{\vec{A}}^{\vec{A}}$ . Denote  $S^{1\text{et}}_1 f_{\vec{B}}^{\vec{A}}$ .

Definition C.2.29. The continual  $S^1\text{et}$  <sup>1</sup>-capacity of the second type is the capacity containing B into  $\vec{A}$  and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}S^1t_{\vec{A}}^B$ . Denote  $S^{1\text{et}}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition C.2.30. The continual  $S^1\text{et}$  <sup>2</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into A and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$  -ordered set of continual elements, A- set of continual elements:  $\vec{B}S^1t_A^{\vec{B}}$ . Denote  $S^{1\text{et}}_2 f_{\vec{B}}^A$ .

Definition C.2.31. The continual  $S^1\text{et}$  <sup>3</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$  -ordered sets of continual elements:  $\vec{B}S^1t_{\vec{A}}^{\vec{B}}$ . Denote  $S^{1\text{et}}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition C.2.32. The continual  $S^1\text{et}$  <sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from  $\vec{A}$  simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{A}S^1t_B^B$ . Denote  $S^{1\text{et}}_3 f_{\vec{B}}^{\vec{A}}$ .

Definition C.2.33. The continual  $S^1\text{et}$   $^2$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from A simultaneously, where  $\vec{B}$  - ordered set of continual elements, A- set of continual elements:  $\frac{A}{B}S^1t_{\vec{B}}^{\vec{B}}$ . Denote  $S^1_{\vec{B}}^{et}fA$ .

Definition C.2.34. The continual  $S^1\text{et}$   $^3$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\frac{\vec{A}}{\vec{B}}S^1t_{\vec{B}}^{\vec{B}}$ . Denote  $S^1_{\vec{B}}^{et}f\vec{A}$ .

Definition C.2.35. The ordered continual  $S^1\text{et}$  -capacity  $\vec{A}$  in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, or both, where  $\vec{A}$ - set of continual elements. Let's denote  $S^1_4^{et}f\vec{A}$ .

Definition C.2.36. The ordered continual  $S^1\text{et}$  -capacity  $\vec{A}$  in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which can be generated in part, and it can degenerate in part simultaneously, or both simultaneously, where  $\vec{A}$ - ordered set of continual elements. Let us denote  $S^1_5^{et}f\vec{A}$ .

Also, we consider next elements  $S_0^{2et}f\overrightarrow{I\downarrow_{-1}^1}, S_1^{2et}f\overrightarrow{B\downarrow_{I\uparrow_{-\infty}^1}I\downarrow_{-1}^1}, S_2^{2et}f\overrightarrow{B\downarrow_{I\uparrow_{-1}^1}A\downarrow_{I\uparrow_{-1}^1}}, S_3^{2et}f_B^{A\uparrow I\downarrow_{-\infty}^{\infty}}, S_4^{2et}f\overrightarrow{I\downarrow_d^a}$  etc.

Consider a fifth type of continual self-capacity in itself as an element [2]. For

example,  $S_5^{1et}fA$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-capacity in itself as an element  $S_5^{1et}fA$  with  $m$  continual elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S_5^{1et}fA$ .

Continual self-capacity in itself as an element of the fifth type can be formed for any other structure, not necessarily  $S^1\text{et}$ , only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2). The same for  $S_5^{1et}f\vec{A}$ . Structures more complex than  $S_5^{1et}fA$  can be introduced.

Consider mathematics itself for continual  $S^1\text{et}$  -elements:

1. Simultaneous addition of sets A, B, C, D with continual elements is realized by  $\frac{C}{D \cup} S^1t_{B \cup}^{A \cup}$ , where A, B, C, D may be ordered sets of continual elements.
2. Let's introduce operator to transform capacity to self-consistency in itself as an element:  $Q_j S^1\text{et} (A)$  transforms A to  $S_j^{1et}fA$ ,  $j=0,5$ ,  $Q_i S^1\text{et} (A, B)$

transforms  $A$  to  $S^{1et}_i f_B^A$ , where  $A, B$  may be ordered sets of continual elements,  $i=1,2,3,4$ .

3. Operations are taking place:

$$\begin{aligned}
4. \quad {}^B_D S^1 t_B^A &= ({}^B_A S^1 t_B^{A*}), \quad \mu({}^B_D S^1 t_B^A) = (\mu^s({}^B_A S^1 t_B^{A*}) \\
&\quad \mu(A) + 2\mu(B) - \mu(D - A)) \\
5. \quad {}^B_A S^1 t_B^A &= ({}^B_A S^1 t_B^{A*}), \quad \mu({}^B_A S^1 t_B^A) = (\mu^{ss}({}^B_A S^1 t_B^{A*}) \\
&\quad 2\mu(B) - \mu(A) + \mu(A - B)) \\
6. \quad {}^B_A S^1 t_B^A &= ({}^B_{A-B} S^1 t_B^{A*}), \quad \mu({}^B_A S^1 t_B^A) = (\mu^{ss}({}^B_{A-B} S^1 t_B^{A*}) \\
&\quad 2\mu(B) + \mu(A) - \mu(A - B)) \\
7. \quad {}^B_Q S^1 t_B^A &= ({}^{S^{1et}_0 f B^*}_{Q-B} S^1 t_B^{A-B}), \quad \mu({}^B_Q S^1 t_B^A) = (\mu^{ss}({}^{S^{1et}_0 f B^*}_{Q-B} S^1 t_B^{A-B}) \\
&\quad 2\mu(B) + \mu(A - B) - \mu(Q - B)) \\
8. \quad {}^B_Q S^1 t_B^A &= ({}^B_Q S^1 t_B^{A*}), \quad \mu({}^B_Q S^1 t_B^A) = (\mu^{ss}({}^B_Q S^1 t_B^{A*}) \\
&\quad 2\mu(B) + \mu(A - B) - \mu(Q)) \\
9. \quad {}^B_Q S^1 t_B^A &= ({}^B_{Q-B} S^1 t_B^{A*}), \quad \mu({}^B_Q S^1 t_B^A) = (\mu^{ss}({}^B_{Q-B} S^1 t_B^{A*}) \\
&\quad 2\mu(B) + \mu(A) - \mu(Q - B)) \\
10. \quad {}^B_Q S^1 t_B^A &= ({}^{S^{1et}_3 f B^*}_{Q-B} S^1 t_B^{A-B}), \quad \mu({}^B_Q S^1 t_B^A) = \\
&\quad (\mu^{ss}({}^{S^{1et}_3 f B^*}_{Q-B} S^1 t_B^{A-B}) \\
&\quad \mu(B) + \mu(A - B) + \mu(R) - \mu(Q - B))
\end{aligned}$$

Consider the dynamical continual  $S^1et$  – elements.

Definition C.2.37. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by ordered elements, we shall call dynamical continual  $S^2et$  – element. Let's denote  $\frac{C(t)}{D(t)} S^1 t(t)_{B(t)}^{A(t)}$ .

Definition C.2.38. The process  $\frac{C(t)}{D(t)} S^1 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  is called an ordered dynamical continual  $S^2et$  – element, if some or any elements from  $A(t)$ ,  $B(t)$ ,  $C(t)$ ,  $D(t)$  may be by ordered dynamical continual elements.

It is allowed to multiply dynamical continual  $S^1et$  – elements:

$$\frac{C_1(t)}{D_1(t)} S^1 t(t)_{B_1(t)}^{A_1(t)} * \frac{C_2(t)}{D_2(t)} S^1 t(t)_{B_2(t)}^{A_2(t)} = \frac{C_1(t)}{D_1(t) \cup D_2(t)} S^1 t(t)_{B_1(t)}^{A_1(t) \cup A_2(t)} (*_{C.2.4}),$$

where some or any elements may be by ordered dynamical continual elements.

Dynamical continual  $S^1et$  – elements can be elements of a group by multiplication  $(*_{C.2.4})$ .

Consider the dynamical continual containment of oneself [2].

Definition C.2.39. The dynamical continual  $S^1\text{et}$  -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $A(t) - S^1\text{et}$  of dynamical continual elements:  $\overset{A(t)}{A(t)}S^1t(t)\overset{A(t)}{A(t)}$ . Denote  $S^{1\text{et}}_0(t)fA(t)$ .

Definition C.2.40. The ordered dynamical continual  $S^1\text{et}$  -capacity  $\vec{A}(t)$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $\vec{A(t)}$  ordered set of dynamical continual elements:  $\vec{\overset{A(t)}{A(t)}}S^1t(t)\vec{\overset{A(t)}{A(t)}}$ . Denote  $S^{1\text{et}}_0(t)f\vec{A}(t)$ .

Definition C.2.41. The dynamical continual  $S^1\text{et}$  -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment of  $A(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t), B(t)$ - sets of dynamical continual elements:  $\overset{B(t)}{B(t)}S^1t(t)\overset{A(t)}{A(t)}$ . Denote  $S^{1\text{et}}_1(t)f_{B(t)}^{A(t)}$ .

Definition C.2.42. The dynamical continual  $S^1\text{et}^1$ -capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t), B(t)$ - sets of dynamical continual elements:  $\overset{B(t)}{B(t)}S^1t(t)\overset{B(t)}{A(t)}$ . Denote  $S^{1\text{et}}_2(t)f_{B(t)}^{A(t)}$ .

Definition C.2.43. The dynamical continual  $S^1\text{et}^1$ -capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously, where  $A, B$ - sets of dynamical continual elements:  $\overset{A(t)}{B(t)}S^1t(t)\overset{B(t)}{B(t)}$ . Denote  $S^{1\text{et}}_3(t)f_{B(t)}^{A(t)}$ .

Definition C.2.44. The dynamical continual  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously, or both, where  $A(t)$ - set of dynamical continual elements. Let's denote  $S^{1\text{et}}_4(t)fA(t)$ .

Definition C.2.45. The dynamical continual  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $S^1\text{et}$ , or both simultaneously, where  $A(t)$ - set of dynamical continual elements. Let us denote  $S^{1\text{et}}_5(t)fA(t)$ .

Definition C.2.46. The ordered dynamical continual  $S^1\text{et}$  -capacity in itself  $\overrightarrow{A}(t)$  and from itself  $B(t)$  of the first type is the process of containment of  $\overrightarrow{A}(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$ - ordered set of dynamical continual elements,  $B(t)$ - set of dynamical continual elements:  $\frac{B(t)}{B(t)}S^1t(t)\frac{\overrightarrow{A}(t)}{A(t)}$ . Denote  $S^{1et}_1(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.2.47. The ordered dynamical continual  $S^1\text{et}$   $^1$ -capacity in itself  $A(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment of  $A(t)$  itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B}(t)$  -ordered set of dynamical continual elements,  $A$ - set of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S^1t(t)\frac{A(t)}{A(t)}$ . Denote  $S^{1et}_1(t)f_{\overrightarrow{B}(t)}^{A(t)}$ .

Definition C.2.48. The ordered dynamical continual  $S^1\text{et}$   $^2$ -capacity in itself  $\overrightarrow{A}(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment of  $\overrightarrow{A}(t)$  itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$ ,  $\overrightarrow{B}(t)$  -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S^1t(t)\frac{\overrightarrow{A}(t)}{A(t)}$ . Denote  $S^{1et}_1(t)f_{\overrightarrow{B}(t)}^{\overrightarrow{A}(t)}$ .

Definition C.2.49. The dynamical continual  $S^1\text{et}$   $^1$ -capacity of the second type is the process of a containment  $B(t)$  into  $\overrightarrow{A}(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\frac{B(t)}{B(t)}S^1t(t)\frac{B(t)}{A(t)}$ . Denote  $S^{1et}_2(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.2.50. The dynamical continual  $S^1\text{et}$   $^2$ -capacity of the second type is the process of a containment  $\overrightarrow{B}(t)$  into  $A(t)$  and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B}(t)$  -ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S^1t\frac{\overrightarrow{B}(t)}{A(t)}$ . Denote  $S^{1et}_2(t)f_{\overrightarrow{B}(t)}^{A(t)}$ .

Definition C.2.51. The dynamical continual  $S^1\text{et}$   $^3$ -capacity of the second type is the process of a containment  $\overrightarrow{B}(t)$  into  $\overrightarrow{A}(t)$  and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$ ,  $\overrightarrow{B}(t)$  -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S^1t(t)\frac{\overrightarrow{B}(t)}{A(t)}$ . Denote  $S^{1et}_2(t)f_{\overrightarrow{B}(t)}^{\overrightarrow{A}(t)}$ .

Definition C.2.52. The dynamical continual  $S^1\text{et}$   $^1$ -capacity of the third type is the process of a containment of  $B(t)$  itself as an element and the displacement of

$B(t)$  from  $\overrightarrow{A(t)}$  at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{A(t)}_{B(t)} S^1 t(t)_{B(t)}^{B(t)}$ .

Denote  $S_3^{1et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.2.53. The dynamical continual  $S^1et^2$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{B(t)}$  from  $A(t)$  at time  $t$  simultaneously, where  $\overrightarrow{B(t)}$  ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{A(t)}_{B(t)} S^1 t(t)_{B(t)}^{\overrightarrow{B(t)}}$ . Denote  $S_3^{1et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.2.54. The dynamical continual  $S^1et^3$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{B(t)}$  from  $\overrightarrow{A(t)}$  at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$ ,  $\overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\overrightarrow{A(t)}_{B(t)} S^1 t(t)_{B(t)}^{\overrightarrow{B(t)}}$ . Denote  $S_3^{1et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.2.55. The ordered dynamical continual  $S^1et$ -capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously, or both, where  $\overrightarrow{A(t)}$  -  $S^1et$  of dynamical continual elements. Let's denote  $S_4^{1et}(t) f_{\overrightarrow{A(t)}}$ .

Definition C.2.56. The ordered dynamical continual  $S^1et$ -capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of containment of itself in part and expelling oneself in part or the process of a elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$ , or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered  $S^1et$  of dynamical continual elements. Let us denote  $S_5^{1et}(t) f_{\overrightarrow{A(t)}}$ .

Also we consider some elements:  $S_0^{1et}(t) f \uparrow I \downarrow_{-1}^1$ ,  $S_1^{1et}(t) f_{B(t) \downarrow_{-1}^1}^{\uparrow I \downarrow_{-1}^1}$ ,  $S_2^{1et}(t) f_{B(t)}^{\overrightarrow{A(t) \downarrow_{-1}^1}}$ ,  $S_3^{1et}(t) f_{B(t)}^{\overrightarrow{A(t) \uparrow I \downarrow_{-\infty}^1}}$ ,  $S_4^{1et}(t) f \uparrow I \downarrow_{d(t)}^{\overrightarrow{a(t)}}$  etc.

Consider the dynamical continual mathematics  $S^1et$ -itself:

1. Similarly, for the simultaneous execution of various operators:  $\frac{F_0(t)C(t)}{F_1(t)D(t)} S^1 t(t)_{F_3(t)B(t)}^{F_2(t)A(t)}$ , where  $F_0(t), F_1(t), F_2(t), F_3(t)$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_j^{1et}(t) f F(t) A(t)$ ,  $j=0,4,5$ , and  $S_k^{1et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t))$  are operators.

$$\begin{aligned}
& \text{3. } {}_{D(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} B(t) \\ A(t) \end{array} S^1t(t)_{B(t)}^* \right), \\
& \mu({}_{D(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^s({}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)*}) \\ \mu(A(t)) + 2\mu(B(t)) - \mu(D(t) - A(t)) \end{array} \right) \\
& \text{4. } {}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} B(t) \\ A(t) \end{array} S^1t(t)_{B(t)}^* \right), \\
& \mu({}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^{ss}({}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{B(t)}) \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(A(t)) \end{array} \right) \\
& \text{5. } {}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} B(t) \\ B(t) \end{array} S^1t(t)_{B(t)}^* \right), \\
& \mu({}_{A(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^{ss}({}_{B(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) \\ 2\mu(B(t)) + \mu(A(t)) - \mu(A(t) - B(t)) \end{array} \right) \\
& \text{6. } {}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} S_0^{1et}f(t)B(t)^* \\ B(t) \\ Q(t)-B(t) \end{array} S_1t(t)_{B(t)}^{A(t)-B(t)} \right), \\
& \mu({}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^{ss}(S_0^{1et}f(t)B(t)^*) \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t) - B(t)) \end{array} \right) \\
& \text{7. } {}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} B(t) \\ Q(t) \end{array} S^1t(t)_{B(t)}^* \right), \\
& \mu({}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^{ss}({}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{B(t)*}) \\ 2\mu(B(t)) + \mu(A(t) - B(t)) - \mu(Q(t)) \end{array} \right) \\
& \text{8. } {}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} B(t) \\ B(t) \end{array} S^1t(t)_{B(t)}^* \right), \\
& \mu({}_{Q(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)}) = \left( \begin{array}{c} \mu^{ss}({}_{B(t)}^{B(t)}S^1t(t)_{B(t)}^{A(t)*}) \\ 2\mu(B(t)) + \mu(A(t)) - \mu(Q(t) - (B(t))) \end{array} \right) \\
& \text{9. } {}_{Q(t)}^{R(t)}S^1t(t)_{B(t)}^{A(t)} = \left( \begin{array}{c} S_3^{1et}f(t)_{R(t)}^{B(t)*} \\ R(t) \\ Q(t)-B(t) \end{array} S^1t(t)_{B(t)}^{A(t)-B(t)} \right),
\end{aligned}$$

$$\mu_{(Q(t))}^{(R(t))} S^1 t(t)_{B(t)}^{A(t)} = (\mu(B(t)) + \mu(A(t) - B(t)) + \mu(R(t)) - \mu(Q(t) - B(t))) \mu^{ss}(S_3^{1et} f(t)_{R(t)}^{B(t)} *)$$

Consider a fifth type of dynamical partial containment of oneself [2]. For example,  $S_5^{1et}(t) \overrightarrow{f A^n(t)}$ , where  $\{A^n(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e. n - continual elements, it is possible to consider the dynamical containment of oneself  $S_5^{1et}(t) \overrightarrow{f A^m(t)}$  with m continual elements from  $\{A^n(t)\}$ , at  $m < n$ , which is a process to be formed by the form (1.1) [1], that is, only m continual elements from  $\{A^n(t)\}$  are located in the structure  $S_5^{1et}(t) \overrightarrow{f A^n(t)}$ . Dynamical continual containments of oneself of the fifth type can be formed for any other structure, not necessarily  $S^{1et}$ , only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2) [1]. Structures more complex than  $S_5^{1et}(t) \overrightarrow{f A^n(t)}$  can be introduced.

Consider the dynamical continual  $S^{1et}$  – elements with target weights.

Definition C.2.57. The process of the containment of A(t) with the target weights  $\{g_1(t)\}$  into B(t) and the displacement of D(t) with target weights  $\{g_2(t)\}$  from C(t) at time t simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual  $S^{2et}$  – element with target weights. Let's denote  $\frac{C(t)}{D(t)\{g_2(t)\}} S^1 t(t)_{B(t)}^{\overrightarrow{A(t)\{g_1(t)\}}}$ .

Definition C.2.58. The process  $\frac{C(t)}{D(t)\{g_2(t)\}} S^1 t(t)_{B(t)}^{\overrightarrow{A(t)\{g_1(t)\}}}$  is called an ordered dynamical continual  $S^{1et}$  – element with target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time t, or both simultaneously, if some or any elements from A, B, C, D may be by ordered dynamical continual elements with target weights.

It is allowed to multiply dynamical continual  $S^{1et}$  – elements with target weights:

$$\frac{C_1(t)}{D_1(t)\{g_2(t)\}} S^1 t(t)_{B_1(t)}^{A_1(t)\{g_1(t)\}} * \frac{C_2(t)}{D_2(t)\{g_2(t)\}} S^1 t(t)_{B_2(t)}^{A_2(t)\{g_1(t)\}} = \frac{C_1(t)}{(D_1(t) \cup D_2(t))\{g_2(t)\}} S^1 t(t)_{B_1(t)}^{(A_1(t) \cup A_2(t))\{g_1(t)\}} \quad (*_{C.2.5}),$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual  $S^{1et}$  – elements with target weights can be elements of a group by multiplication  $(*_{C.2.5})$ .

Consider the dynamical continual containment of oneself with the target weights.

Definition C.2.59. The dynamical continual  $S^1\text{et}$  -capacity  $A(t)$  in itself and from itself with target weights  $\{g(t)\}$  of the null type is the process of containment itself as an element with target weights  $\{g(t)\}$  and expelling oneself out of oneself with target weights  $\{g(t)\}$  at time  $t$  simultaneously , where  $A(t) - S^1\text{et}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_0^{1et}(t)fA(t)\{g(t)\}$  .

Definition C.2.60. The dynamical continual  $S^2\text{et}$  -capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process of a containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously , where  $A(t) - S^1\text{et}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_4^{1et}(t)fA(t)\{g(t)\}$  .

Definition C.2.61. The ordered dynamical continual  $S^1\text{et}$  -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t) - \text{Set}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_5^{1et}(t)fA(t)\{g(t)\}$  .

Definition C.2.62. The dynamical continual  $S^1\text{et}$  -capacity in itself with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the first type is the process of containment of  $A(t)$  itself as an element  $A(t)$  and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} S_1^{1et}(t) \begin{matrix} A(t)\{g_1(t)\} \\ A(t) \end{matrix} . \text{ Denote } S_1^{1et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}} .$$

Definition C.2.63. The dynamical continual  $S^1\text{et}^1$ -capacity with target weights of the second type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  into  $A(t)$  and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} S_2^{1et}(t) \begin{matrix} B(t)\{g_1(t)\} \\ A(t) \end{matrix} . \text{ Denote } S_2^{1et}(t)f_{B(t)\{g_2(t)\}}^{B(t)\{g_1(t)\}, A(t)} .$$

Definition C.2.64. The dynamical continual  $S^1\text{et}^1$ -capacity of the third type with target weights is the process of a containment of  $B(t)$  itself as an element with target weights  $\{g_1(t)\}$  and the displacement of  $B(t)$  with target weights  $\{g_1(t)\}$  from  $A(t)$  at time  $t$  simultaneously , where some or any elements

from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{A(t)}{B(t)\{g_1(t)\}} S^1 t(t) \xrightarrow{B(t)\{g_1(t)\}} . \text{ Denote } S^1_{3^{et}}(t) f_{B(t)\{g_1(t)\}}^{A(t)}.$$

$$\text{Also, we consider some elements: } S^1_{0^{et}}(t) f \uparrow I \downarrow_{-1}^1 \{g(t)\} \xrightarrow{\quad}, S^1_{1^{et}}(t) f_{B(t) \downarrow I \uparrow_{-\infty}^1}^{\uparrow I \downarrow_{-1}^1 \{g(t)\}}, \\ S^1_{2^{et}}(t) f_{B(t) \downarrow I \uparrow_{-1}^1 \{g(t)\}}^{A(t) \downarrow I \uparrow_{-\infty}^1}, S^1_{3^{et}}(t) f_{B(t)\{g(t)\}}^{A(t) \uparrow I \downarrow_{-\infty}^1}, S^1_{4^{et}}(t) f \uparrow I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}} \text{ etc.}$$

Consider mathematics itself for dynamical continual  $S^1$ et -elements with target weights [2]:

1. Similarly, for the simultaneous execution of various operators:

$$\frac{F_0(t)C(t)}{F_1(t)D(t)g_2(t)} S^1 t(t) \xrightarrow{F_2(t)A(t)}_{F_3(t)B(t)}, \text{ where } F_0(t), F_1(t), F_2(t), F_3(t) \text{ are operators.}$$

2. Similarly, for the simultaneous execution of various operators:

$$S^1_{j^{et}}(t) f F(t) A(t), \quad j=0,4,5, \quad \text{and} \quad S^1_{k^{et}}(t) f_{B(t)g_2(t)}^{A(t)}, \quad k=1,2,3, \quad \text{where} \\ \{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t)) \text{ are operators.}$$

$$3. \quad \frac{B(t)}{D(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \left( \frac{B(t)}{A(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)}^* \right. \\ \left. \frac{B(t)}{(D(t)-A(t))g_1(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} \right), \\ \mu_{D(t)g_1(t)}^{B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \left( \mu^s \left( \frac{B(t)}{A(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)}^* \right) \right. \\ \left. \mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu((D(t)-A(t))g_1(t)) \right)$$

$$4. \quad \frac{B(t)}{A(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)}_{B(t)} = \left( \frac{B(t)}{A(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)}_{B(t)}^* \right. \\ \left. \frac{B(t)}{A(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)-B(t)}_{B(t)} \right), \\ \mu_{A(t)g_1(t)}^{B(t)} S^1 t(t) \xrightarrow{A(t)}_{B(t)} = \left( \mu^{ss} \left( \frac{B(t)}{A(t)} S^1 t(t) \xrightarrow{A(t)}_{B(t)}^* \right) \right. \\ \left. 2\mu(B(t)) + \mu(A(t)-B(t)) - \mu(A(t)g_1(t)) \right)$$

$$5. \quad \frac{B(t)}{A(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \left( \frac{B(t)}{B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} \right. \\ \left. \frac{B(t)}{A(t)-B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} \right), \\ \mu_{A(t)}^{B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \left( \mu^{ss} \left( \frac{B(t)}{B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} \right) \right. \\ \left. 2\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(A(t)-B(t)) \right)$$

$$6. \quad \frac{B(t)}{Q(t)g_1(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \left( \frac{S^1_{0^{et}} f(t) B(t) g_1(t)^*}{B(t)} \right. \\ \left. \frac{B(t)}{(Q(t)-B(t))g_1(t)} S^1 t(t) \xrightarrow{(A(t)-B(t))g_1(t)}_{B(t)} \right), \\ \mu_{Q(t)g_1(t)}^{B(t)} S^1 t(t) \xrightarrow{A(t)g_1(t)}_{B(t)} = \\ \left( \mu^{ss} \left( S^1_{0^{et}} f(t) B(t) g_1(t)^* \right) \right. \\ \left. 2\mu(B(t)) + \mu((A(t)-B(t))g_1(t)) - \mu((Q(t)-B(t))g_1(t)) \right)$$

$$\begin{aligned}
7. \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} B(t)g_1(t) \\ B(t) \end{matrix} * \\ \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} (A(t)-B(t))g_1(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \left( \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S^1 t(t) \begin{matrix} B(t)g_1(t) \\ B(t) \end{matrix} * \right) \\ 2\mu(B(t)) + \mu((A(t)-B(t))g_1(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right) \\
8. \quad & \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} * \\ \begin{matrix} B(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \left( \begin{matrix} B(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} \right) = \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t)g_1(t) \\ B(t) \end{matrix} * \right) \\ 2\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(Q(t) - (B(t))) \end{matrix} \right) \\
9. \quad & \begin{matrix} R(t)g_1(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} S^{1et}_3 f(t) \begin{matrix} B(t) \\ R(t)g_1(t) \end{matrix} * \\ \begin{matrix} R(t) \\ Q(t)-B(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \left( \begin{matrix} R(t)g_1(t) \\ Q(t) \end{matrix} S^1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \\
& \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} S^{1et}_3 f(t) \begin{matrix} B(t) \\ R(t)g_1(t) \end{matrix} * \right) \\ \mu(B(t)) + \mu(A(t) - B(t)) + \mu(R(t)g_1(t)) - \mu(Q(t) - B(t)) \end{matrix} \right)
\end{aligned}$$

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S^{1et}_5(t)fA(t)\{g(t)\}$ , where  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S^{1et}_5(t)fA(t)\{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S^{1et}_5(t)fA(t)\{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily  $S^{2et}$ , only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S^{1et}_5(t)fA(t)\{g(t)\}$  can be introduced.

#### Supplement

We consider  $S^{1et}$ -logic [2], [8]: 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 1 corresponds to the logical value "yes". Then for joint statements  $S^1 t^A_B, {}^C_D S^1 t, A, B, C, D, {}^C_D S^1 t^A_B$ :  $f({}^C_D S^1 t^A_B) = f({}^C_D S^1 t) + f(S^1 t^A_B)$ -

$f(C_D S^1 t \cap S^1 t_B^A) = (f^{os^1}(C \cap D) + f^{s^1}(A \cap B) + f^{-s^1}(\{ \}_{C \cap D} S^1 t)) / (f(A) + f(B) - f(A \cap B) + f(D) - f(C))$   
 $-f(C_D S^1 t \cap C_D S^1 t), f^{s^1}(x)$ - the value of self-truth for self- statement  $x$ ,  
 $f^{os^1}(x)$ - the value of oself-truth for oself- 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 the statement A,  $f(A/B)$ - conditional truth of the  
statement A at the statement B, for dependent statements:  $f(C_D S^1 t \cap S^1 t_B^A) =$   
 $f(C_D S^1 t) * f(S^1 t_B^A / C_D S^1 t) = f(S^1 t_B^A) * f(C_D S^1 t / S^1 t_B^A)$ . Adding the truth val-  
ues of inconsistent propositions:  $f(A+B)=F(A)+f(B)$ . The formula of  
complete truth:  $f(A)=\sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition C.2.65.  $S^1$ et-probability of events  $C_D S^1 t_B^A$  is  $p(C_D S^1 t_B^A)$ , denote  $C_D S^1 p_B^A$ .

In particular,  $C_D S^1 p_B^A$  for joint events  $S^1 t_B^A, C_D S^1 t, A, B, C, D, C_D S^1 t_B^A$ :

$$\begin{aligned}
 p(C_D S^1 t_B^A) &= p(C_D S^1 t) + p(S^1 t_B^A) - p(S^1 t_B^A \cap C_D S^1 t) = \\
 &= ((f^{os^1}(C \cap D) + f^{s^1}(A \cap B) + f^{-s^1}(\{ \}_{C \cap D} S^1 t)) / (p(A) + p(B) - p(A \cap B) + p(D) - p(C))) - p(S^1 t_B^A \cap C_D S^1 t),
 \end{aligned}$$

for dependent events:  $p(C_D S^1 t \cap S^1 t_B^A) = p(C_D S^1 t) * p(S^1 t_B^A / C_D S^1 t) =$   
 $p(S^1 t_B^A) * p(C_D S^1 t / S^1 t_B^A)$ .  $p^{s^1}(x)$ - the value of self-P for self- event  $x$ ,  $p^{os^1}(x)$ -  
the value of oself-P for oself- event  $x$ .

### C.3 Set<sub>1</sub> - elements

Definition C.3.1. The containment of A into B and the displacement of D from C simultaneously with operations (\*<sub>C.3.1</sub>), (\*<sub>C.3.2</sub>) we shall call Set<sub>1</sub> - element. Let's denote  $C_D S_1 t_B^A$ .

A, B, C, D-are any, in particular, A may be action in the right direction and with the right goal (action with the so-called target weights [3]), any actions.

Definition C.3.2.  $\vec{C_D S_1 t_B^A}$  is called an ordered Set<sub>1</sub> - element, if some or any elements from A, B, C, D may be by ordered elements.

It is allowed to add Set<sub>1</sub> - elements:  $C_{D_1} S_1 t_{B_1}^{A_1} + C_{D_2} S_1 t_{B_2}^{A_2} =$   
 $C_{D_1 \cup D_2} S_1 t_{B_1 \cup B_2}^{A_1 \cup A_2}$  (\*<sub>C.3.1</sub>),

where some or any elements may be ordered elements.

It is allowed to multiply Set<sub>1</sub> - elements:  $C_{D_1} S_1 t_{B_1}^{A_1} * C_{D_2} S_1 t_{B_2}^{A_2} =$   
 $C_{D_1 \cap D_2} S_1 t_{B_1 \cap B_2}^{A_1 \cap A_2}$  (\*<sub>C.3.2</sub>),

where some or any elements may be ordered elements.

Set<sub>1</sub> – elements can be elements of a group both by multiplication (\*<sub>C.3.2</sub>) and by addition (\*<sub>C.3.1</sub>), and form an algebraic ring, field by these operations [3].

Consider Set<sub>1</sub>-capacity in itself [3].

Definition C.3.3. The Set<sub>1</sub> -capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously:  ${}^A S_1 t_A^A$ . Denote  $S_{01}^{et} f A$ .

Definition C.3.4. The Set<sub>1</sub>-capacity in itself A and from itself B of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously:  ${}^B S_1 t_A^A$ . Denote  $S_{11}^{et} f_B^A$ .

Definition C.3.5. The Set<sub>1</sub><sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously:  ${}^B S_1 t_A^B$ . Denote  $S_{21}^{et} f_B^A$ .

Definition C.3.6. The Set<sub>1</sub><sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously:  ${}^A S_1 t_B^B$ . Denote  $S_{31}^{et} f_B^A$ .

Definition C.3.7. Set<sub>1</sub>-capacity A in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, or both. Let's denote  $S_{41}^{et} f A$ .

Definition C.3.8. Set<sub>1</sub>-capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can degenerate in part, or both simultaneously. Let us denote  $S_{51}^{et} f A$ .

Consider a fifth type of self-capacity. For example, based on  $S_{51}^{et} f A$ , where  $A = (A_1, A_2, \dots, A_n)$  it is possible to consider Set<sub>1</sub>-capacity in itself  $S_{51}^{et} f A$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S_{51}^{et} f A$ . Set<sub>1</sub>-capacity in itself of the fifth type can be formed for any other structure, not necessarily Set<sub>1</sub>, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S_{51}^{et} f A$ . can be introduced.

Consider mathematics Set<sub>1</sub>-itself [3]:

1. Similarly, for the simultaneous execution of various operators:  ${}^{F_0 C}_{F_1 D} S_1 t_{F_3 B}^{F_2 A}$ , where  $F_0, F_1, F_2, F_3$  are operators.
2. Similarly, for the simultaneous execution of various operators:  $S_{j1}^{et} f F A$ ,  $j=0,1,2,3,4,5$ , where  $\{F\} = (F_0, F_1, F_2, F_3)$  are operators.

3. Operations are taking place:

$$S_1 t_{B_1}^{A_1*} + {}_{D_2} S_1 t_{B_2}^{A_2} = {}_{A_1 \cup D_2} S_1 t_{B_1 \cup B_2}^{A_1 \cup A_2} (1^*),$$

$$S_1 t_{B_1}^{A_1} + {}_{D_2} S_1 t_{B_2}^{A_2} = {}_{D_2} S_1 t_{B_1 \cup B_2}^{A_1 \cup A_2} (2^*),$$

$${}_{B_1} S_1 t + {}_{D_2} S_1 t_{B_2}^{A_2} = {}_{A_1 \cup D_2} S_1 t_{B_2}^{A_2} (3^*),$$

$${}_{D_1} S_1 t_B^A = ({}_{B-A} S_1 t_B^A), \mu({}_{D_1} S_1 t_B^A) = (\mu({}_{B-A} S_1 t_B^A))$$

$${}_{D_1} S_1 t_B^A = ({}_{B-B \cap D} S_1 t_{B-A \cap B}^{A \cap B}), \mu({}_{D_1} S_1 t_B^A) = (\mu({}_{B-B \cap D} S_1 t_{B-A \cap B}^{A \cap B}))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q} S_1 t_B^A + {}_{Q-B} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q} S_1 t_B^A) + \mu({}_{Q-B} S_1 t_B^A))$$

$${}_{A_1} S_1 t_B^A = ({}_{B-A} S_1 t_B^A), \mu({}_{A_1} S_1 t_B^A) = (\mu({}_{B-A} S_1 t_B^A))$$

$${}_{A_1} S_1 t_B^A = ({}_{B-A-B} S_1 t_B^A), \mu({}_{A_1} S_1 t_B^A) = (\mu({}_{B-A-B} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q-B} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q-B} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q-B} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q-B} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-A} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-A} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q-B} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q-B} S_1 t_B^A))$$

$${}_{Q_1} S_1 t_B^A = ({}_{B-Q-B} S_1 t_B^A), \mu({}_{Q_1} S_1 t_B^A) = (\mu({}_{B-Q-B} S_1 t_B^A))$$

$$\begin{aligned}
{}^R S_1 t_B^A &= ( \begin{smallmatrix} S_{21}^{et} f_A^B \\ {}^{R-A} S_1 t_B^A \end{smallmatrix} ), & \mu({}^B S_1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss}({}^B S_1 t_B^A) \\ \mu(A) + \mu(B) + \mu(R) - \mu(Q) \end{smallmatrix} ) \\
{}^R S_1 t_B^A &= ( \begin{smallmatrix} {}^B S_1 t_B^A \\ {}^{R-B} S_1 t_B^A \end{smallmatrix} ), & \mu({}^R S_1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss}({}^B S_1 t_B^A) \\ \mu(A) + \mu(B) + \mu(R) - \mu(Q) \end{smallmatrix} ) \\
{}^R S_1 t_B^A &= ( \begin{smallmatrix} {}^A S_1 t_A^A \\ {}^{R-A} S_1 t_{B-A}^A \end{smallmatrix} ), & \mu({}^R S_1 t_B^A) &= ( \begin{smallmatrix} \mu^{ss}({}^A S_1 t_A^A) \\ -\mu(A) + \mu(B) + \mu(R) - \mu(Q) \end{smallmatrix} )
\end{aligned}$$

The concepts of Set<sub>1</sub> – force [3]:  $\begin{smallmatrix} F_3 \\ F_4 \end{smallmatrix} S_1 t_{F_2}^{F_1}$  –the containment of force F<sub>1</sub> into force F<sub>2</sub> and the displacement of force F<sub>4</sub> from force F<sub>3</sub> simultaneously, Set – energy:  $\begin{smallmatrix} E_3 \\ E_4 \end{smallmatrix} S_1 t_{E_2}^{E_1}$  –the containment of energy E<sub>1</sub> into energy E<sub>2</sub> and the displacement of energy E<sub>4</sub> from energy E<sub>3</sub> simultaneously.

Consider the concepts of Set<sub>1</sub>-capacity in itself of physical objects A, B [3]. Similar to the concepts of publication: the Set<sub>1</sub>-capacity in itself of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously:  $\begin{smallmatrix} B \\ B \end{smallmatrix} S_1 t_A^A$ , Set<sub>1</sub>-capacity in itself of the third type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated simultaneously partially, or both:  $S_{51}^{et} f A$ ,  $S_{51}^{et} f B$ . By analogy, for  $S_{01}^{et} f A$ ,  $S_{21}^{et} f_B^A$ ,  $S_{31}^{et} f_B^A$ ,  $S_{41}^{et} f A$ .

Also, you can consider these types of Set<sub>1</sub>-capacity in itself for other objects [3]. For example:  $S_{i1}^{et} f$  –operator A,  $S_{i1}^{et} f$  –action B,  $S_{i1}^{et} f$  – made Q i=0,1,2,3,4,5 etc.

Remark C.3.1. The concept of elements of physics Set<sub>1</sub> is introduced for energy space. The corresponding concept of elements of chemistry Set<sub>1</sub> is introduced accordingly.

Remark C.3.2. Definition C.3.9. The capacity A is called own for its elements if for any element xA the relation Ax A for any Z, Z- set of real numbers. For example, the hierarchy of levels self is just such capacity with =1.

Definition C.3.10. Self- hierarchy of levels self is  $St_{\text{hierarchy of levels self}}^{\text{hierarchy of levels self}}$ .

Definition C.3.11. Self- hierarchy of levels self at point x is  $St_x^{\text{hierarchy of levels self}}$ .

Definition C.3.12. TS- hierarchy of levels TS is TS (TS- hierarchy of levels TS) [4].

Remark C.3.3. The model  $\begin{smallmatrix} E_3 \\ E_4 \end{smallmatrix} S_1 t_{E_2}^{E_1}$  corresponds to the distribution of self-energy of a living organism, in particularly a human one. The left part  $\begin{smallmatrix} E_3 \\ E_4 \end{smallmatrix} S_1 t$  corresponds to the distribution of self-energy of the left half of a living organism, the right part  $S_1 t_{E_2}^{E_1}$  corresponds to the distribution of self-energy of the right half of a living organism. The examples:

$$S_1 t_{virus\ C*}^{virus\ C*+culture\ medium\ for\ A} S_1 t_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} =$$

$$(virus\ C+culture\ medium\ for\ A S_1 t_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A})$$

$$S_1 t_B^B + culture\ medium\ for\ A S_1 t_{culture\ medium\ for\ A}^{culture\ medium\ for\ A} =$$

$$(culture\ medium\ for\ A S_1 t_{B+culture\ medium\ for\ A}^{B+culture\ medium\ for\ A})$$

It is clear that a chemical agent (tablets)  $S_1 t_B^B$  cannot destroy the virus, since  $S_1 t_B^B$  cannot actually enter

$$virus\ C+culture\ medium\ for\ A S_1 t_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A}, \quad \text{incompatible}$$

objects in the addition operation, there is no interaction directly with the virus, but a simple overlay. The aggressiveness of the virus is modeled here by the target weight \*. Here, virus cure is modeled by an antivirus model  $S_1 t_{-virus\ C*}^{-virus\ C*}$  with a target weight \*:  $S_1 t_{-virus\ C*}^{-virus\ C*} +$

$$+ virus\ C+culture\ medium\ for\ A S_1 t_{virus\ C+culture\ medium\ for\ A}^{virus\ C+culture\ medium\ for\ A}$$

$$= culture\ medium\ for\ A S_1 t_{culture\ medium\ for\ A}^{culture\ medium\ for\ A}. \quad \text{Here, an antivirus } (-virus\ C)$$

can be an appropriate agent, a virus-antagonist to this virus etc.

The main trend in science, in our opinion, is a hierarchical representation by external compression of object spaces, for example, compression of the object space in an ordinary point space into a Banach space, in logics of higher order (e.g., second order), etc. There is a need for a significant increase in the capacity of information. The next trend in science, in our opinion, will be a hierarchical representation by internal compression of objects to myself, for example, compression of objects of type self. In string theory, they already fold dimensions onto themselves and then compress them into a point.

Consider the dynamical  $Set_1$  – elements [3].

Definition C.3.14. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously we shall call dynamical  $Set_1$  – element. Let's denote  $\frac{C(t)}{D(t)} S_1 t(t)_{B(t)}^{A(t)}$ .

Definition C.3.15.  $\frac{C(t)}{D(t)} S_1 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{D}(t)$  is called an ordered dynamical  $Set_1$  – element.

It is allowed to add dynamical  $Set_1$  – elements:

$$\frac{C_1(t)}{D_1(t)} S_1 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_2(t)}{D_2(t)} S_1 t(t)_{B_2(t)}^{A_2(t)} = \frac{C_1(t) \cup C_2(t)}{D_1(t) \cup D_2(t)} S_1 t(t)_{B_1(t) \cup B_2(t)}^{A_1(t) \cup A_2(t)} \quad (*_{C.3.3}),$$

where some or any elements may be ordered elements.

It is allowed to multiply dynamical  $Set_1$  – elements:

$$\frac{C_1(t)}{D_1(t)} S_1 t(t)_{B_1(t)}^{A_1(t)} * \frac{C_2(t)}{D_2(t)} S_1 t(t)_{B_2(t)}^{A_2(t)} = \frac{C_1(t) \cap C_2(t)}{D_1(t) \cap D_2(t)} S_1 t(t)_{B_1(t) \cap B_2(t)}^{A_1(t) \cap A_2(t)} \quad (*_{C.3.4}),$$

where some or any elements may be ordered elements.

Dynamical  $\text{Set}_1$ -elements can be elements of a group both by multiplication ( $*_{\text{C.3.4}}$ ) and by addition ( $+_{\text{C.3.3}}$ ), and form an algebraic ring, field by these operations.

Consider the dynamical  $\text{Set}_1$ -capacity in itself.

Definition C.3.16. The dynamical  $\text{Set}_1$ -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment itself as an element and expelling  $A(t)$  oneself out of oneself at time  $t$  simultaneously:  ${}^{A(t)}_{A(t)}S_1t(t) {}^{A(t)}_{A(t)}$ . Denote  $S_0^{et}(t)fA(t)$ .

Definition C.3.17. The dynamical  $\text{Set}_1$ -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of containing  $A(t)$  into itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  ${}^{B(t)}_{B(t)}S_1t {}^{A(t)}_{A(t)}$ . Denote  $S_{11}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.18. The dynamical  $\text{Set}_1^1$ -capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  ${}^{B(t)}_{B(t)}S_1t(t) {}^{B(t)}_{A(t)}$ . Denote  $S_{21}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.19. Dynamical  $\text{Set}_1^1$ -capacity of the third type is the process of containing  $B(t)$  into itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously:  ${}^{A(t)}_{B(t)}S_1t {}^{B(t)}_{B(t)}$ . Denote  $S_{31}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.20. Dynamical  $\text{Set}_1$ -capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure  $\text{Set}_1$ , or both. Let's denote  $S_{41}^{et}(t)fA(t)$ .

Definition C.3.21. Dynamical  $\text{Set}_1$ -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or process of a containment contains elements from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $\text{Set}_1$ , or both simultaneously. Let us denote  $S_{51}^{et}(t)fA(t)$ .

Consider dynamical  $\text{Set}_1$ -capacity in itself of the fifth type  $A(t)$ :  $S_{51}^{et}(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  it is possible to consider the dynamical  $\text{Set}$ -capacity in itself of the fifth type  $A(t)$ :  $S_{51}^{et}(t)fA(t)$  with  $m$  elements and from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  ${}^{C(t)}_{D(t)}S_1t(t) {}^{A(t)}_{B(t)}$ .

The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical  $\text{Set}_1$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $\text{Set}_1$ , only through the obligatory reduction in the number of elements in the

structure. In particular, using the form (1.2). Structures more complex than  $S_{51}^{et}(t)fA(t)$  can be introduced.

Consider the dynamical mathematics Set<sub>1</sub>-itself [3]:

1. Similarly, for the simultaneous execution of various operators:

$$\begin{matrix} F_0(t)C(t) \\ F_1(t)D(t) \end{matrix} S_1 t(t) \begin{matrix} F_2(t)A(t) \\ F_3(t)B(t) \end{matrix}, \text{ where } F_0(t), F_1(t), F_2(t), F_3(t) \text{ are operators.}$$

2. Similarly, for the simultaneous execution of various operators:  $S_{j1}^{et}(t)fF(t)A(t)$ ,  $j=0,4,5$ , and  $S_{k1}^{et}(t)f_{B(t)}^{A(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t))$  are operators.

3.  $\begin{matrix} B(t) \\ D(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ \begin{matrix} B(t) \\ D(t)-A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix},$   

$$\mu \begin{pmatrix} B(t) \\ D(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \mu^s \begin{pmatrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ 2\mu(A(t)) + 2\mu(B(t)) - \mu(D(t)) \end{pmatrix}$$
4.  $\begin{matrix} B(t) \\ D(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} S_{11}^{et} f(t) \begin{matrix} A(t) \cap B(t) \\ B(t) \cap D(t) \end{matrix} \\ \begin{matrix} B(t)-B(t) \cap D(t) \\ D(t)-B(t) \cap D(t) \end{matrix} S_1 t \begin{matrix} A(t) \cap B(t) \\ B(t)-A(t) \cap B(t) \end{matrix} \end{pmatrix}, \mu \begin{pmatrix} B(t) \\ D(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} =$   

$$\begin{pmatrix} \mu^s (S_{11}^{et} f(t) \begin{matrix} A(t) \cap B(t) \\ B(t) \cap D(t) \end{matrix}) \\ \mu(A(t)) + 2\mu(B(t)) - \mu(D(t)) - 2\mu(A(t) \cap B(t)) \end{pmatrix}$$
5.  $\begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} =$   

$$\begin{pmatrix} \begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ \begin{matrix} B(t) \\ Q(t)-A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} + \begin{matrix} R(t)-B(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix}, \mu \begin{pmatrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} =$$
  

$$\begin{pmatrix} \mu^s \begin{pmatrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ 2\mu(A(t)) + 2\mu(B(t)) + \mu(R(t)) - 2\mu(Q(t)) \end{pmatrix}$$
6.  $\begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} B(t) \\ B(t) \end{matrix} \\ \begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t)-B(t) \\ B(t) \end{matrix} \end{pmatrix},$   

$$\mu \begin{pmatrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \mu^{ss} \begin{pmatrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} B(t) \\ B(t) \end{matrix} \\ \mu(B(t)) \end{pmatrix}$$
7.  $\begin{matrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ \begin{matrix} B(t) \\ A(t)-B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix},$   

$$\mu \begin{pmatrix} B(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \mu^{ss} \begin{pmatrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ 3\mu(B(t)) \end{pmatrix}$$

8. 
$$\begin{aligned} \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} S_{01}^{et} f(t) B(t) \\ B(t) \\ Q(t)-B(t) S_1 t(t)_{B(t)}^{A(t)-B(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(S_{01}^{et} f(t) B(t)) \\ &\quad 2\mu(B(t)) + \mu(A(t)) - \mu(Q(t))) \end{aligned}$$
9. 
$$\begin{aligned} \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} B(t) S_1 t(t)_{B(t)}^{B(t)} \\ Q(t) S_1 t(t)_{B(t)}^{A(t)-B(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(B(t) S_1 t(t)_{B(t)}^{B(t)}) \\ &\quad \mu(B(t)) + \mu(A(t)) - \mu(Q(t))) \end{aligned}$$
10. 
$$\begin{aligned} \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} B(t) S_1 t(t)_{B(t)}^{A(t)} \\ B(t) \\ Q(t)-B(t) S_1 t(t)_{B(t)}^{A(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(B(t) S_1 t(t)_{B(t)}^{A(t)}) \\ &\quad 3\mu(B(t)) + \mu(A(t)) - \mu(Q(t))) \end{aligned}$$
11. 
$$\begin{aligned} \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} S_{21}^{et} f(t)_{A(t)}^{B(t)} \\ B(t)-A(t) S_1 t(t)_{B(t)}^{A(t)} \\ Q(t)-A(t) S_1 t(t)_{B(t)}^{A(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(S_{21}^{et} f(t)_{A(t)}^{B(t)}) \\ &\quad 2\mu(B) + \mu(A) - \mu(Q)) \end{aligned}$$
12. 
$$\begin{aligned} \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} S_{31}^{et} f(t)_{R(t)}^{B(t)} \\ R(t) \\ Q(t)-B(t) S_1 t(t)_{B(t)}^{A(t)-B(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(S_{31}^{et} f(t)_{R(t)}^{B(t)}) \\ &\quad \mu(B(t)) + \mu(A(t)) + \mu(R(t)) - \mu(Q(t))) \end{aligned}$$
13. 
$$\begin{aligned} \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} S_{01}^{et} f(t) B(t) \\ R(t)-B(t) S_1 t(t)_{B(t)}^{A(t)-B(t)} \\ Q(t)-B(t) S_1 t(t)_{B(t)}^{A(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(S_{01}^{et} f(t) B(t)) \\ &\quad \mu(A(t)) + \mu(R(t)) - \mu(Q(t))) \end{aligned}$$
14. 
$$\begin{aligned} \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= \begin{pmatrix} S_{21}^{et} f(t)_{A(t)}^{B(t)} \\ R(t)-A(t) S_1 t(t)_{B(t)}^{A(t)} \\ Q(t)-A(t) S_1 t(t)_{B(t)}^{A(t)} \end{pmatrix}, \\ \mu_{Q(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)} &= (\mu^{ss}(S_{21}^{et} f(t)_{A(t)}^{B(t)}) \\ &\quad \mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t))) \end{aligned}$$

$$\begin{aligned}
15. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ \begin{matrix} R(t)-B(t) \\ Q(t)-B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \left( \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) \\ \mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t)) \end{matrix} \right) \\
16. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ A(t) \end{matrix} \\ \begin{matrix} R(t)-A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t)-A(t) \end{matrix} \end{pmatrix}, \\
& \mu \left( \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \right) = \left( \begin{matrix} \mu^{ss} \left( \begin{matrix} A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ A(t) \end{matrix} \right) \\ -\mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t)) \end{matrix} \right)
\end{aligned}$$

The concepts of dynamical Set<sub>1</sub>-force [3]:  $\begin{matrix} F_3(t) \\ F_4(t) \end{matrix} S_1 t(t) \begin{matrix} F_1(t) \\ F_2(t) \end{matrix}$  -the containment of force F<sub>1</sub>(t) into force F<sub>2</sub>(t) and the displacement of force F<sub>4</sub>(t) from force F<sub>3</sub>(t) at time t simultaneously, dynamical Set<sub>1</sub> - energy:  $\begin{matrix} E_3(t) \\ E_4(t) \end{matrix} S_1 t \begin{matrix} E_1(t) \\ E_2(t) \end{matrix}$  -the containment of energy E<sub>1</sub>(t) into energy E<sub>2</sub>(t) and the displacement of energy E<sub>4</sub>(t) from energy E<sub>3</sub>(t) at time t simultaneously.

Consider the concepts of dynamical Set<sub>1</sub>-capacity in itself of physical objects A(t), B(t) [3]. Similar to the concepts of publication: the dynamical Set<sub>1</sub>-capacity in itself of the null type is the dynamical capacity containing itself as an element and expelling oneself out of oneself at time t simultaneously:  $S_{01}^{et}(t) f A(t) = \begin{matrix} A(t) \\ A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ A(t) \end{matrix}$ , dynamical Set<sub>1</sub>-capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time t simultaneously partially, or both:  $S_{51}^{et}(t) f A(t)$ ,  $S_{51}^{et}(t) f B(t)$ . By analogy, for  $S_{11}^{et}(t) f \begin{matrix} A(t) \\ B(t) \end{matrix}$   $S_{21}^{et}(t) f \begin{matrix} A(t) \\ B(t) \end{matrix}$ ,  $S_{31}^{et}(t) f \begin{matrix} A(t) \\ B(t) \end{matrix}$ ,  $S_{41}^{et}(t) f A(t)$ .

Also you can consider these types of dynamical Set<sub>1</sub>-capacity in itself for other objects. For example:  $S_{i1}^{et}(t) f$  operator A(t),  $S_{i1}^{et}(t) f$  action B(t),  $S_{i1}^{et}(t) f$  made Q(t) i=0,1,2,3,4,5 etc.

Remark C.3.4. The concept of elements of physics dynamical Set<sub>1</sub> is introduced for energy space. The corresponding concept of elements of chemistry dynamical Set<sub>1</sub> is introduced accordingly.

Here we consider some continual Set<sub>1</sub>-elements and continual self- capacity in itself as an element [3].

Definition C.3.22. The containment of A into B and the displacement of D from C simultaneously, where A, B, D, C- sets of continual elements we shall call continual Set<sub>1</sub> - element. Let's denote  $\begin{matrix} C \\ D \end{matrix} S_1 t \begin{matrix} A \\ B \end{matrix}$ .

Definition C.3.23.  $\underset{\vec{D}}{C}S_1t_{\vec{B}}^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where A, B, D, C- sets of continual elements, is called an ordered Set<sub>1</sub> – element.

It is allowed to add continual Set<sub>1</sub> – elements:

$$\underset{D_1}{C_1}S_1t_{B_1}^{A_1} + \underset{D_2}{C_2}S_1t_{B_2}^{A_2} = \underset{D_1 \cup D_2}{C_1 \cup C_2}S_1t_{B_1 \cup B_2}^{A_1 \cup A_2} (*_{C.3.5}),$$

where some or any elements may be ordered elements.

It is allowed to multiply continual Set<sub>1</sub> – elements:

$$\underset{D_1}{C_1}S_1t_{B_1}^{A_1} * \underset{D_2}{C_2}S_1t_{B_2}^{A_2} = \underset{D_1 \cap D_2}{C_1 \cap C_2}S_1t_{B_1 \cap B_2}^{A_1 \cap A_2} (*_{C.3.6}),$$

where some or any elements may be ordered elements.

Continual Set<sub>1</sub> – elements can be elements of a group both by multiplication (\*<sub>C.3.6</sub>) and by addition (\*<sub>C.3.5</sub>), and also form an algebraic ring, field by these operations.

Consider Set<sub>1</sub>-capacity in itself for the continual set.

Definition C.3.24. The continual Set<sub>1</sub>-capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where A - set of continual elements:  $\underset{A}{A}S_1t_A^A$ . Denote  $S_{01}^{et}fA$ .

Definition C.3.25. The ordered continual Set<sub>1</sub>-capacity  $\vec{A}$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where  $\vec{A}$  ordered set of continual elements:  $\underset{\vec{A}}{\vec{A}}S_1t_{\vec{A}}^{\vec{A}}$ . Denote  $S_{01}^{et}f\vec{A}$ .

Definition C.3.26. The continual Set<sub>1</sub>-capacity in itself A and from itself B of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  $\underset{B}{B}S_1t_A^A$ . Denote  $S_{11}^{et}f_B^A$ .

Definition C.3.27. The continual Set<sub>1</sub><sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  $\underset{B}{B}S_1t_A^B$ . Denote  $S_{21}^{et}f_B^A$ .

Definition C.3.28. The continual Set<sub>1</sub><sup>1</sup>-capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously, where A, B- sets of continual elements:  $\underset{B}{A}S_1t_B^B$ . Denote  $S_{31}^{et}f_B^A$ .

Definition C.3.29. The continual Set<sub>1</sub>-capacity A in itself of the fourth type is the capacity that contains itself and expelling oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, or both, where A- set of continual elements. Let's denote  $S_{41}^{et}fA$ .

Definition C.3.30. The continual  $\text{Set}_1$ -capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both, where A- set of continual elements. Let us denote  $S_{51}^{et}fA$ .

Definition C.3.31. The ordered continual  $\text{Set}_1$ -capacity in itself  $\vec{A}$  and from itself B of the first type is the capacity containing  $\vec{A}$  itself as an element and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}S_1t_{\vec{A}}$ . Denote  $S_{11}^{et}f_{\vec{B}}\vec{A}$ .

Definition C.3.32. The ordered continual  $\text{Set}_1^1$ -capacity in itself A and from itself  $\vec{B}$  of the first type is the capacity containing A itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ -ordered set of continual elements, A- set of continual elements:  $\vec{B}S_1t_A^A$ . Denote  $S_{11}^{et}f_{\vec{B}}^A$ .

Definition C.3.33. The ordered continual  $\text{Set}_1^2$ -capacity in itself  $\vec{A}$  and from itself  $\vec{B}$  of the first type is the capacity containing  $\vec{A}$  itself as an element and expelling oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{B}S_1t_{\vec{A}}^{\vec{A}}$ . Denote  $S_{11}^{et}f_{\vec{B}}\vec{A}$ .

Definition C.3.34. The continual  $\text{Set}_1^1$ -capacity of the second type is the capacity containing B into  $\vec{A}$  and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{B}S_1t_{\vec{A}}^B$ . Denote  $S_{21}^{et}f_{\vec{B}}\vec{A}$ .

Definition C.3.35. The continual  $\text{Set}_1^2$ -capacity of the second type is the capacity containing  $\vec{B}$  into A and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ -ordered set of continual elements, A- set of continual elements:  $\vec{B}S_1t_A^{\vec{B}}$ . Denote  $S_{21}^{et}f_{\vec{B}}^A$ .

Definition C.3.36. The continual  $\text{Set}_1^3$ -capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{B}S_1t_{\vec{A}}^{\vec{B}}$ . Denote  $S_{21}^{et}f_{\vec{B}}\vec{A}$ .

Definition C.3.37. The continual  $\text{Set}_1^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of B from  $\vec{A}$  simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  $\vec{A}S_1t_B^B$ . Denote  $S_{31}^{et}f_{\vec{B}}\vec{A}$ .

Definition C.3.38. The continual  $\text{Set}_1^2$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from A simultaneously, where  $\vec{B}$  - ordered set of continual elements, A- set of continual elements:  $\frac{A}{B}S_1t_{\vec{B}}$ . Denote  $S_{31}^{et}f\frac{A}{B}$ .

Definition C.3.39. The continual  $\text{Set}_1^3$ -capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{A}, \vec{B}$ - ordered sets of continual elements:  $\frac{\vec{A}}{\vec{B}}S_1t_{\vec{B}}$ . Denote  $S_{31}^{et}f\frac{\vec{A}}{\vec{B}}$ .

Definition C.3.40. The ordered continual  $\text{Set}_1$ -capacity  $\vec{A}$  in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously, or both, where  $\vec{A}$ - set of continual elements. Let's denote  $S_{41}^{et}f\vec{A}$ .

Definition C.3.41. The ordered continual  $\text{Set}_1$ -capacity  $\vec{A}$  in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both simultaneously, where  $\vec{A}$ - ordered set of continual elements. Let us denote  $S_{51}^{et}f\vec{A}$ .

Also, we consider the following elements:  $S_{01}^{et}f\overrightarrow{I\downarrow_{-1}^1}$ ,  $S_{11}^{et}f\overrightarrow{I\downarrow_{-\infty}^1}$ ,  $S_{21}^{et}f\overrightarrow{A\downarrow_{-1}^1}$ ,  $S_{31}^{et}f\overrightarrow{A\downarrow_{-\infty}^1}$ ,  $S_{41}^{et}f\overrightarrow{I\downarrow_d^d}$  etc.

Consider a fifth type of continual self-capacity in itself as an element. For

example,  $S_{51}^{et}fA$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self- capacity  $S_{51}^{et}fA$  in itself as an element with  $m$  continual elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S_{51}^{et}fA$ .

Continual self-capacity in itself as an element of the fifth type can be formed for any other structure, not necessarily  $\text{Set}_1$ , only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2). The same for  $S_{51}^{et}f\vec{A}$ . Structures more complex than  $S_{51}^{et}fA$  can be introduced.

Consider mathematics itself for continual  $\text{Set}_1$ -elements [3]:

Simultaneous addition of sets A, B, C, D with continual elements is realized by  $\frac{C}{D \cup}S_1t_{B \cup}^{A \cup}$ , where A, B, C, D may be ordered sets of continual elements.

$$1. \frac{B}{D}S_1t_B^A = \left( \frac{B}{B-A}S_1t_B^A \right), \mu\left(\frac{B}{D}S_1t_B^A\right) = \left( 2\mu(A) + 2\mu(B) - \mu(D) \right)$$

$$\begin{aligned}
2. \quad {}^B_D S_1 t_B^A &= ( \begin{smallmatrix} S_{11}^{et} f_{B \cap D}^{A \cap B} \\ {}_{B-B \cap D} S_1 t_{B-A \cap B}^{A-B} \end{smallmatrix} ), \\
\mu({}^B_D S_1 t_B^A) &= ( \mu(A) + 2\mu(B) - \mu(D) - 2\mu(A \cap B) ) \\
3. \quad {}^B_Q S_1 t_B^A &= ( \begin{smallmatrix} {}^B_A S_1 t_B^A \\ {}_{B-A} S_1 t_B^A + {}^R_{Q-B} S_1 t_B^A \end{smallmatrix} ), \\
\mu({}^B_D S_1 t_B^A) &= ( 2\mu(A) + 2\mu(B) + \mu(R) - 2\mu(Q) ) \\
4. \quad {}^B_A S_1 t_B^A &= ( \begin{smallmatrix} {}^B_A S_1 t_B^B \\ {}_B S_1 t_B^{A-B} \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu^{ss}({}^B_A S_1 t_B^B) ) \\
5. \quad {}^B_A S_1 t_B^A &= ( \begin{smallmatrix} {}^B_B S_1 t_B^A \\ {}_{A-B} S_1 t_B^A \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu^{ss}({}^B_B S_1 t_B^A) ) \\
6. \quad {}^B_Q S_1 t_B^A &= ( \begin{smallmatrix} S_{01}^{et} f_B \\ {}_{B-Q} S_1 t_B^{A-B} \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( 2\mu(B) + \mu(A) - \mu(Q) ) \\
7. \quad {}^B_Q S_1 t_B^A &= ( \begin{smallmatrix} {}^B_Q S_1 t_B^B \\ {}_Q S_1 t_B^{A-B} \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu^{ss}({}^B_Q S_1 t_B^B) ) \\
8. \quad {}^B_Q S_1 t_B^A &= ( \begin{smallmatrix} {}^B_B S_1 t_B^A \\ {}_{Q-B} S_1 t_B^A \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( 3\mu(B) + \mu(A) - \mu(Q) ) \\
9. \quad {}^B_Q S_1 t_B^A &= ( \begin{smallmatrix} S_{21}^{et} f_A^B \\ {}_{B-A} S_1 t_B^A \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( 2\mu(B) + \mu(A) - \mu(Q) ) \\
10. \quad {}^R_Q S_1 t_B^A &= ( \begin{smallmatrix} S_{31}^{et} f_R^B \\ {}_{R-B} S_1 t_B^{A-B} \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu(B) + \mu(A) + \mu(R) - \mu(Q) ) \\
11. \quad {}^R_Q S_1 t_B^A &= ( \begin{smallmatrix} S_{01}^{et} f_B \\ {}_{R-B} S_1 t_B^{A-B} \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu(A) + \mu(R) - \mu(Q) ) \\
12. \quad {}^R_Q S_1 t_B^A &= ( \begin{smallmatrix} S_{21}^{et} f_A^B \\ {}_{R-A} S_1 t_B^A \end{smallmatrix} ), \quad \mu({}^B_A S_1 t_B^A) = ( \mu(A) + \mu(B) + \mu(R) - \mu(Q) ) \\
13. \quad {}^R_Q S_1 t_B^A &= ( \begin{smallmatrix} {}^B_B S_1 t_B^A \\ {}_{R-B} S_1 t_B^A \end{smallmatrix} ), \quad \mu({}^R_Q S_1 t_B^A) = ( \mu(A) + \mu(B) + \mu(R) - \mu(Q) ) \\
14. \quad {}^R_Q S_1 t_B^A &= ( \begin{smallmatrix} {}^A_Q S_1 t_B^A \\ {}_{Q-A} S_1 t_{B-A}^A \end{smallmatrix} ), \quad \mu({}^R_Q S_1 t_B^A) = ( \mu(-A) + \mu(B) + \mu(R) - \mu(Q) )
\end{aligned}$$

Let's introduce operator to transform capacity to self-consistency in itself as an element:  $Q_j \text{Set}_1(A)$  transforms  $A$  to  $S_{j1}^{et} f A$ ,  $j=0,5$ ,  $Q_i \text{Set}_{11}(A,B)$  transforms  $A$  to  $S_{i1}^{et} f_B^A$ , where  $A, B$  may be ordered sets of continual elements,  $i=1,2,3,4$ .

Consider the dynamical continual  $\text{Set}_1$  – elements [3].

Definition C.3.42. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by ordered elements, we shall call dynamical continual  $\text{Set}_1$  – element. Let's denote  $\frac{C(t)}{D(t)} S_1 t(t) \frac{A(t)}{B(t)}$ .

Definition C.3.43. The process  $\frac{C(t)}{D(t)} S_1 t(t) \frac{\overrightarrow{A(t)}}{B(t)}$  is called an ordered dynamical continual  $\text{Set}_1$  – element, if some or any elements from  $A(t), B(t), C(t), D(t)$  may be by ordered dynamical continual elements.

It is allowed to add dynamical continual  $\text{Set}_1$  – elements:

$$\frac{C_1(t)}{D_1(t)} S_1 t(t) \frac{A_1(t)}{B_1(t)} + \frac{C_2(t)}{D_2(t)} S_1 t(t) \frac{A_2(t)}{B_2(t)} = \frac{C_1(t) \cup C_2(t)}{D_1(t) \cup D_2(t)} S_1 t(t) \frac{A_1(t) \cup A_2(t)}{B_1(t) \cup B_2(t)} \quad (*_{C.3.7}),$$

where some or any elements may be by ordered elements.

It is allowed to multiply dynamical continual  $\text{Set}_1$  – elements:

$$\frac{C_1(t)}{D_1(t)} S_1 t(t) \frac{A_1(t)}{B_1(t)} * \frac{C_2(t)}{D_2(t)} S_1 t(t) \frac{A_2(t)}{B_2(t)} = \frac{C_1(t) \cap C_2(t)}{D_1(t) \cap D_2(t)} S_1 t(t) \frac{A_1(t) \cap A_2(t)}{B_1(t) \cap B_2(t)} \quad (*_{C.3.8}),$$

where some or any elements may be ordered elements.

Dynamical continual  $\text{Set}_1$  – elements can be elements of a group both by multiplication ( $*_{C.3.8}$ ) and by addition ( $*_{C.3.7}$ ), and also form an algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself [3].

Definition C.3.44. The dynamical continual  $\text{Set}_1$ -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $A(t)$  - set of dynamical continual elements:  $\frac{A(t)}{A(t)} S_1 t(t) \frac{A(t)}{A(t)}$ . Denote  $S_{01}^{et}(t) f A(t)$ .

Definition C.3.45. The ordered dynamical continual  $\text{Set}_1$ -capacity  $\overrightarrow{A}(t)$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements:  $\frac{\overrightarrow{A(t)}}{A(t)} S_1 t(t) \frac{\overrightarrow{A(t)}}{A(t)}$ . Denote  $S_{01}^{et}(t) f \overrightarrow{A}(t)$ .

Definition C.3.46. The dynamical continual  $\text{Set}_1$ -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment of  $A(t)$  in itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously,

where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  ${}^{B(t)}_{B(t)}S_1t(t) {}^{A(t)}_{A(t)}$ . Denote  $S_{11}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.47. The dynamical continual  $\text{Set}_1^1$ -capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  ${}^{B(t)}_{B(t)}S_1t(t) {}^{B(t)}_{A(t)}$ . Denote  $S_{21}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.48. The dynamical continual  $\text{Set}_1^1$ -capacity of the third type is the process of a containment of  $B(t)$  in itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously, where  $A, B$ - sets of dynamical continual elements:  ${}^{A(t)}_{B(t)}S_1t(t) {}^{B(t)}_{B(t)}$ . Denote  $S_{31}^{et}(t)f_{B(t)}^{A(t)}$ .

Definition C.3.49. The dynamical continual  $\text{Set}_1$ -capacity  $A(t)$  in itself of the fourth type is the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously, or both, where  $A(t)$ - set of dynamical continual elements. Let's denote  $S_{41}^{et}(t)fA(t)$ .

Definition C.3.50. The dynamical continual  $\text{Set}_1$ -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $\text{Set}_1$ , or both simultaneously, where  $A(t)$ - set of dynamical continual elements. Let us denote  $S_{51}^{et}(t)fA(t)$ .

Definition C.3.51. The ordered dynamical continual  $\text{Set}_1$ -capacity in itself  $\overrightarrow{A}(t)$  and from itself  $B(t)$  of the first type is the process of containment of  $\overrightarrow{A}(t)$  in itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$ - ordered set of dynamical continual elements,  $B(t)$ - set of dynamical continual elements:  ${}^{B(t)}_{B(t)}S_1t(t) \frac{\overrightarrow{A}(t)}{A(t)}$ . Denote  $S_{11}^{et}(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.3.52. The ordered dynamical continual  $\text{Set}_1^1$ -capacity in itself  $A(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment of  $A(t)$  in itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B}(t)$ -ordered set of dynamical continual elements,  $A$ - set of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S_1t(t) \frac{A(t)}{A(t)}$ . Denote  $S_{11}^{et}(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.3.53. The ordered dynamical continual  $\text{Set}_1^2$ -capacity in itself  $\overrightarrow{A}(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment of  $\overrightarrow{A}(t)$  in itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at

time  $t$  simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S_1 t(t) \overrightarrow{A(t)}$ . Denote  $S_{11}^{et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.3.54. The dynamical continual  $\text{Set}_1^1$ -capacity of the second type is the process of a containment  $B(t)$  into  $\overrightarrow{A(t)}$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{B(t)} S_1 t(t) \overrightarrow{A(t)}$ . Denote  $S_{21}^{et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.3.55. The dynamical continual  $\text{Set}_1^2$ -capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $A(t)$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B(t)}$  -ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S_1 t \overrightarrow{A(t)}$ . Denote  $S_{21}^{et}(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.3.56. The dynamical continual  $\text{Set}_1^3$ -capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $\overrightarrow{A(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S_1 t(t) \overrightarrow{A(t)}$ . Denote  $S_{21}^{et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.3.57. The dynamical continual  $\text{Set}_1^1$ -capacity of the third type is the process of a containment of  $B(t)$  in itself as an element and the displacement of  $B(t)$  from  $\overrightarrow{A(t)}$  at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\overrightarrow{A(t)}_{B(t)} S_1 t(t) \overrightarrow{B(t)}$ . Denote  $S_{31}^{et}(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.3.58. The dynamical continual  $\text{Set}_1^2$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  in itself as an element and the displacement of  $\overrightarrow{B(t)}$  from  $A$  at time  $t$  simultaneously, where  $\overrightarrow{B(t)}$  ordered set of dynamical continual elements,  $A$ - set of dynamical continual elements:  $\overrightarrow{A(t)}_{\overrightarrow{B(t)}} S_1 t(t) \overrightarrow{B(t)}$ . Denote  $S_{31}^{et}(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.3.59. The dynamical continual  $\text{Set}_1^3$ -capacity of the third type is the process of a containment of  $\overrightarrow{B(t)}$  in itself as an element and the displacement of  $\overrightarrow{B(t)}$  from  $\overrightarrow{A(t)}$  at time  $t$  simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\overrightarrow{B(t)}_{\overrightarrow{B(t)}} S_1 t(t) \overrightarrow{A(t)}$ . Denote  $S_{31}^{et}(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

$\overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\frac{\overrightarrow{A(t)}}{B(t)} S_1 t(t) \frac{\overrightarrow{B(t)}}{B(t)}$ . Denote  $S_{31}^{et}(t) f \frac{\overrightarrow{A(t)}}{B(t)}$ .

Definition C.3.60. The ordered dynamical continual  $\text{Set}_1$ -capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time t simultaneously, or both, where  $\overrightarrow{A(t)}$  - set of dynamical continual elements. Let's denote  $S_{41}^{et}(t) f \overrightarrow{A(t)}$ .

Definition C.3.61. The ordered dynamical continual  $\text{Set}_1$ -capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or containing elements from which it can be generated in part, and it can be degenerated in part at time t, or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements. Let us denote  $S_{51}^{et}(t) f \overrightarrow{A(t)}$ .

Also, we consider some elements:  $S_{01}^{et}(t) f \uparrow I \downarrow_{-1}^1$ ,  $S_{11}^{et}(t) f \uparrow_{B(t) \downarrow I \uparrow_{-\infty}^{\infty}}^1$ ,  $S_{21}^{et}(t) f \frac{\overrightarrow{A(t) \downarrow I \uparrow_{-1}^1}}{B(t)}$ ,  $S_{31}^{et}(t) f \frac{\overrightarrow{A(t) \uparrow I \downarrow_{-\infty}^{\infty}}}{B(t)}$ ,  $S_{41}^{et}(t) f \uparrow I \downarrow_{d(t)}^{a(t)}$  etc [3].

Consider mathematics itself for dynamical continual  $\text{Set}_1$ -elements [3]:

Simultaneous addition of a dynamical continual elements  $A(t)$ ,  $B(t)$ ,  $C(t)$ ,  $D(t)$  with continual elements are realized by  $\frac{C(t)}{D(t) \cup S_1 t} \frac{A(t) \cup}{B(t) \cup}$ , where  $A(t)$ ,  $B(t)$ ,  $C(t)$ ,  $D(t)$  may be ordered sets of continual elements.

$$\begin{aligned}
1. \quad \frac{B(t)}{D(t)} S_1 t(t) \frac{A(t)}{B(t)} &= \left( \frac{B(t)}{D(t) - A(t)} S_1 t(t) \frac{A(t)}{B(t)} \right), \\
\mu \left( \frac{B(t)}{D(t)} S_1 t(t) \frac{A(t)}{B(t)} \right) &= \left( \frac{\mu^s \left( \frac{B(t)}{A(t)} S_1 t(t) \frac{A(t)}{B(t)} \right)}{2\mu(A(t)) + 2\mu(B(t)) - \mu(D(t))} \right) \\
2. \quad \frac{B(t)}{D(t)} S_1 t(t) \frac{A(t)}{B(t)} &= \left( \frac{S_{11}^{et} f(t) \frac{A(t) \cap B(t)}{B(t) \cap D(t)}}{\frac{B(t) - B(t) \cap D(t)}{D(t) - B(t) \cap D(t)} S_1 t \frac{A(t) - A(t) \cap B(t)}{B(t) - A(t) \cap B(t)}} \right), \\
\mu \left( \frac{B(t)}{D(t)} S_1 t(t) \frac{A(t)}{B(t)} \right) &= \left( \frac{\mu^s \left( S_{11}^{et} f(t) \frac{A(t) \cap B(t)}{B(t) \cap D(t)} \right)}{\mu(A(t)) + 2\mu(B(t)) - \mu(D(t)) - 2\mu(A(t) \cap B(t))} \right)
\end{aligned}$$

3. 
$$\begin{aligned} \frac{R(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{B(t)}{Q(t)-A(t)} S_1 t(t)_{B(t)}^{A(t)} + \frac{R(t)-B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right), \\ \mu \left( \frac{R(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^s \left( \frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{A(t)} \right)}{2\mu(A(t)) + 2\mu(B(t)) + \mu(R(t)) - 2\mu(Q(t))} \right) \end{aligned}$$
4. 
$$\frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{A(t)} = \left( \frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{B(t)} \right), \quad \mu \left( \frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{A(t)} \right) = \left( \frac{\mu^{ss} \left( \frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{B(t)} \right)}{\mu(B(t))} \right)$$
5. 
$$\frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{A(t)} = \left( \frac{B(t)}{B(t)} S_1 t(t)_{B(t)}^{A(t)} \right), \quad \mu \left( \frac{B(t)}{A(t)} S_1 t(t)_{B(t)}^{A(t)} \right) = \left( \frac{\mu^{ss} \left( \frac{B(t)}{B(t)} S_1 t(t)_{B(t)}^{A(t)} \right)}{3\mu(B(t))} \right)$$
6. 
$$\begin{aligned} \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{S_{01}^{et} f(t) B(t)}{\frac{B(t)}{Q(t)-B(t)} S_1 t(t)_{B(t)}^{A(t)-B(t)}} \right), \\ \mu \left( \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^{ss} \left( S_{01}^{et} f(t) B(t) \right)}{2\mu(B(t)) + \mu(A(t)) - \mu(Q(t))} \right) \end{aligned}$$
7. 
$$\begin{aligned} \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{\frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{B(t)}}{\frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)-B(t)}} \right), \\ \mu \left( \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^{ss} \left( \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{B(t)} \right)}{\mu(B(t)) + \mu(A(t)) - \mu(Q(t))} \right) \end{aligned}$$
8. 
$$\begin{aligned} \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{\frac{B(t)}{B(t)} S_1 t(t)_{B(t)}^{A(t)}}{\frac{B(t)}{Q(t)-B(t)} S_1 t(t)_{B(t)}^{A(t)}} \right), \\ \mu \left( \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^{ss} \left( \frac{B(t)}{B(t)} S_1 t(t)_{B(t)}^{A(t)} \right)}{3\mu(B(t)) + \mu(A(t)) - \mu(Q(t))} \right) \end{aligned}$$
9. 
$$\begin{aligned} \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{S_{21}^{et} f(t)_{A(t)}^{B(t)}}{\frac{B(t)-A(t)}{Q(t)-A(t)} S_1 t(t)_{B(t)}^{A(t)}} \right), \\ \mu \left( \frac{B(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^{ss} \left( S_{21}^{et} f(t)_{A(t)}^{B(t)} \right)}{2\mu(B(t)) + \mu(A(t)) - \mu(Q(t))} \right) \end{aligned}$$
10. 
$$\begin{aligned} \frac{R(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} &= \left( \frac{S_{31}^{et} f(t)_{R(t)}^{B(t)}}{\frac{R(t)}{Q(t)-B(t)} S_1 t(t)_{B(t)}^{A(t)-B(t)}} \right), \\ \mu \left( \frac{R(t)}{Q(t)} S_1 t(t)_{B(t)}^{A(t)} \right) &= \left( \frac{\mu^{ss} \left( S_{31}^{et} f(t)_{R(t)}^{B(t)} \right)}{\mu(B(t)) + \mu(A(t)) + \mu(R(t)) - \mu(Q(t))} \right) \end{aligned}$$

$$\begin{aligned}
11. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} S_{01}^{et} f(t) B(t) \\ \begin{matrix} R(t)-B(t) \\ Q(t)-B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t)-B(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \begin{pmatrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}) = \begin{pmatrix} \mu^{ss} (S_{01}^{et} f(t) B(t)) \\ \mu(A(t)) + \mu(R(t)) - \mu(Q(t)) \end{pmatrix} \\
12. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} S_{21}^{et} f(t) \begin{matrix} B(t) \\ A(t) \end{matrix} \\ \begin{matrix} R(t)-A(t) \\ Q(t)-A(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \begin{pmatrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}) = \begin{pmatrix} \mu^{ss} (S_{21}^{et} f(t) \begin{matrix} B(t) \\ A(t) \end{matrix}) \\ \mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t)) \end{pmatrix} \\
13. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \\ \begin{matrix} R(t)-B(t) \\ Q(t)-B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} \end{pmatrix}, \\
& \mu \begin{pmatrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}) = \begin{pmatrix} \mu^{ss} (\begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}) \\ \mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t)) \end{pmatrix} \\
14. \quad & \begin{matrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix} = \begin{pmatrix} \begin{matrix} A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ A(t) \end{matrix} \\ \begin{matrix} R(t)-A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t)-A(t) \end{matrix} \end{pmatrix}, \\
& \mu \begin{pmatrix} R(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ B(t) \end{matrix}) = \begin{pmatrix} \mu^{ss} (\begin{matrix} A(t) \\ Q(t) \end{matrix} S_1 t(t) \begin{matrix} A(t) \\ A(t) \end{matrix}) \\ -\mu(A(t)) + \mu(B(t)) + \mu(R(t)) - \mu(Q(t)) \end{pmatrix}
\end{aligned}$$

Consider a fifth type of dynamical partial containment of oneself [3]. For example,  $S_{51}^{et}(t) \overrightarrow{fA^n(t)}$ , where  $\{A^n(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$ -continual elements, it is possible to consider the dynamical containment of oneself  $S_{51}^{et}(t) \overrightarrow{fA^m(t)}$  with  $m$  continual elements from  $\{A^n(t)\}$ , at  $m < n$ , which is a process to be formed by the form (1.1), that is, only  $m$  continual elements from  $\{A^n(t)\}$  are located in the structure  $S_{51}^{et}(t) \overrightarrow{fA^n(t)}$ . Dynamical continual containments of oneself of the fifth type can be formed for any other structure, not necessarily  $\text{Set}_1$ , 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  $S_{51}^{et}(t) \overrightarrow{fA^n(t)}$  can be introduced.

Consider the dynamical continual  $\text{Set}_1$  – elements with target weights [3].

**Definition C.3.62.** The process of the containment of  $A(t)$  with the target weights  $\{g_1(t)\}$  into  $B(t)$  and the displacement of  $D(t)$  with target weights  $\{g_2(t)\}$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual  $\text{Set}_1$  – element with target weights. Let's denote  $\begin{matrix} C(t) \\ D(t)\{g_2(t)\} \end{matrix} St(t) \begin{matrix} A(t)\{g_1(t)\} \\ B(t) \end{matrix}$ .

Definition C.3.63. The process  $\frac{C(t)}{D(t)\{g_2(t)\}} \overrightarrow{S_1 t(t)}_{B(t)}^{\overrightarrow{A(t)\{g_1(t)\}}}$  is called an ordered dynamical continual  $\text{Set}_1$  – element with target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time t, or both simultaneously, if some or any elements from A, B, C, D may be by ordered dynamical continual elements with target weights. It is allowed to add dynamical continual  $\text{Set}_1$  –elements with target weights  $\{g_1(t)\}$ ,  $\{g_2(t)\}$ :

$$\begin{aligned} \frac{C_1(t)}{D_1(t)g_2(t)} S_1 t(t)_{B_1(t)}^{A_1(t)g_1(t)} + \frac{C_2(t)}{D_2(t)g_2(t)} S_1 t(t)_{B_2(t)}^{A_2(t)g_1(t)} = \\ \frac{C_1(t) \cup C_2(t)}{(D_1(t) \cup D_2(t))g_2(t)} S_1 t(t)_{B_1(t) \cup B_2(t)}^{(A_1(t) \cup A_2(t))g_1(t)} \quad (*_{C.3.9}), \end{aligned}$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

It is allowed to multiply dynamical continual  $\text{Set}_1$  –elements with target weights:

$$\begin{aligned} \frac{C_1(t)}{D_1(t)g_2(t)} S_1 t(t)_{B_1(t)}^{A_1(t)g_1(t)} * \frac{C_2(t)}{D_2(t)g_2(t)} S_1 t(t)_{B_2(t)}^{A_2(t)g_1(t)} = \\ \frac{C_1(t) \cap C_2(t)}{(D_1(t) \cap D_2(t))\{g_2(t)\}} S_1 t(t)_{B_1(t) \cap B_2(t)}^{(A_1(t) \cap A_2(t))\{g_1(t)\}} \quad (*_{C.3.10}), \end{aligned}$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual  $\text{Set}_1$  – elements with target weights can be elements of a group both by multiplication ( $*_{C.3.10}$ ) and by addition ( $*_{C.3.9}$ ) and also form an algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself with the target weights [3].

Definition C.3.64. The dynamical continual  $\text{Set}_1$ -capacity A(t) in itself and from itself with target weights  $\{g(t)\}$  of the null type is the process of containment itself as an element with the target weights  $\{g(t)\}$  and expelling oneself out of oneself with target weights  $\{g(t)\}$  at time t simultaneously, where A(t) - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_{01}^{et}(t) f A(t) \{g(t)\}$ .

Definition C.3.65. The dynamical continual  $\text{Set}_1$ -capacity A(t) in itself with target weights  $\{g(t)\}$  of the fourth type is the process of a containment of itself with target weights  $\{g(t)\}$  and expelling oneself with target weights  $\{g(t)\}$  or the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time t simultaneously, where A(t) - set of some dynamical continual elements or some ordered dynamical continual elements or both. Denote  $S_{41}^{et}(t) f A(t) \{g(t)\}$ .

Definition C.3.66. The ordered dynamical continual  $\text{Set}_1$ -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  - set of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_{51}^{et}(t)fA(t)\{g(t)\}$ .

Definition C.3.67. The dynamical continual  $\text{Set}_1$ -capacity in itself  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the first type is the process of a containment of  $A(t)$  in itself as an element and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} S_1 t \begin{matrix} A(t)\{g_1(t)\} \\ A(t) \end{matrix}. \text{ Denote } S_{11}^{et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}.$$

Definition C.3.68. The dynamical continual  $\text{Set}_1^1$ -capacity with target weights of the second type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  into  $A(t)$  and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} S_1 t \begin{matrix} B(t)\{g_1(t)\} \\ A(t) \end{matrix}. \text{ Denote } S_{21}^{et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}.$$

Definition C.3.69. The dynamical continual  $\text{Set}_1^1$ -capacity of the third type with target weights are the process of containment of  $B(t)$  in itself as an element with target weights  $\{g_1(t)\}$  and the displacement of  $B(t)$  with target weights  $\{g_1(t)\}$  from  $A(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\begin{matrix} A(t) \\ B(t)\{g_2(t)\} \end{matrix} S_1 t \begin{matrix} B(t)\{g_1(t)\} \\ B(t) \end{matrix}. \text{ Denote } S_{31}^{et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}.$$

Also, we consider some elements:  $S_{01}^{et}(t)f \uparrow I \downarrow_{-1}^1 \{g(t)\}$ ,  $S_{11}^{et}(t)f \uparrow I \downarrow_{-1}^1 \{g(t)\}$ ,  $S_{21}^{et}(t)f_{B(t)}^{A(t) \downarrow I \uparrow_{-1}^1 \{g(t)\}}$ ,  $S_{31}^{et}(t)f_{B(t)\{g(t)\}}^{A(t) \uparrow I \downarrow_{-\infty}^{\infty}}$ ,  $S_{41}^{et}(t)f \uparrow I \downarrow_{d(t)}^{a(t)\{g_1(t)\}}$  etc.

Consider mathematics itself for dynamical continual  $\text{Set}_1$ -elements with target weights [3]:

Simultaneous addition of a dynamical continual elements  $A(t)$ ,  $B(t)$ ,  $C(t)$ ,  $D(t)$  with continual elements with target weights are realized by  $\begin{matrix} C(t) \\ D(t)g_2(t) \cup \end{matrix} S_1 t \begin{matrix} A(t)g_1(t) \cup \\ B(t) \cup \end{matrix}$ , where  $A(t)$ ,  $B(t)$ ,  $C(t)$ ,  $D(t)$  may be ordered sets of continual elements.

$$\begin{aligned}
1. \quad & \mu_{D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \mu_{D(t)g_2(t)-A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)}, \mu_{D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right) = \\
& \left( \mu^s \left( \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right) \right) \\
& 2\mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu(D(t)g_2(t)) \\
2. \quad & \mu_{D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \mu_{D(t)g_2(t)-B(t)\cap D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)\cap D(t)g_2(t)}^{A(t)g_1(t)\cap B(t)}, \right. \\
& \left. \mu_{D(t)g_2(t)-B(t)\cap D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)-A(t)g_1(t)\cap B(t)}^{A(t)g_1(t)-A(t)g_1(t)\cap B(t)} \right), \\
& \mu_{D(t)g_2(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \mu^s \left( \mu_{B(t)\cap D(t)g_2(t)}^{A(t)g_1(t)\cap B(t)} S_1 t(t)_{B(t)\cap D(t)g_2(t)}^{A(t)g_1(t)\cap B(t)} \right) \right) \\
& \mu(A(t)g_1(t)) + 2\mu(B(t)) - \mu(D(t)g_2(t)) - 2\mu(A(t)g_1(t) \cap B(t)) \\
3. \quad & \mu_{Q(t)g_2(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \mu_{Q(t)g_2(t)-A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)}, \mu_{Q(t)g_2(t)}^{R(t)-B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right), \\
& \mu_{Q(t)g_2(t)}^{R(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \mu^s \left( \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right) \right) \\
& 2\mu(A(t)g_1(t)) + 2\mu(B(t)) + \mu(R(t)) - 2\mu(Q(t)) \\
4. \quad & \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)}, \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \right), \\
5. \quad & \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \mu^{ss} \left( \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right) \right) \\
& \mu(B(t)) \\
6. \quad & \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \mu_{A(t)g_1(t)-B(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)}, \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right), \\
& \mu_{A(t)g_1(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \mu^{ss} \left( \mu_{B(t)}^{B(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right) \right) \\
& 3\mu(B(t))
\end{aligned}$$

$$\begin{aligned}
7. \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} S_{01}^{et} f(t) B(t) \\ \begin{matrix} B(t) \\ Q(t)g_2(t)-B(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} S_{01}^{et} f(t) B(t) \\ 2\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right) \\
8. \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} B(t) \\ Q(t) \end{matrix} S_1 t(t)_{B(t)}^{B(t)} \\ \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{B(t)} \\ \mu(B(t)) + \mu(A(t)g_1(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right) \\
9. \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \\ \begin{matrix} B(t) \\ Q(t)g_2(t)-B(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} \begin{matrix} B(t) \\ B(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \\ 3\mu(B(t)) + \mu(A(t)g_1(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right) \\
10. \quad & \begin{matrix} B(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} S_{21}^{et} f(t)_{A(t)}^{B(t)} \\ \begin{matrix} B(t)-A(t)g_1(t) \\ Q(t)g_2(t)-A(t)g_1(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} B(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} S_{21}^{et} f(t)_{A(t)}^{B(t)} \\ 2\mu(B(t)) + \mu(Ag_1(t)) - \mu(Qg_2(t)) \end{matrix} \right) \\
11. \quad & \begin{matrix} R(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} S_{31}^{et} f(t)_{R(t)}^{B(t)} \\ \begin{matrix} R(t) \\ Q(t)g_2(t)-B(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} R(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} S_{31}^{et} f(t)_{R(t)}^{B(t)} \\ \mu(B(t)) + \mu(A(t)g_1(t)) + \mu(R(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right) \\
12. \quad & \begin{matrix} R(t) \\ Q(t)g_2(t) \end{matrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \begin{pmatrix} S_{01}^{et} f(t) B(t) \\ \begin{matrix} R(t)-B(t) \\ Q(t)g_2(t)-B(t) \end{matrix} S_1 t(t)_{(t)B(t)}^{A(t)g_1(t)-B(t)} \end{pmatrix}, \\
& \mu_{\begin{pmatrix} R(t) \\ Q(t)g_2(t) \end{pmatrix} S_1 t(t)_{B(t)}^{A(t)g_1(t)}} = \mu^{ss} \left( \begin{matrix} S_{01}^{et} f(t) B(t) \\ \mu(A(t)g_1(t)) + \mu(R(t)) - \mu(Q(t)g_2(t)) \end{matrix} \right)
\end{aligned}$$

$$\begin{aligned}
13. \quad & \frac{R(t)}{Q(t)g_2(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \begin{array}{c} S_{21}^{et} f(t)_{A(t)}^{B(t)} \\ R(t)-A(t)g_1(t) \\ Q(t)g_2(t)-A(t)g_1(t) \end{array} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right), \\
& \mu_{Q(t)g_2(t)}^{(R(t))} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \begin{array}{c} \mu^{ss} ( S_{21}^{et} f(t)_{A(t)g_1(t)}^{B(t)} ) \\ \mu (A(t)g_1(t)) + \mu (B(t)) + \mu (R(t)) - \mu (Q(t)g_2(t)) \end{array} \right) \\
14. \quad & \frac{R(t)}{Q(t)g_2(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \begin{array}{c} B S_1 t_B^{Ag_1(t)} \\ R-B \\ Qg_2(t)-B \end{array} S_1 t_B^{Ag_1(t)} \right), \\
& \mu_{Q(t)g_2(t)}^{(R(t))} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \begin{array}{c} \mu^{ss} ( B S_1 t_B^{Ag_1(t)} ) \\ \mu (Ag_1(t)) + \mu (B) + \mu (R) - \mu (Qg_2(t)) \end{array} \right) \\
15. \quad & \frac{R(t)}{Q(t)g_2(t)} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \left( \begin{array}{c} A(t)g_1(t) \\ Q(t)g_2(t) \end{array} S_1 t(t)_{B(t)}^{A(t)g_1(t)} \right), \\
& \mu_{Q(t)g_2(t)}^{(R(t))} S_1 t(t)_{B(t)}^{A(t)g_1(t)} = \\
& \left( \begin{array}{c} \mu^{ss} ( \frac{A(t)g_1(t)}{Q(t)g_2(t)} S_1 t(t)_{A(t)g_1(t)}^{A(t)g_1(t)} ) \\ \mu (-A(t)g_1(t)) + \mu (B(t)) + \mu (R(t)) - \mu (Q(t)g_2(t)) \end{array} \right)
\end{aligned}$$

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$  [3]. For example, based on  $S_{51}^{et}(t)fA(t)\{g(t)\}$ , where  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S_{51}^{et}(t)fA(t)\{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S_{51}^{et}(t)fA(t)\{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily  $Set_1$ , only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S_{51}^{et}(t)fA(t)\{g(t)\}$  can be introduced.

#### Supplement

We consider  $Set_1$ -logic [3], [8]: 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 1 corresponds to the logical value "yes". Then for joint statements  $S_1 t_B^A, C_D S_1 t, A, B, C, D$ :  $f(C_D S_1 t_B^A) = f(C_D S_1 t) + f(S_1 t_B^A) - f(C_D S_1 t \cap S_1 t_B^A) = (f^{os_1}(C \cap D) + f^{s_1}(A \cap B) + f^{-s_1}(\frac{\{ \}}{C-C \cap D} S_1 t)) - (f(A) + f(B) - f(A \cap B) + f(D) - f(C)) - f(C_D S_1 t \cap S_1 t_B^A)$ ,  $f^{s_1}(x)$ - the value of self-truth for self- statement  $x$ ,  $f^{os_1}(x)$ -

the value of oself-truth for oself- 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 the statement A,  $f(A/B)$ - conditional truth of the statement A at the statement B, for dependent statements:  $f({}^C_D S_1 t \cap S_1 t^A_B) = f({}^C_D S_1 t) * f(S_1 t^A_B / {}^C_D S_1 t) = f(S_1 t^A_B) * f({}^C_D S_1 t / S_1 t^A_B)$ . Adding the truth values of inconsistent propositions:  $f(A+B)=F(A)+f(B)$ . The formula of complete truth:  $f(A)=\sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -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.

Definition C.3.70. Set-probability of events  ${}^C_D S_1 t^A_B$  is  $p({}^C_D S_1 t^A_B)$ , denote  ${}^C_D S_1 p^A_B$

In particular,  ${}^C_D S_1 p^A_B$  for joint events  $S_1 t^A_B, {}^C_D S_1 t, A, B, C, D, {}^C_D S_1 t^A_B$ :

$$p({}^C_D S_1 t^A_B) = p({}^C_D S_1 t) + p(S_1 t^A_B) - p({}^C_D S_1 t \cap S_1 t^A_B) = \\ ((p^{os_1}(C \cap D) + p^{s_1}(A \cap B) + p^{-s_1}\left(\begin{Bmatrix} \{ \} \\ C - C \cap D \end{Bmatrix} S_1 t\right)) - p({}^C_D S_1 t \cap S_1 t^A_B), \\ p(A) + p(B) - p(A \cap B) + p(D) - p(C)$$

for dependent events:  $p({}^C_D S_1 t \cap S_1 t^A_B) = p({}^C_D S_1 t) * p(S_1 t^A_B / {}^C_D S_1 t) = p(S_1 t^A_B) * p({}^C_D S_1 t / S_1 t^A_B)$ .  $p^{s_1}(x)$ - the value of self-P for self- event  $x$ ,  $p^{os_1}(x)$ - the value of oself-P for oself- event  $x$ .

#### C.4 S<sup>2</sup>et – elements

Definition C.4.1. The containment of A into B and the displacement of D from C simultaneously we shall call S<sup>2</sup>et–element. Let's denote  ${}^C_D S^2 t^A_B$ .

A, B, C, D-are any, in particular, A may be action in the right direction or action with the right goal (action with the so-called target weights [1]) etc.

Definition C.4.2.  $\frac{C}{D} S^2 t^A_B$  is called an ordered S<sup>2</sup>et – element, if some or any elements from A, B, C, D may be by ordered elements.

The addition of S<sup>2</sup>et – elements:

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{C_1}_{D_1} S^2 t^{A_2}_{B_1} = {}^{C_1}_{D_1} S^2 t^{A_1 \cup A_2}_{B_1} \quad (*_{C.4.1}),$$

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{C_1}_{D_1} S^2 t^{A_1}_{B_2} = {}^{C_1}_{D_1} S^2 t^{A_1}_{B_1 \cup B_2} \quad (*_{C.4.2}),$$

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{C_2}_{D_1} S^2 t^{A_1}_{B_1} = {}^{C_1 \cup C_2}_{D_1} S^2 t^{A_1}_{B_1} \quad (*_{C.4.3}),$$

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} + {}^{C_1}_{D_2} S^2 t^{A_1}_{B_1} = {}^{C_1}_{D_1 \cup D_2} S^2 t^{A_1}_{B_1} \quad (*_{C.4.4}),$$

the multiplication of S<sup>2</sup>et – elements:

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} * {}^{C_1}_{D_1} S^2 t^{A_2}_{B_1} = {}^{C_1}_{D_1} S^2 t^{A_1 \cap A_2}_{B_1} \quad (*_{C.4.5}),$$

$${}^{C_1}_{D_1} S^2 t^{A_1}_{B_1} * {}^{C_1}_{D_1} S^2 t^{A_1}_{B_2} = {}^{C_1}_{D_1} S^2 t^{A_1}_{B_1 \cap B_2} \quad (*_{C.4.6}),$$

$${}_{D_1}^{C_1}S^2t_{B_1}^{A_1} * {}_{D_1}^{C_2}S^2t_{B_1}^{A_1} = {}_{D_1}^{C_1 \cap C_2}S^2t_{B_1}^{A_1} \quad (*_{C.4.7}),$$

$${}_{D_1}^{C_1}S^2t_{B_1}^{A_1} * {}_{D_2}^{C_1}S^2t_{B_1}^{A_1} = {}_{D_1 \cap D_2}^{C_1}S^2t_{B_1}^{A_1} \quad (*_{C.4.8}),$$

where some or any elements may be ordered elements.

S<sup>2</sup>et – elements can be elements of a group both by multiplication (\*<sub>C.4.5</sub>) - (\*<sub>C.4.8</sub>) and by addition (\*<sub>C.4.1</sub>) - (\*<sub>C.4.4</sub>), and form algebraic ring, field by these operations.

### S<sup>2</sup>et -capacity in itself

Definition C.4.3. The S<sup>2</sup>et -capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling A oneself out of oneself simultaneously:  ${}_A^AS^2t_A^A$ . Denote  $S^{2et}_0 fA$ .

Definition C.4.4. The S<sup>2</sup>et -capacity in itself A and from itself B of the first type is the capacity containing itself as an element and expelling B oneself out of oneself simultaneously:  ${}_B^BS^2t_A^A$ . Denote  $S^{2et}_1 f_B^A$ .

Definition C.4.5. The S<sup>2</sup>et <sup>1</sup>-capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously:  ${}_B^BS^2t_A^B$ . Denote  $S^{2et}_2 f_B^A$ .

Definition C.4.6. The S<sup>2</sup>et <sup>1</sup>-capacity of the third type is the capacity B containing itself as an element and the displacement of B from A simultaneously:  ${}_B^AS^2t_B^B$ . Denote  $S^{2et}_3 f_B^A$ .

Definition C.4.7. S<sup>2</sup>et -capacity A in itself of the fourth type is the capacity that contains itself and expels oneself or contains elements from which it can be generated, and it can be degenerated simultaneously. Let's denote  $S^{2et}_4 fA$ .

Definition C.4.8. S<sup>2</sup>et -capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can degenerate in part, or both simultaneously. Let us denote  $S^{2et}_5 fA$ .

Consider a fifth type of self-capacity. For example, based on  $S^{2et}_5 fA$ , where  $A = (A_1, A_2, \dots, A_n)$ , it is possible to consider S<sup>2</sup>et -capacity in itself  $S^{2et}_5 fA$  with m elements from A, at  $m < n$ , which is formed by the form (1.1), that is, only m elements are located in the structure  $S^{2et}_5 fA$ . S<sup>2</sup>et -capacity in itself of the fifth type can be formed for any other structure, not necessarily S<sup>2</sup>et, only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{2et}_5 fA$  can be introduced.

Consider mathematics S<sup>2</sup>et -itself:

1. Similarly, for the simultaneous execution of various operators:  ${}_{F_1 D}^{F_0 C}S^2t_{F_3 B}^{F_2 A}$ , where  $F_0, F_1, F_2, F_3$  are operators.

2. Similarly, for the simultaneous execution of various operators:  $S_j^{2et} fFA$ ,  $j=0,1,2,3,4,5$ , where  $\{F\} = (F_0, F_1, F_2, F_3)$  are operators.
3.  ${}_D^C S^2 t_B^A$  – is the result of the holding operator action and of the expelling operator action, the dynamical hierarchical set of null type  ${}_D^C S^2 t_B^A$  – a kind of product of  $PN(A, B) * OPN(D, C)$ . Let's call it the  $PN_1$  – product. For sets A, B, Q, R we have the next variants of hierarchical distribution of dynamic hierarchical set  ${}_D^C S^2 t_B^A$ :

a)

$${}_D^C S^2 t_B^A = \{ {}_D^{C-B} S^2 t_B^A + {}_D^B S^2 t_B^{A-B} \} \quad (C.4.1)$$

The measure:

$$\mu({}_D^C S^2 t_B^A) = \left( \frac{{}_D^B S^2 t_B^A}{2\mu(A) + \mu(B) + \mu(C) - 2\mu(D)} \right) \quad (C.4.2)$$

$$b) {}_D^C S^2 t_A^B = \{ {}_D^{C-B} S^2 t_A^B + {}_D^{B-A} S^2 t_A^B \} \quad (C.4.3)$$

The measure:

$$\mu({}_Q^B S t_B^A) = \left( \frac{{}_Q^B S t_B^A}{2\mu(A) + \mu(B) - 2\mu(D) + \mu(C)} \right) \quad (C.4.4)$$

$$c) {}_D^C S^2 t_B^A = ({}_D^C S^2 t_{B-A}^A + {}_D^{C-A} S^2 t_A^A) \quad (C.4.5)$$

$$\mu({}_Q^B S t_B^A) = \left( \frac{{}_Q^B S t_B^A}{\mu(A) + \mu(B) - 2\mu(D) + 2\mu(C)} \right) \quad (C.4.6)$$

$$d) {}_D^C S^2 t_B^A = ({}_D^{C-B} S^2 t_B^A + {}_D^{B-A} S^2 t_A^A) \quad (7)$$

$$\mu({}_Q^B S t_B^A) = \left( \frac{{}_Q^B S t_B^A}{\mu(A) + 2\mu(B) - 2\mu(D) + \mu(C)} \right) \quad (C.4.7)$$

$$e) {}_D^C S^2 t_B^A = ({}_D^{C-A} S^2 t_B^A + {}_D^{A-B} S^2 t_B^A) \quad (7)$$

$$\mu({}_B^B St_B^A) = \left( \begin{array}{c} {}^o\mu^s({}_B^A S^2 t_B^A) \\ 2\mu(A) + \mu(B) - 2\mu(D) + \mu(C) \end{array} \right) \quad (C.4.8)$$

There is the same for structures if it's considered as sets.

The concepts of S<sup>2</sup>et – force:  ${}_{F_4}^{F_3} S^2 t_{F_2}^{F_1}$  – the containment of force F<sub>1</sub> into force F<sub>2</sub> and the displacement of force F<sub>4</sub> from force F<sub>3</sub> simultaneously, S<sup>2</sup>et – energy:  ${}_{E_4}^{E_3} S^2 t_{E_2}^{E_1}$  – the containment of energy E<sub>1</sub> into energy E<sub>2</sub> and the displacement of energy E<sub>4</sub> from energy E<sub>3</sub> simultaneously.

Consider the concepts of S<sup>2</sup>et – capacity in itself of physical objects A, B. Similar to the concepts of publication: the S<sup>2</sup>et – capacity in itself of the first type is the capacity containing itself A as an element and expelling oneself B out of oneself B simultaneously:  ${}_{B}^B S^2 t_A^A$ , S<sup>2</sup>et – capacity in itself of the third type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated simultaneously partially, or both:  $S_5^{2et} fA$ ,  $S_5^{2et} fB$ . By analogy, for  $S_0^{2et} fA$ ,  $S_2^{2et} f_B^A$ ,  $S_3^{2et} f_B^A$ ,  $S_4^{2et} fA$ .

Also, you can consider these types of S<sup>2</sup>et – capacity in itself for other objects. For example:  $S_i^{2et} f$ operator A,  $S_i^{2et} f$ action B,  $S_i^{2et} f$ made Q i=0,1,2,3,4,5 etc.

Remark. The concept of elements of physics S<sup>2</sup>et is introduced for energy space. The corresponding concept of elements of chemistry S<sup>2</sup>et is introduced accordingly.

Consider the dynamical S<sup>2</sup>et – elements.

Definition C.4.9. The process of the containment of A(t) into B(t) and the displacement of D(t) from C(t) at time t simultaneously we shall call dynamical S<sup>2</sup>et – element. Let's denote  $\frac{C(t)}{D(t)} S^2 t(t)_{B(t)}^{A(t)}$ .

Definition C.4.10.  $\frac{C(t)}{D(t)} S^2 t(t)_{B(t)}^{\overrightarrow{A(t)}}$  with ordered elements  $\overrightarrow{A}(t)$  and  $\overrightarrow{B}(t)$  is called an ordered dynamical S<sup>2</sup>et – element.

The addition of dynamical S<sup>2</sup>et – elements:

$$\frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_2(t)} = \frac{C_1(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*C.4.9),$$

$$\frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_2(t)}^{A_1(t)} = \frac{C_1(t)}{D_1(t)} S^2 t_{B_1(t) \cup B_2(t)}^{A_1} \quad (*C.4.10),$$

$$\frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_2(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = \frac{C_1(t) \cup C_2(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*C.4.11),$$

$$\frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = \frac{C_1(t)}{D_1(t) \cup D_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*C.4.12),$$

the multiplication of dynamical  $S^2et$  – elements:

$$C_1(t)S^2t(t)_{B_1(t)}^{A_1(t)} * C_1(t)S^2t(t)_{B_1(t)}^{A_2(t)} = C_1(t)S^2t_{B_1(t)}^{A_1(t) \cap A_2(t)} \quad (*_{C.4.13}),$$

$$C_1(t)S^2t(t)_{B_1(t)}^{A_1(t)} * C_1(t)S^2t(t)_{B_2(t)}^{A_1(t)} = C_1(t)S^2t_{B_1(t) \cap B_2(t)}^{A_1(t)} \quad (*_{C.4.14}),$$

$$C_1(t)S^2t(t)_{B_1(t)}^{A_1(t)} * C_2(t)S^2t(t)_{B_1(t)}^{A_1(t)} = C_1(t) \cap C_2(t) S^2t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.15}),$$

$$C_1(t)S^2t(t)_{B_1(t)}^{A_1(t)} * C_2(t)S^2t(t)_{B_1(t)}^{A_1(t)} = C_1(t) \cap D_2(t) S^2t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.16}),$$

where some or any elements may be by ordered elements.

Dynamical  $S^2et$  – elements can be elements of a group both by multiplication  $(*_C.4.13) - (*_{C.4.16})$  and by addition  $(*_C.4.9) - (*_{C.4.12})$ , and also form an algebraic ring, field by these operations.

Consider the dynamical  $S^2et$  -capacity in itself.

Definition C.4.11. The dynamical  $S^2et$  -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment  $A(t)$  itself as an element and expelling  $A(t)$  oneself out of oneself at time  $t$  simultaneously:

$$A(t)S^2t(t)_{A(t)}^{A(t)}. \text{ Denote } S_0^{2et}(t)fA(t).$$

Definition C.4.12. The dynamical  $S^2et$  -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment  $A(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:

$$B(t)S^2t_{A(t)}^{A(t)}. \text{ Denote } S_1^{2et}(t)f_{B(t)}^{A(t)}.$$

Definition C.4.13. The dynamical  $S^2et$  <sup>1</sup>-capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously:  $B(t)S^2t(t)_{A(t)}^{B(t)}$ . Denote  $S_2^{2et}(t)f_{B(t)}^{A(t)}$ .

Definition C.4.14. Dynamical  $S^2et$  <sup>1</sup>-capacity of the third type is the process of a containment  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously:  $A(t)S^2t_{B(t)}^{B(t)}$ . Denote  $S_3^{2et}(t)f_{B(t)}^{A(t)}$ .

Definition C.4.15. Dynamical  $S^2et$  -capacity  $A(t)$  in itself of the fourth type is the process of a containment  $A(t)$  in itself and expelling oneself or the process of a elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously through the structure  $S^2et$ . Let's denote  $S_4^{2et}(t)fA(t)$ .

Definition C.4.16. Dynamical  $S^2et$  -capacity  $A(t)$  in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or process of a elements containment from which it can be generated

in part, and it can be degenerated in part at time  $t$  through the structure  $S^{2et}$ , or both simultaneously. Let us denote  $S^{2et}_5(t)fA(t)$ .

Consider dynamical  $S^{2et}$ -capacity in itself of the fifth type  $A(t)$ :  $S^{2et}_5(t)fA(t)$ . For  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$ , it is possible to consider the dynamical  $S^{2et}$ -capacity in itself of the fifth type  $A(t)$ :  $S^{2et}_5(t)fA(t)$ . with  $m$  elements from  $\{A(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $A(t)$  are located in the structure  $^{C(t)}_{D(t)}S^{2et}(t)^{A(t)}_{B(t)}$ . The same for  $D(t) = (d_1(t), d_2(t), \dots, d_n(t))$  in it. Dynamical  $S^{2et}$ -capacity in itself of the fifth type can be formed for any other structure, not necessarily  $S^{2et}$ , only through the obligatory reduction in the number of elements in the structure. In particular, using the form (1.2). Structures more complex than  $S^{2et}_5(t)fA(t)$ . can be introduced.

Consider the dynamical mathematics  $S^{2et}$ -itself.

- a. Similarly, for the simultaneous execution of various operators:  
 $^{F_0(t)C(t)}_{F_1(t)D(t)}S^{2et}(t)^{F_2(t)A(t)}_{F_3(t)B(t)}$ , where  $F_0(t), F_1(t), F_2(t), F_3(t)$  are operators.
- b. Similarly, for the simultaneous execution of various operators:  
 $S^{2et}_j(t)fF(t)A(t)$ ,  $j=0,4,5$ , and  $S^{2et}_k(t)f^{A(t)}_{B(t)}$ ,  $k=1,2,3$ , where  $\{F(t)\} = (F_0(t), F_1(t), F_2(t), F_3(t))$  are operators.

The concepts of dynamical  $S^{2et}$ -force:  $^{F_3(t)}_{F_4(t)}S^{2et}(t)^{F_1(t)}_{F_2(t)}$ -the containment of force  $F_1(t)$  into force  $F_2(t)$  and the displacement of force  $F_4(t)$  from force  $F_3(t)$  at time  $t$  simultaneously, dynamical  $S^{2et}$ -energy:  $^{E_3(t)}_{E_4(t)}S^{2et}(t)^{E_1(t)}_{E_2(t)}$ -the containment of energy  $E_1(t)$  into energy  $E_2(t)$  and the displacement of energy  $E_4(t)$  from energy  $E_3(t)$  at time  $t$  simultaneously.

Consider the concepts of dynamical  $S^{2et}$ -capacity in itself of physical objects  $A(t)$ ,  $B(t)$ . Similar to the concepts of publication: the dynamical  $S^{2et}$ -capacity in itself of the null type is the dynamical capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously:  $S^{2et}_0(t)fA(t) = ^{A(t)}_{A(t)}S^{2et}(t)^{A(t)}_{A(t)}$ , dynamical  $S^{2et}$ -capacity in itself of the fifth type contains itself in part and expelling oneself in part or contains a program that allows it to be generated and it to be degenerated at time  $t$  simultaneously partially, or both:  $S^{2et}_5(t)fA(t)$ ,  $S^{2et}_5(t)fB(t)$ . By analogy, for  $S^{2et}_k(t)f^{A(t)}_{B(t)}$ ,  $S^{2et}_k(t)f^{A(t)}_{B(t)}$ ,  $k=1,2$ ,  $S^{2et}_3(t)f^{A(t)}_{B(t)}$ ,  $S^{2et}_4(t)fA(t)$ .

Also, you can consider these types of dynamical  $S^{2et}$ -capacity in itself for other objects. For example:  $S^{2et}_i(t)f$  operator  $A(t)$ ,  $S^{2et}_i(t)f$  action  $B(t)$ ,  $S^{2et}_i(t)f$  made  $Q(t)$   $i=0, 1, 2, 3, 4, 5$  etc.

Remark. The concept of elements of physics dynamical  $S^2et$  is introduced for energy space. The corresponding concept of elements of chemistry dynamical  $S^2et$  is introduced accordingly.

Consider  $S^2et$  – elements for continual sets.

Here we consider some continual  $S^2et$  -elements and continual self-capacity in itself as an element.

Definition C.4.17. The containment of A into B and the displacement of D from C simultaneously, where A, B, D, C- sets of continual elements we shall call continual  $S^2et$  – element. Let's denote  ${}^C_D S^2 t_B^A$ .

Definition C.4.18.  ${}^{\vec{C}}_{\vec{D}} S^2 t_{\vec{B}}^{\vec{A}}$  with ordered elements  $\vec{A}$  and  $\vec{D}$ , where A, B, D, C- sets of continual elements, is called an ordered  $S^2et$  – element.

The addition of continual  $S^2et$  – elements:

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} + {}^{C_1}_{D_1} S^2 t_{B_1}^{A_2} = {}^{C_1}_{D_1} S^2 t_{B_1}^{A_1 \cup A_2} \quad (*_{C.4.17}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} + {}^{C_1}_{D_1} S^2 t_{B_2}^{A_1} = {}^{C_1}_{D_1} S^2 t_{B_1 \cup B_2}^{A_1} \quad (*_{C.4.18}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} + {}^{C_2}_{D_1} S^2 t_{B_1}^{A_1} = {}^{C_1 \cup C_2}_{D_1} S^2 t_{B_1}^{A_1} \quad (*_{C.4.19}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} + {}^{C_1}_{D_2} S^2 t_{B_1}^{A_1} = {}^{C_1}_{D_1 \cup D_2} S^2 t_{B_1}^{A_1} \quad (*_{C.4.20}),$$

the multiplication of continual  $S^2et$  – elements:

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} * {}^{C_1}_{D_1} S^2 t_{B_1}^{A_2} = {}^{C_1}_{D_1} S^2 t_{B_1}^{A_1 \cap A_2} \quad (*_{C.4.21}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} * {}^{C_1}_{D_1} S^2 t_{B_2}^{A_1} = {}^{C_1}_{D_1} S^2 t_{B_1 \cap B_2}^{A_1} \quad (*_{C.4.22}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} * {}^{C_2}_{D_1} S^2 t_{B_1}^{A_1} = {}^{C_1 \cap C_2}_{D_1} S^2 t_{B_1}^{A_1} \quad (*_{C.4.23}),$$

$${}^{C_1}_{D_1} S^2 t_{B_1}^{A_1} * {}^{C_1}_{D_2} S^2 t_{B_1}^{A_1} = {}^{C_1}_{D_1 \cap D_2} S^2 t_{B_1}^{A_1} \quad (*_{C.4.24}),$$

where some or any elements may be ordered elements.

$S^2et$  – elements can be elements of a group both by multiplication (\*<sub>C.4.21</sub>) - (\*<sub>C.4.24</sub>) and by addition (\*<sub>C.4.17</sub>) - (\*<sub>C.4.20</sub>), and form algebraic ring, field by these operations.

Consider  $S^2et$  -capacity in itself for continual sets.

Definition C.4.19. The continual  $S^2et$  -capacity A in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where A - set of continual elements:  ${}^A_A S^2 t_A^A$ . Denote  $S^{2et}_0 fA$ .

Definition C.4.20. The ordered continual  $S^2\text{et}$  -capacity  $\vec{A}$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself simultaneously, where  $\vec{A}$  - ordered set of continual elements:  $\vec{A} S^2 t_{\vec{A}}$ . Denote  $S^{2et}_0 f \vec{A}$ .

Definition C.4.21. The continual  $S^2\text{et}$  -capacity in itself A and from itself B of the first type is the capacity containing A itself as an element and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^B S^2 t_A^A$ . Denote  $S^{2et}_1 f_B^A$ .

Definition C.4.22. The continual  $S^2\text{et}^1$ -capacity of the second type is the capacity containing B into A and expelling B oneself out of oneself simultaneously, where A, B- sets of continual elements:  ${}^B S^2 t_A^B$ . Denote  $S^{2et}_2 f_B^A$ .

Definition C.4.23. The continual  $S^2\text{et}^1$ -capacity of the third type is the capacity containing B itself as an element and the displacement of B from A simultaneously, where A, B- sets of continual elements:  ${}^A S^2 t_B^B$ . Denote  $S^{2et}_3 f_B^A$ .

Definition C.4.24. The continual  $S^2\text{et}$  -capacity A in itself of the fourth type is the capacity that contains elements from which can be generated, and it can degenerate simultaneously, where A- set of continual elements. Let's denote  $S^{2et}_4 f A$ .

Definition C.4.25. The continual  $S^2\text{et}$  -capacity A in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which it can be generated in part, and it can be degenerated in part simultaneously, or both, where A- set of continual elements. Let us denote  $S^{2et}_5 f A$ .

Definition C.4.26. The ordered continual  $S^2\text{et}$  -capacity in itself  $\vec{A}$  and from itself B of the first type is the capacity containing itself as an element and expelling B oneself out of oneself simultaneously, where  $\vec{A}$ - ordered set of continual elements, B- set of continual elements:  ${}^B S^2 t_{\vec{A}}^{\vec{A}}$ . Denote  $S^{2et}_1 f_B^{\vec{A}}$ .

Definition C.4.27. The ordered continual  $S^2\text{et}^1$ -capacity in itself A and from itself  $\vec{B}$  of the first type is the capacity containing A itself as an element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$  -ordered set of continual elements, A- set of continual elements:  ${}^{\vec{B}} S^2 t_A^A$ . Denote  $S^{2et}_1 f_{\vec{B}}^A$ .

Definition C.4.28. The ordered continual  $S^2\text{et}^2$ -capacity in itself  $\vec{A}$  and from itself  $\vec{B}$  of the first type is the capacity containing  $\vec{A}$  itself as an

element and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{B} S^2 t_{\vec{A}}^{\vec{A}}$ . Denote  $S^{2et}_1 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.29. The continual  $S^2et$  <sup>1</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}$ -ordered set of continual elements,  $\vec{B}$ -set of continual elements:  $\vec{B} S^2 t_{\vec{A}}^{\vec{B}}$ . Denote  $S^{2et}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.30. The continual  $S^2et$  <sup>2</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{B}$ -ordered set of continual elements,  $\vec{A}$ -set of continual elements:  $\vec{B} S^2 t_{\vec{A}}^{\vec{B}}$ . Denote  $S^{2et}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.31. The continual  $S^2et$  <sup>3</sup>-capacity of the second type is the capacity containing  $\vec{B}$  into  $\vec{A}$  and expelling  $\vec{B}$  oneself out of oneself simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{B} S^2 t_{\vec{A}}^{\vec{B}}$ . Denote  $S^{2et}_2 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.32. The continual  $S^2et$  <sup>1</sup>-capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{A}$ -ordered set of continual elements,  $\vec{B}$ -set of continual elements:  $\vec{A} S^2 t_{\vec{B}}^{\vec{B}}$ . Denote  $S^{2et}_3 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.33. The continual  $S^2et$  <sup>2</sup>-capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{B}$ -ordered set of continual elements,  $\vec{A}$ -set of continual elements:  $\vec{A} S^2 t_{\vec{B}}^{\vec{B}}$ . Denote  $S^{2et}_3 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.34. The continual  $S^2et$  <sup>3</sup>-capacity of the third type is the capacity containing  $\vec{B}$  itself as an element and the displacement of  $\vec{B}$  from  $\vec{A}$  simultaneously, where  $\vec{A}, \vec{B}$ -ordered sets of continual elements:  $\vec{A} S^2 t_{\vec{B}}^{\vec{B}}$ . Denote  $S^{2et}_3 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.35. The ordered continual  $S^2et$  -capacity  $\vec{A}$  in itself of the fourth type is the capacity in itself and expelling oneself or that contains elements from which can be generated, and it can degenerate simultaneously, where  $\vec{A}$ -set of continual elements. Let's denote  $S^{2et}_4 f_{\vec{B}}^{\vec{A}}$ .

Definition C.4.36. The ordered continual  $S^2et$  -capacity  $\vec{A}$  in itself of the fifth type contains itself in part and expelling oneself in part or contains elements from which can be generated in part, and it can degenerate

in part simultaneously, or both simultaneously, where  $\overrightarrow{A}$ - ordered set of continual elements. Let us denote  $S_5^{2et} f \overrightarrow{A}$ .

Also, we consider next elements  $S_0^{2et} f \overrightarrow{\uparrow I \downarrow_{-1}^1}$ ,  $S_1^{2et} f \overrightarrow{\uparrow I \downarrow_{-1}^1}$ ,  $S_2^{2et} f \overrightarrow{\uparrow I \downarrow_{-1}^1}$ ,  $S_3^{2et} f \overrightarrow{\uparrow I \downarrow_{-1}^1}$ ,  $S_4^{2et} f \overrightarrow{\uparrow I \downarrow_d^a}$  etc.

Consider a fifth type of continual self-consistency in itself as an element. For

example,  $S_5^{2et} f A$ , where  $A = (A_1, A_2, \dots, A_n)$ , i.e.  $i$  - continual elements,  $i=1, 2, \dots, n$ . It's possible to consider the continual self-capacity in itself as an element  $S_5^{2et} f A$  with  $m$  continual elements from  $A$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S_5^{2et} f A$ .

Continual self-consistencies in itself as an element of the fifth type can be formed for any other structure, not necessarily  $S^{2et}$ , only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2). The same for  $S_5^{2et} f \overrightarrow{A}$ . Structures more complex than  $S_5^{2et} f A$  can be introduced.

Consider mathematics itself for continual  $S^{2et}$  -elements.

Simultaneous addition of sets  $A, B, C, D$  with continual elements is realized by  $\frac{C}{D \cup} S^2 t_{B \cup}^{A \cup}$ , where  $A, B, C, D$  may be ordered sets of continual elements.

Let's introduce operator to transform capacity to self-consistency in itself as an element:  $Q_j S^{2et} (A)$  transforms  $A$  to  $S_j^{2et} f A$ ,  $j=0,5$ ,  $Q_i S^{2et} (A,B)$  transforms  $A$  to  $S_i^{2et} f_B^A$ , where  $A, B$  may be ordered sets of continual elements,  $i=1,2,3,4$ .

Consider the dynamical continual  $S^{2et}$  – elements.

Definition C.4.37. The process of the containment of  $A(t)$  into  $B(t)$  and the displacement of  $D(t)$  from  $C(t)$  at time  $t$  simultaneously, where some or any elements may be by ordered elements, we shall call dynamical continual  $S^{2et}$  – element. Let's denote  $\frac{C(t)}{D(t)} S^2 t(t)_{B(t)}^{A(t)}$ .

Definition C.4.38. The process  $\frac{C(t)}{D(t)} S^2 t(t)_{B(t)}^{A(t)}$  is called an ordered dynamical continual  $S^{2et}$  – element, if some or any elements from  $A(t), B(t), C(t), D(t)$  may be by ordered dynamical continual elements.

The addition of dynamical continual  $S^{2et}$  – elements:

$$\frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + \frac{C_1(t)}{D_1(t)} S^2 t(t)_{B_1(t)}^{A_2(t)} = \frac{C_1(t)}{D_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cup A_2(t)} \quad (*_{C.4.25}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_2(t)}^{A_1(t)} = S_{D_1(t)}^{C_1(t)} S^2 t_{B_1(t) \cup B_2(t)}^{A_1(t)} \quad (*_{C.4.26}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + S_{D_1(t)}^{C_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = S_{D_1(t)}^{C_1(t) \cup C_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.27}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} + S_{D_2(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = S_{D_1(t) \cup D_2(t)}^{C_1(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.28}),$$

the multiplication of dynamical continual  $S^2et$  – elements:

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_2(t)} = S_{D_1(t)}^{C_1(t)} S^2 t_{B_1(t)}^{A_1(t) \cap A_2(t)} \quad (*_{C.4.29}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_2(t)}^{A_1(t)} = S_{D_1(t)}^{C_1(t)} S^2 t_{B_1(t) \cap B_2(t)}^{A_1(t)} \quad (*_{C.4.30}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * S_{D_1(t)}^{C_2(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = S_{D_1(t)}^{C_1(t) \cap C_2(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.31}),$$

$$S_{D_1(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} * S_{D_2(t)}^{C_1(t)} S^2 t(t)_{B_1(t)}^{A_1(t)} = S_{D_1(t) \cap D_2(t)}^{C_1(t)} S^2 t_{B_1(t)}^{A_1(t)} \quad (*_{C.4.32}),$$

where some or any elements may be ordered elements.

Dynamical continual  $S^2et$  – elements can be elements of a group both by multiplication (\*<sub>C.4.29</sub>),- (\*<sub>C.4.32</sub>) and by addition (\*<sub>C.4.25</sub>) - (\*<sub>C.4.28</sub>), and form an algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself.

Definition C.4.39. The dynamical continual  $S^2et$  -capacity  $A(t)$  in itself and from itself of the null type is the process of a containment itself as an element and expelling oneself out of oneself at time  $t$  simultaneously , where  $A(t)$  -  $S^2et$  of dynamical continual elements:  $S_{A(t)}^{A(t)} S^2 t(t)_{A(t)}^{A(t)}$ . Denote  $S_0^{2et}(t) f A(t)$ .

Definition C.4.40. The ordered dynamical continual  $S^2et$  -capacity  $\overrightarrow{A}(t)$  in itself and from itself of the null type is the capacity containing itself as an element and expelling oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements:  $\overrightarrow{S_{A(t)}^{A(t)} S^2 t(t)_{A(t)}^{A(t)}}$ .

Denote  $S_0^{2et}(t) f \overrightarrow{A}(t)$  .

Definition C.4.41. The dynamical continual  $S^2et$  -capacity in itself  $A(t)$  and from itself  $B(t)$  of the first type is the process of a containment  $A(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  $S_{B(t)}^{B(t)} S^2 t(t)_{A(t)}^{A(t)}$ . Denote  $S_1^{2et}(t) f_{B(t)}^{A(t)}$ .

Definition C.4.42. The dynamical continual  $S^2et$  <sup>1</sup>-capacity of the second type is the process of putting  $B(t)$  into  $A(t)$  and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $A(t)$ ,  $B(t)$ - sets of dynamical continual elements:  $\frac{B(t)}{B(t)}S^2t(t)\frac{B(t)}{A(t)}$ . Denote  $S^{2et}_2(t)f_{B(t)}^{A(t)}$ .

Definition C.4.43. The dynamical continual  $S^2et$  <sup>1</sup>-capacity of the third type is the process of a containment  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $A(t)$  at time  $t$  simultaneously, where  $A, B$ - sets of dynamical continual elements:  $\frac{A(t)}{B(t)}S^2t(t)\frac{B(t)}{B(t)}$ . Denote  $S^{2et}_3(t)f_{B(t)}^{A(t)}$ .

Definition C.4.44. The dynamical continual  $S^2et$  -capacity  $A(t)$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process of elements containment from which it can be generated, and it can be degenerated at time  $t$  simultaneously, where  $A(t)$ - set of dynamical continual elements. Let's denote  $S^{2et}_4(t)fA(t)$ .

Definition C.4.45. The dynamical continual  $S^2et$  -capacity in itself of the fifth type is the process of a containment of itself in part and expelling oneself in part or the process of a elements containment from which it can be generated in part, and it can be degenerated in part at time  $t$  through the structure  $S^2et$ , or both simultaneously, where  $A(t)$ - set of dynamical continual elements. Let us denote  $S^{2et}_5(t)fA(t)$ .

Definition C.4.46. The ordered dynamical continual  $S^2et$  -capacity in itself  $\overrightarrow{A}(t)$  and from itself  $B(t)$  of the first type is the process of a containment  $\overrightarrow{A}(t)$  itself as an element and expelling  $B(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{A}(t)$ - ordered set of dynamical continual elements,  $B(t)$ - set of dynamical continual elements:  $\frac{B(t)}{B(t)}S^2t(t)\frac{\overrightarrow{A}(t)}{A(t)}$ . Denote  $S^{2et}_1(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.4.47. The ordered dynamical continual  $S^2et$  <sup>1</sup>-capacity in itself  $A(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment  $A(t)$  itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time  $t$  simultaneously, where  $\overrightarrow{B}(t)$ -ordered set of dynamical continual elements,  $A$ - set of dynamical continual elements:  $\frac{\overrightarrow{B}(t)}{B(t)}S^2t(t)\frac{A(t)}{A(t)}$ . Denote  $S^{2et}_1(t)f_{B(t)}^{\overrightarrow{A}(t)}$ .

Definition C.4.48. The ordered dynamical continual  $S^2et$  <sup>2</sup>-capacity in itself  $\overrightarrow{A}(t)$  and from itself  $\overrightarrow{B}(t)$  of the first type is the process of a containment  $\overrightarrow{A}(t)$  itself as an element and expelling  $\overrightarrow{B}(t)$  oneself out of oneself at time

t simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{\overrightarrow{B(t)}} S^2 t(t) \frac{\overrightarrow{A(t)}}{\overrightarrow{A(t)}}$ . Denote  $S^{2et}_1(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.4.49. The dynamical continual  $S^2et$   $^1$ -capacity of the second type is the process of a containment  $B(t)$  into  $\overrightarrow{A(t)}$  and expelling  $B(t)$  oneself out of oneself at time t simultaneously, where  $\overrightarrow{A(t)}$  - ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\frac{B(t)}{B(t)} S^2 t(t) \frac{B(t)}{\overrightarrow{A(t)}}$ . Denote  $S^{2et}_2(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.4.50. The dynamical continual  $S^2et$   $^2$ -capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $A(t)$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time t simultaneously, where  $\overrightarrow{B(t)}$  -ordered set of dynamical continual elements,  $A(t)$  - set of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{\overrightarrow{B(t)}} S^2 t \frac{\overrightarrow{B(t)}}{A(t)}$ . Denote  $S^{2et}_2(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.4.51. The dynamical continual  $S^2et$   $^3$ -capacity of the second type is the process of a containment  $\overrightarrow{B(t)}$  into  $\overrightarrow{A(t)}$  and expelling  $\overrightarrow{B(t)}$  oneself out of oneself at time t simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{\overrightarrow{B(t)}} S^2 t(t) \frac{\overrightarrow{B(t)}}{\overrightarrow{A(t)}}$ . Denote  $S^{2et}_2(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.4.52. The dynamical continual  $S^2et$   $^1$ -capacity of the third type is the process of a containment  $B(t)$  itself as an element and the displacement of  $B(t)$  from  $\overrightarrow{A(t)}$  at time t simultaneously, where  $\overrightarrow{A(t)}$  ordered set of dynamical continual elements,  $B(t)$  - set of dynamical continual elements:  $\frac{\overrightarrow{A(t)}}{B(t)} S^2 t(t) \frac{B(t)}{B(t)}$ . Denote  $S^{2et}_3(t) f_{B(t)}^{\overrightarrow{A(t)}}$ .

Definition C.4.53. The dynamical continual  $S^2et$   $^2$ -capacity of the third type is the process of a containment  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{B(t)}$  from A at time t simultaneously, where  $\overrightarrow{B(t)}$  ordered set of dynamical continual elements, A- set of dynamical continual elements:  $\frac{A(t)}{\overrightarrow{B(t)}} S^2 t(t) \frac{\overrightarrow{B(t)}}{\overrightarrow{B(t)}}$ . Denote  $S^{2et}_3(t) f_{\overrightarrow{B(t)}}^{A(t)}$ .

Definition C.4.54. The dynamical continual  $S^2et$   $^3$ -capacity of the third type is the process of a containment  $\overrightarrow{B(t)}$  itself as an element and the displacement of  $\overrightarrow{B(t)}$  from  $\overrightarrow{A(t)}$  at time t simultaneously, where  $\overrightarrow{A(t)}, \overrightarrow{B(t)}$  -ordered sets of dynamical continual elements:  $\frac{\overrightarrow{B(t)}}{\overrightarrow{B(t)}} S^2 t(t) \frac{\overrightarrow{B(t)}}{\overrightarrow{A(t)}}$ . Denote  $S^{2et}_3(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

$\overrightarrow{B(t)}$  - ordered sets of dynamical continual elements:  $\frac{\overrightarrow{A(t)}}{B(t)} S^2 t(t) \frac{\overrightarrow{B(t)}}{B(t)}$ . Denote  $S^{2et}_3(t) f_{\overrightarrow{B(t)}}^{\overrightarrow{A(t)}}$ .

Definition C.4.55. The ordered dynamical continual  $S^2et$  -capacity  $\overrightarrow{A(t)}$  in itself of the fourth type is the process of a containment of itself and expelling oneself or the process that contains elements from which it can be generated, and it can be degenerated at time t simultaneously, where  $\overrightarrow{A(t)}$  -  $S^2et$  of dynamical continual elements. Let's denote  $S^{2et}_4(t) f_{\overrightarrow{A(t)}}$ .

Definition C.4.56. The ordered dynamical continual  $S^2et$  -capacity  $\overrightarrow{A(t)}$  in itself of the fifth type is the process of containment of itself in part and expelling oneself in part or containing elements from which it can be generated in part, and it can be degenerated in part at time t, or both simultaneously, where  $\overrightarrow{A(t)}$  - ordered  $S^2et$  of dynamical continual elements. Let us denote  $S^{2et}_5(t) f_{\overrightarrow{A(t)}}$ .

Also, we consider some elements:  $S^{2et}_0(t) f_{\uparrow I \downarrow -1}^{\overrightarrow{\phantom{A(t)}}}$ ,  $S^{2et}_1(t) f_{B(t) \downarrow I \uparrow -\infty}^{\uparrow I \downarrow -1}$ ,  $S^{2et}_2(t) f_{B(t)}^{\overrightarrow{A(t) \downarrow I \uparrow -1}}$ ,  $S^{2et}_3(t) f_{B(t)}^{\overrightarrow{A(t) \uparrow I \downarrow -\infty}}$ ,  $S^{2et}_4(t) f_{\uparrow I \downarrow d(t)}^{\overrightarrow{\phantom{A(t)}}}$  [3] and etc.

Consider a fifth type of dynamical partial containment of oneself. For example,  $S^{2et}_5(t) f_{\overrightarrow{A^n(t)}}$ , where  $\{A^n(t)\} = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e. n - continual elements, it is possible to consider the dynamical containment of oneself  $S^{2et}_5(t) f_{\overrightarrow{A^m(t)}}$  with m continual elements from  $\{A^n(t)\}$ , at  $m < n$ , which is a process to be formed by the form (1.1) [1], that is, only m continual elements from  $\{A^n(t)\}$  are located in the structure  $S^{2et}_5(t) f_{\overrightarrow{A^n(t)}}$ .

Dynamical continual containments of oneself of the fifth type can be formed for any other structure, not necessarily  $S^2et$ , only through the obligatory reduction in the number of continual elements in the structure. In particular, using the form (1.2) [1]. Structures more complex than  $S^{2et}_5(t) f_{\overrightarrow{A^n(t)}}$  can be introduced.

Consider the dynamical continual  $S^2et$  - elements with target weights.

Definition C.4.57. The process of the containment of  $A(t)$  with the target weights  $\{g_1(t)\}$  into  $B(t)$  and the displacement of  $D(t)$  with target weights  $\{g_2(t)\}$  from  $C(t)$  at time t simultaneously, where some or any elements may be by dynamical continual elements, we shall call dynamical continual  $S^2et$  - element with target weights. Let's denote  $\frac{C(t)}{D(t)\{g_2(t)\}} S^2 t(t) \frac{A(t)\{g_1(t)\}}{B(t)}$ .

Definition C.4.58. The process  $\frac{C(t)}{D(t)\{g_2(t)\}} S^2 t(t) \xrightarrow{A(t)\{g_1(t)\}}_{B(t)}$  is called an ordered dynamical continual  $S^2\text{et}$  – element with target weights  $\{g_1(t)\}$  or  $\{g_2(t)\}$  at time  $t$ , or both simultaneously, if some or any elements from  $A, B, C, D$  may be by ordered dynamical continual elements with target weights.

It is allowed to add dynamical continual  $S^2\text{et}$  –elements with target weights  $\{g_1(t)\}, \{g_2(t)\}$ :

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)\{g_1(t)\}}_{B_1(t)} + \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_2(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{(A_1(t) \cup A_2(t))g_1(t)}_{B_1(t)} \quad (*_{\text{C.4.33}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)g_1(t)} + \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_2(t)g_1(t)} = \\ & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{(B_1(t) \cup B_2(t))g_1(t)}_{(B_1(t) \cup B_2(t))g_1(t)} \quad (*_{\text{C.4.34}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} + \frac{C_2(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t) \cup C_2(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} \quad (*_{\text{C.4.35}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} + \frac{C_1(t)}{D_2(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t)}{(D_1(t) \cup D_2(t))g_2(t)} S^2 t \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} \quad (*_{\text{C.4.36}}), \end{aligned}$$

the multiplication of dynamical continual  $S^2\text{et}$  –elements with target weights  $\{g_1(t)\}, \{g_2(t)\}$ :

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} * \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_2(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{(A_1(t) \cap A_2(t))g_1(t)}_{B_1(t)} \quad (*_{\text{C.4.37}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} * \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_2(t)} = \\ & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{A_1(t)g_1(t)}_{B_1(t) \cap B_2(t)} \quad (*_{\text{C.4.38}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)}_{B_1(t)} * \frac{C_2(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t) \cap C_2(t)}{D_1(t)g_2(t)} S^2 t \xrightarrow{A_1(t)}_{B_1(t)} \quad (*_{\text{C.4.39}}), \end{aligned}$$

$$\begin{aligned} & \frac{C_1(t)}{D_1(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)}_{B_1(t)} * \frac{C_1(t)}{D_2(t)g_2(t)} S^2 t(t) \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} = \\ & \frac{C_1(t)}{(D_1(t) \cap D_2(t))g_2(t)} S^2 t \xrightarrow{A_1(t)g_1(t)}_{B_1(t)} \quad (*_{\text{C.4.40}}), \end{aligned}$$

where some or any elements may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both.

Dynamical continual  $S^2\text{et}$  – elements with target weights can be elements of a group both by multiplication (\*<sub>C.4.37</sub>),- (\*<sub>C.4.40</sub>) and by addition (\*<sub>C.4.33</sub>)- (\*<sub>C.4.36</sub>), and also form algebraic ring, field by these operations.

Consider the dynamical continual containment of oneself with the target weights.

Definition C.4.59. The dynamical continual  $S^2\text{et}$  -capacity  $A(t)$  in itself and from itself with target weights  $\{g(t)\}$  of the null type is the process of containment itself as an element with target weights  $\{g(t)\}$  and expelling oneself out of oneself with target weights  $\{g(t)\}$  at time  $t$  simultaneously , where  $A(t)$  -  $S^2\text{et}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_0^{2et}(t)fA(t)\{g(t)\}$  .

Definition C.4.60. The dynamical continual  $S^2\text{et}$  -capacity  $A(t)$  in itself with target weights  $\{g(t)\}$  of the fourth type is the process that contains elements from which it can be generated with target weights  $\{g(t)\}$ , and it can be degenerated with target weights  $\{g(t)\}$  at time  $t$  simultaneously, where  $A(t)$  -  $S^2\text{et}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_4^{2et}(t)fA(t)\{g(t)\}$  .

Definition C.4.61. The ordered dynamical continual  $S^2\text{et}$  -capacity  $A(t)$  in itself of the fifth type with target weights  $\{g(t)\}$  is the process of a containment of itself in part with target weights  $\{g(t)\}$  and expelling oneself in part with target weights  $\{g(t)\}$  or contains elements from which it can be generated in part with target weights  $\{g(t)\}$ , and it can be degenerated in part with target weights  $\{g(t)\}$  at time  $t$  simultaneously, or both simultaneously, where  $A(t)$  -  $S^2\text{et}$  of some dynamical continual elements or some ordered dynamical continual elements, or both. Denote  $S_5^{2et}(t)fA(t)\{g(t)\}$  .

Definition C.4.62. The dynamical continual  $S^2\text{et}$  -capacity in itself  $A(t)$  with target weights  $\{g_1(t)\}$  and from itself  $B(t)$  with target weights  $\{g_2(t)\}$  of the first type is the process of containment  $A(t)$  itself as an element and expelling  $B(t)$  oneself with target weights  $\{g_2(t)\}$  out of oneself  $B(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$\begin{matrix} B(t) \\ B(t)\{g_2(t)\} \end{matrix} S^2t(t) \begin{matrix} A(t)\{g_1(t)\} \\ A(t) \end{matrix}$  . Denote  $S_1^{2et}(t)f_{B(t)\{g_2(t)\}}^{A(t)\{g_1(t)\}}$  .

Definition C.4.63. The dynamical continual  $S^2\text{et}$  <sup>1</sup>-capacity with target weights of the second type is the process of putting  $B(t)$  with target weights  $\{g_1(t)\}$  into  $A(t)$  and expelling  $B(t)$  oneself with target weights

$\{g_2(t)\}$  out of oneself  $B(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{B(t)}{B(t)\{g_2(t)\}} S^2 t(t) \frac{B(t)\{g_1(t)\}}{A(t)}. \text{ Denote } S_2^{2et}(t) f_{B(t)\{g_1(t)\}, \{g_2(t)\}}^{A(t)}.$$

Definition C.4.64. The dynamical continual  $S^2et$   $^1$ -capacity of the third type with target weights is the process of a containment  $B(t)$  itself as an element with target weights  $\{g_1(t)\}$  and the displacement of  $B(t)$  with target weights  $\{g_1(t)\}$  from  $A(t)$  at time  $t$  simultaneously, where some or any elements from  $A(t)$ ,  $B(t)$  may be by ordered dynamical continual elements with target weights or dynamical continual elements with target weights, or both:

$$\frac{A(t)}{B(t)\{g_1(t)\}} S^2 t(t) \frac{B(t)\{g_1(t)\}}{B(t)}. \text{ Denote } S_3^{2et}(t) f_{B(t)\{g_1(t)\}}^{A(t)}.$$

Also we consider some elements:  $S_0^{2et}(t) f \uparrow I \downarrow_{-1}^1 \{g(t)\} \xrightarrow{\quad}$ ,  $S_1^{2et}(t) f \uparrow I \downarrow_{-1}^1 \{g(t)\} \xrightarrow{\quad}$ ,  $S_2^{2et}(t) f \frac{A(t) \downarrow I \uparrow_{-1}^1 \{g(t)\}}{B(t)} \xrightarrow{\quad}$ ,  $S_3^{2et}(t) f \frac{A(t) \uparrow I \downarrow_{-\infty}^{\infty}}{B(t)\{g(t)\}} \xrightarrow{\quad}$ ,  $S_4^{2et}(t) f \uparrow I \downarrow_{d(t)\{g_2(t)\}}^{a(t)\{g_1(t)\}} \xrightarrow{\quad}$ , etc.

Consider a fifth type of dynamical partial containment of oneself with target weights  $g(t)$ . For example, based on  $S_5^{2et}(t) f A(t) \{g(t)\}$ , where  $A = (A_1(t), A_2(t), \dots, A_n(t))$ , i.e.  $n$  - continual elements with target weights  $\{g(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of oneself with target weights  $S_5^{2et}(t) f A(t) \{g(t)\}$  with  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{g(t)\}$  from  $A(t)$  are located in the structure  $S_5^{2et}(t) f A(t) \{g(t)\}$ . Dynamical containments of oneself with target weights of the fifth type can be formed for any other structure, not necessarily  $S^2et$ , only through the obligatory reduction in the number of continual elements with target weights in the structure. In particular, using the form (1.2). Structures more complex than  $S_5^{2et}(t) f A(t) \{g(t)\}$  can be introduced.

Supplement

We consider  $S^2et$ -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 1 corresponds to the logical value "yes". Then for joint statements  $S^2 t_B^A$ ,  $^C_D S^2 t$ ,  $A$ ,  $B$ ,  $C$ ,  $D$ ,  $^C_D S^2 t_B^A$ :  $f(^C_D S^2 t_B^A) = f(^C_D S^2 t) + f(S^2 t_B^A) - f(^C_D S^2 t \cap S^2 t_B^A) = (f^{os^2}(C \cap D) + f^{s^2}(A \cap B) + f^{-s^2}(\{^C_{C-C \cap D} S^2 t\}) - f(S^2 t_B^A \cap ^C_D S^2 t), f(A) + f(B) - f(A \cap B) + f(D) - f(C) f^{s^2}(x) -$  the value of self-truth for self- statement  $x$ ,  $f^{os^2}(x) -$  the

value of oself-truth for oself- 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 the statement A,  $f(A/B)$ - conditional truth  
of the statement A at the statement B, for dependent statements:  
 $f({}^C_D S^2 t \cap S^2 t^A_B) = f({}^C_D S^2 t) * f(S^2 t^A_B / {}^C_D S^2 t) = f(S^2 t^A_B) * f({}^C_D S^2 t / S^2 t^A_B)$ .  
Adding the truth values of inconsistent propositions:  $f(A+B) = F(A)+f(B)$ .  
The formula of complete truth:  $f(A) = \sum_{k=1}^n f(B_k) * f(A/B_k)$ ,  $B_1, B_2, \dots$ ,  
 $B_n$ -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.

Definition C.4.65.  $S^2$ et-probability of events  ${}^C_D S^2 t^A_B$  is  $p({}^C_D S^2 t^A_B)$ , denote  
 ${}^C_D S^2 p^A_B$ .

In particular,  ${}^C_D S^2 p^A_B$  for joint events  $S^2 t^A_B, {}^C_D S^2 t, A, B, C, D, {}^C_D S^2 t^A_B$ :

$$p({}^C_D S^2 t^A_B) = p({}^C_D S^2 t) + p(S^2 t^A_B) - p(S^2 t^A_B \cap {}^C_D S^2 t) = \\
((p^{os^2}({}^C_D S^2 t \cap S^2 t^A_B) + p^{s^2}(A \cap B) + p^{-s^2}(\{ \}^{C-D} S^2 t)) - p(S^2 t^A_B \cap {}^C_D S^2 t), \\
p(A) + p(B) - p(A \cap B) + p(D) - p(C))$$

for dependent events:  $p({}^C_D S^2 t \cap S^2 t^A_B) = p({}^C_D S^2 t) * p(S^2 t^A_B / {}^C_D S^2 t) =$   
 $p(S^2 t^A_B) * p({}^C_D S^2 t / S^2 t^A_B)$ .  $p^{s^2}(x)$ - the value of self-P for self- event  $x$ ,  
 $p^{os^2}(x)$ - the value of oself-P for oself- event  $x$ .

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#### Declarations:

#### **Availability of data and material**

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### **Competing interest**

There are no competing interests. All sections of the monograph are executed jointly.

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### **Authors' contributions**

The contribution of the authors is the same, we will not separate.

**Part III. Variable hierarchical dynamical structures (models) for dynamic, singular, hierarchical sets and the problem of cold thermonuclear fusion. Program operators SIT, tS**

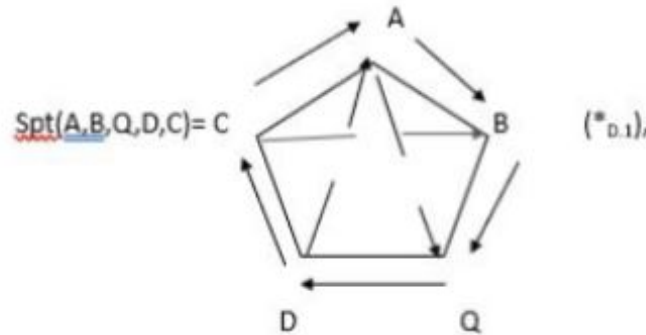
**D Variable hierarchical dynamic structures (models) for dynamic, singular,**

hierarchical sets and the problem of cold thermonuclear fusion

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]-[7] use the following methodology for permanent structures:

1. Cancellation of the axiom of regularity
2. 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,



**Fig. 4**

the structure  $(*_{D.1})$  (Fig.4), where A goes into B, B goes into Q, Q goes into D, D goes into C, C goes into A, D goes out from A, A goes out from Q, C

goes out from B, is used by the ancient Chinese concept of "wu-xing," for example, for energy meridians on the skin person, in this case (Fig.5): (\*<sub>D.2</sub>), (\*<sub>D.3</sub>), (\*<sub>D.4</sub>) will mean pathological changes.

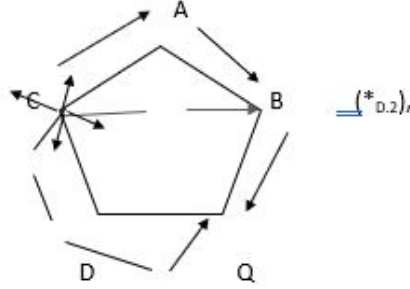


Fig. 5

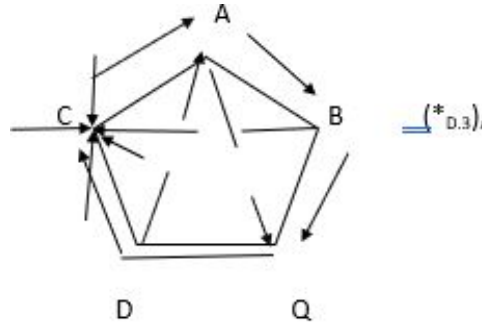


Fig. 6

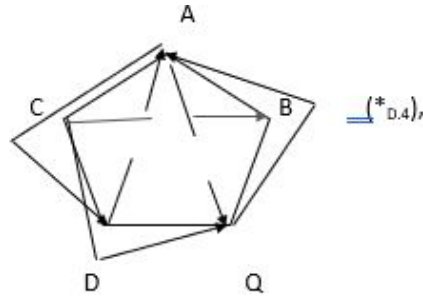


Fig. 7

$${}^C_D St(t)_B^A = \begin{cases} {}^C_D St, & q_2 \geq t \geq q_1 \\ {}^B_D S^1 t_B^A, & q_3 \geq t > q_2 \\ {}^D_D St_B^A, & q_4 \geq t > q_3 \\ St_B^A, & q_5 \geq t > q_4 \\ \{ \}_D St, & t > q_5 \\ \dots & \end{cases} \quad (*_{D.5}),$$

In particular,  ${}_D^B St_B^A$  can be interpreted as a game: player 1 fits A into B, and the other pushes D out of B at the same time.

In what follows, we will denote variable structure (model) through VS, self-variable structures (models) through SVS, and oself-variable structures (models) through OSVS. Singular structures (models) are not confused with structures (models) with singularities.  ${}_D St_B^A$  -2-hierarchical structure: 1-level - elements A, B, C, D; level 2 - connections between them. 2-

Examples: a) discrete variable structure

$$\begin{array}{ccc} a & b & g \\ c & VS & w \\ d & q & r \end{array}$$

with parameters between which some interactions are established,

c) continuous variable structure



**Fig. 8**

Where a continuous set represents the rim of the Fig.6.

We introduce the notation  $m_{VS_N}$ , where m – the number of elements, N - the number of connections between them in the discrete variable 2-hierarchical structure VS. We introduce the notation  $q_{VS_R}$ , where q – any, R - connections in q in the variable 2-hierarchical structure VS, in particular, q, R can be set both discrete and continuous and discrete-continuous. We consider the functional  $c(Q)$ , which gives a numerical value for the structurability of Q from the interval [0,1], where 0 corresponds to "no structure", and 1 corresponds to the value "structure". Then for joint A, B:  $c(A+B)=c(A)+c(B)-c(A*B)+cS(D)$ , D- self-structure from  $A*B$ ,  $cS(x)$ - the value of self- structure for self- structure x; for dependent structures:  $c(A*B)=ca(A)*c(B/A)=c(B)*c(A/B)$ , where  $c(B/A)$ - conditional structurability of the structure B at the structure A,  $c(A/B)$ - conditional structure of structure A at structure B. Adding inconsistent structures:  $c(A+B) = c(A) + c(B)$ . The formula of complete structure:  $c(A)=\sum_{k=1}^n c(B_k) * c(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -full group of hypotheses- containments:  $\sum_{k=1}^n c(B_k)=1$  ("structure"). Sit- structure for set of structures  $A=\{A_1, A_2, \dots, A_n\}$ :  $St_x^{A_1, A_2, \dots, A_n}[1]$ ,  $St_x^{c(A_1), c(A_2), \dots, c(A_n)}$  - Sit- structurability for these structures. It is possible to consider the self-structure  $S_3A [1]$  with m

structures and 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  $St^A$ . The same for self-structurability  $S_3\{c(A_1), c(A_2), \dots, c(A_n) : St_x^{c(A_1), c(A_2), \dots, c(A_n)}\}$ .

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  $(N+1)$ - level, where A, B, C, ... can be any in particular, by actions, sets, and others.

$${}_D St_B^A : \left\langle \begin{array}{c|c} A \rightarrow B & D \leftarrow C \\ \hline A, B & C, D \end{array} \right\rangle \rightarrow \begin{pmatrix} self(A \rightarrow B) \\ A, B \end{pmatrix}$$

$${}_D St_B^A : \left\langle \begin{array}{c|c} A \rightarrow B & D \leftarrow C \\ \hline A, B & C, D \end{array} \right\rangle \rightarrow \begin{pmatrix} oself(D \leftarrow C) \\ C, D \end{pmatrix}$$

It can be considered a discrete hierarchical structure, a continuous hierarchical structure, and discrete-continuous hierarchical structure,  $St_x^{N-hierarchical \ structure}$

The example

$$St_x^{N-level \ of \ hierarchical \ structure}$$

$$\dots$$

$$St_x^{i-level \ of \ hierarchical \ structure}$$

$$\dots$$

$$St_x^{1-level \ of \ hierarchical \ structure}$$

Let  $St_x^{i-level \ of \ hierarchical \ structure}$ , then  $QHS = HSt_x$  -  
- N-hierarchical structure compression into point x.

$$\text{Let } f(N, QHS) = QHS \left. \begin{array}{l} QHS \\ QHS \dots QHS \end{array} \right\} \text{-N levels}$$

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

Compression Hierarchy Examples:

$$1) St_{St_{()}+B}^{St_{()}} = \begin{pmatrix} St_{()}^{St_{()}} \\ St_{()}^{St_{()}} \\ St_{()}^{St_{()}} \\ St_B^{St_{()}} \end{pmatrix}$$

$$2) \begin{matrix} +_{()}St_{()}^{()} & A+_{()}St_{()}^{()} \\ D+_{()}St_{()}^{()} & B+_{()}St_{()}^{()} \end{matrix} S_1 t = \begin{pmatrix} {}_{()}St_{()}^{()} & {}_{()}St_{()}^{()} \\ {}_{()}St_{()}^{()} & S_1 t \\ {}_{()}St_{()}^{()} & {}_{()}St_{()}^{()} \\ D & S_1 t_B^A \end{pmatrix}$$

Let's consider two versions: 1) containment is interpreted through the concept of containment, and 2) capacity is interpreted through the concept of containment as a rest point of containment. Self-containment is interpreted

as a rest point of self-containment. Let A self-compress into B, D self-displace from C in  ${}_D VSt_B^A$ .

We consider the functional  $ca(Q)$ , which gives a numerical value for the accommodation of Q from the interval  $[0,1]$ , where 0 corresponds to "containment," and one corresponds to the value "holding capacity." Then for joint A, B:  $ca(A+B)=ca(A)+ca(B)-ca(A*B)+caS(D)$ , D- self-containment for  $A*B$ ,  $caS(x)$ - the value of self- capacity for self-containment of x; for dependent containments:  $ca(A*B)=ca(A)*ca(B/A)=ca(B)*ca(A/B)$ , where  $ca(B/A)$ - conditional accommodation of the containment B at the containment A,  $ca(A/B)$ - conditional capacity of containment A at containment B. Adding the capacity values of inconsistent containments:  $ca(A+B)=ca(A)+ca(B)$ . The formula of complete holding capacity:  $ca(A)=\sum_{k=1}^n ca(B_k) * ca(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -full group of hypotheses- containments:  $\sum_{k=1}^n ca(B_k)=1$  ("holding capacity"). Sit-containment for the set of containments  $A=\{A_1, A_2, \dots, A_n\}$ :  $St_x^{\{A_1, A_2, \dots, A_n\}}$ ,  $St_x^{\{ca(A_1), ca(A_2), \dots, ca(A_n)\}}$ - Sit- accommodation for these containments. It is possible to consider the self-containment  $S_3A$  [1] with m containments and from A, at  $m < n$ , which is formed by the form (1) [1], that is, only m containments from A are located in the containment  $St^A$ . The same for self-accommodation  $S_3\{ca(A_1), ca(A_2), \dots, ca(A_n) : St_x^{\{ca(A_1), ca(A_2), \dots, ca(A_n)\}}.$

Consider a variable hierarchy (we will denote it by VH).

The example of a variable hierarchy

$${}_D St(t)_{1B}^A = \left\{ \begin{array}{l} \left\{ \left( \frac{Q + \{\}}{D - D \cap C} St \right) \right\}, \quad q_2 \geq t \geq q_1 \\ \left( \frac{S_0^{1e} f B^*}{Q - B S_1^{1e} t_B^{A-B}}, q_3 \geq t > q_2 \right) \\ \left( \frac{S_{01}^{et} f B}{C - B S_1 t_B^{A-B}}, q_4 \geq t > q_3 \right), \quad (*_{D.6}), \\ \left( \frac{R}{D - C - B S_1 t_B^{A-B}}, q_5 \geq t > q_4 \right) \\ \left( \frac{\{\}}{D} St, \quad t > q_5 \right) \\ \dots \end{array} \right.$$

where Q is osel-set for  $(D \cap C - Co(D \cap C))$  [4], R is self-set for  $A \cap B$  [1], [2],  $S_{01}^{et} f B$ ,  $\frac{C-B}{C-B} S_1 t_B^{A-B}$ ,  $\frac{C-B}{D-C-B} S_1 t_B^{A-B}$  are considered in [5], [9]. Variable compression (designation VS):  $St_{x(t)}^A$ , where  $x(t)$ - any dynamical object at time t.

We consider the functional  $h(Q)$ , which gives a numerical value for the hierarchization of Q from the interval  $[0,1]$ , where 0 corresponds to "no hierarchy," and 1 corresponds to the value "hierarchy." Then for joint hierarchies A, B:  $h(A+B)=h(A)+h(B)-h(A*B)+hS(D)$ , D- self- hierarchy from  $A*B$ ,  $hS(x)$ -

the value of self- hierarchy for self- hierarchy x; for dependent hierarchies:  $h(A*B)=h(A)*h(B/A)=h(B)*h(A/B)$ , where  $h(B/A)$ - conditional hierarchization of the hierarchy B at the hierarchy A,  $h(A/B)$ - conditional hierarchy of the hierarchy A at the structure B. Adding the hierarchy values of inconsistent hierarchies:  $h(A+B)=h(A)+h(B)$ . The formula of complete hierarchy:  $h(A)=\sum_{k=1}^n h(B_k) * h(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -full group of hypotheses- hierarchies:  $\sum_{k=1}^n h(B_k)=1$  ("hierarchy").

Sit- structure for the set of hierarchies  $A=\{A_1, A_2, \dots, A_n\}$ :  $St_x^{\{A_1, A_2, \dots, A_n\}}[1]$ ,  $St_x^{\{h(A_1), h(A_2), \dots, h(A_n)\}}$ - Sit- hierarchization for these hierarchies. It is possible to consider the self- hierarchy  $S_3A$  [1] with m hierarchies from A, at  $m < n$ , which is formed by the form (1) [1], that is, only m hierarchies from A are located in the hierarchy  $St^A$ . The same for self- hierarchization  $S_3\{h(A_1), h(A_2), \dots, h(A_n) : St_x^{\{h(A_1), h(A_2), \dots, h(A_n)\}}\}$ . Can be considered  $St_x^{\{ca(x), c(x), h(x)\}}$ .

Very interesting next hierarchy type:  $\overset{hierarchy\ A}{hierarchy\ A} St \overset{hierarchy\ A}{hierarchy\ A}$ . You can enter special operator  $Ct$  to work with structures:  $\overset{A}{B} Ct \overset{Q}{R}$ ,

structures R by the structure from Q, unstructured A by the structure B.

Very interesting next structure type:  $\overset{A}{A} Ct \overset{A}{A}$ ,

You can enter special operator  $Ht$  to work with hierarchies:  $\overset{A}{B} Ht \overset{Q}{R}$

hierarchizes R by the hierarchy from Q,  $\overset{str\ A}{B} Ct$  unhierarchizes A by the hierarchy B.

Cold thermonuclear fusion is fundamentally impossible to implement at our usual object level; the energy conservation law does not allow this. You can try to do cold fusion only at a self-level; you can try to solve this problem by using a Sit-neural network of a hierarchical level with Sit -programming, the operating modes of which allow you to perform actions at different levels.

### E Program operators Sit, tS, S<sup>1</sup>e, Set<sub>1</sub>[8]

Here it is supposed to use a symbiosis of parallel actions and conventional calculations through sequential actions. This must be done through Sit-Networks [1] in one of the central departments of which a conventional computer system is located. The parallel processor is itself eprogram [1] with direct parallel computing not through serial computing.

Using conventional coding by a computer system, through a Target-block with a Sit -program operator -  $St_{activation}^{\{A\}f}$ , it will be possible to obtain the execution of a parallel action A with the desired target weight f. For each code for a neural network from a conventional computer we "bind" (match) to the corresponding value of current (or voltage). For Sit-coding and Sit-translation may use alternating currents of ultrahigh-frequency or high-intensity ultra-

short optical pulses laser of Nobel laureates 2018-year Gerard Mourou, Donna Strickland, or a combination of them. For the desired action, for example, using the direct parallel program of operator  $St_{activation}^{UHF AC Q}$ , we simultaneously enter the desired set of codes Q using a microwave current or high-intensity ultra-short optical pulses laser in Target-block.

In a conventional computer, the process of sequential calculation takes a certain time interval, in a directly parallel calculation by a neural network, the calculation is instantaneous, but it occupies a certain region of the space of calculation objects.

Consider the types of direct parallel program operators:

- 1) Sit-program operators
- 2) tS-program operators
- 3) S<sup>1</sup>e - program operators
- 4) Set<sub>1</sub>- program operators

Here are some of the Sit-program operators.

1. Simultaneous assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $\{g\} = (g_1, g_2, \dots, g_n)$ . Implemented through  $St_x^{\{g\}:=\{p\}}$ , or  $St_{\{p\}}^{\{g\}}$ .
2. Simultaneous check the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It is implemented through  $St_x^{IF\{\{B\}\{f\}\} \text{ then } Q}$  where Q can be any.
3. Similarly for loop operators and others.

Sit-algorithm Examples:

- 1) Simultaneous addition of a set of elements  $\{g\} = (g_1, g_2, \dots, g_n)$  (See point 2 in 1.5 **Math self**)
- 2) pattern recognition:  $St_B^{if St_B^{image \ archive} St_B^q \text{ then Name of } q}$

An example of Sit-program is  $St_x^{\{St_x^{\{g(x)\}:=\{p\}}, St_x^{IF\{\{B\}\{f\}\} \text{ then } Q}, St_Q^Q\}}$ .

Consider a third type of capacity in itself [1]. For example, based on  $St_x^{\{g\}}$ , where  $\{g\} = (g_1, g_2, \dots, g_n)$ , i.e. n - elements at one point, we can consider the capacity  $S_3f$  in itself with m elements from  $\{g\}$ ,  $m < n$ , which is formed according to the form (1.1), that is, the structure  $St_x^{\{g\}}$  contains only m elements. Capacities in themselves of the third type can be formed for any other structure, not necessarily Sit, only by necessarily reducing the number of elements in the structure, in particular, using form (1.2). Structures more complex than  $S_3f$  can be introduced. For example, through a form that generalizes (1.1):

$$w_{ABC} = (A, (B, C)) \text{ } (*_{E.1})$$

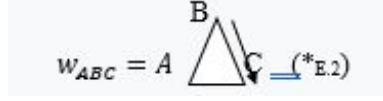


Fig. 9

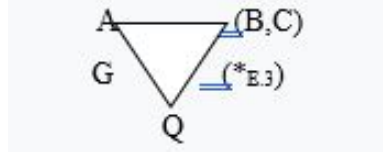


Fig. 10

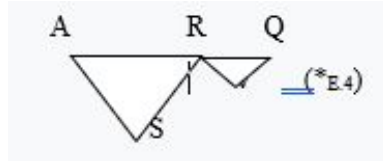


Fig. 11

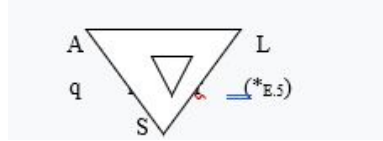


Fig. 12

where A is compressed (fits) in C in the compression structure B in C (i.e. in the structure  $St_C^B$ ); or through the more general forms that generalize (1.2):

$$w_{A_1 A_2 \dots A_n C} = (A_1, (A_2, (\dots (A_n, C) \dots))) \text{ } (*_{E.6})$$

and corresponding generalizations of  $(*_{E.6})$  on  $(*_{E.2})$ -  $(*_{E.5})$  etc.

$(*_{E.1})$ ,  $(*_{E.6})$  are represented through the usual 2-bond. Science is the discipline of 2-connections, since everything in science is carried out through 2-connected logic, quantum logic is also a projection of 3-connected logic onto 2-connected logic.  $(*_{E.2})$ -  $(*_{E.5})$  schematically interpret the formation of capacity in itself through a pseudo 3-connected form with a 2-connected form. The ideology of Sit and  $S_3f$  can be used for programming.

$S_3f$ - software operators [1] will differ only just because aggregates  $\{g\}$ ,  $\{p\}$ ,  $\{B\}$ ,  $\{f\}$  will be formed from corresponding Sit-program operators in form (1.1) for more complex operators in forms (1.2) [1],  $(*_7)$ -  $(*_{12})$ .

For example,  $St_{g\{R\}}^{\{R\}}$  is the capacity in itself of the second type if  $g\{R\}$  is a program capable of generating  $\{R\}$ .

An example of a self-program of the first type is

$$St_{\{St^{\{(x)\}:\{p\}}, St^{IF\{\{B\}\{f\}\} \text{ then } Q, St_Q^Q}\}_{St^{\{(x)\}:\{p\}}, St^{IF\{\{B\}\{f\}\} \text{ then } Q, St_Q^Q}}.$$

The example of Sit-program for Smnst [1]:

$St_B^q$  - assigning q to B.

$St_f^{tw}$  - assigning target weight  $tw$  to  $f$ .

$St_{activation}^{\{q\}f}$  - Smnst activation for  $\{q\}f$ .

Sit-coding: 1) set A to set B, 2) set A to a point q, where the elements of the sets A, B can be continuous. For example,  $St_B^A$ .

There are Sit-coding, Sit-translation, Sit-realize of eprograms and of the programs from the archives without extraction of theirs

Self-coding: 1) set A to set A, i.e. A on itself 2) set A to a point q in form (1.1), where the elements of the sets A, B can be continuous. For example,  $St_A^A$ .

One of the central departments of the control system should be a computer system of the usual type of the desired level. In symbiosis with Sit-Networks [1], it will provide a holistic operation of the control system in three modes: conventional serial through a conventional type computer system, direct parallel through Sit-Networks and series-parallel. Codes from a conventional type computer system will be used via Sit -connectors in Sit - coding, for example:  $St_{activation}^{\{UHF^F AC Q\}}$ . UHF AC field activation is used.

Consider the dynamic Sit and  $S_3f(t)$  programming. The ideology of dynamic Sit and  $S_3f(t)$  can be used for programming:

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  $St(t)^{\{\{A\}:=\{p\}\}}$ .
2. The process of simultaneously checking the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t) \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $St(t)^{IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t)}$  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  $Sit(t)$  for the above mentioned programming operators through form (1.1) or form from forms (1.2) - (1.4),  $(^*_{E.1})$ ,  $(^*_{E.2})$  for more complex operators.

Consider tS-program operators. The ideology of tS and  $t_{S_4f}$  [2] can be used for programming. Here are some of the tS-program operators.

1. Simultaneous expelling assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  from the variables  $A = (A_1, A_2, \dots, A_n)$ . It's implemented through  $\frac{\{A\}}{\{=: \{p\}\}} St$ .
2. Simultaneous expelling checks the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It's implemented through  $\frac{x}{F\{\{B\}\{f\}\}} \text{ then } Q St$  where Q can be any.
3. Similarly for loop operators and others.

$t_{S_4f}$ - software operators will differ only just because aggregates  $A, \{p\}, \{B\}, \{f\}$  will be formed from corresponding tS program operators in form (1.1) for more complex operators in forms (1.2), (\*<sub>E.1</sub>), (\*<sub>E.2</sub>).

Consider hierarchical tS-program operator

$$\frac{B}{A} St = \left\{ \left( \frac{D + \frac{\{ \}}{A - A \cap B} St}{(B - A \cap B) - (A - A \cap B)} \right) \right\}, \text{ where D is oself-set for } (A \cap B).$$

Consider the dynamic tS and  $t(q)_{S_4f}$  programming at time q.

The ideology of tS and  $t_{S_4f}$  can be used for dynamic programming [2]. Here are some of the tS- dynamic programming operators.

1. The process of simultaneous expelling assignment of the expressions  $\{p(t)\} = (p_1(t), p_2(t), \dots, p_n(t))$  to the variables  $A(t) = (A_1(t), A_2(t), \dots, A_n(t))$  is implemented through  $\frac{\{A(t)\}}{\{=: \{p(t)\}\}} St(t)$ .
2. The process of simultaneous expelling check the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t), \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $\frac{x(t)}{IF\{\{B(t)\}\{f(t)\}\}} \text{ then } Q(t) St(t)$ , where Q(t) can be any.
3. Similarly for loop operators and others.

$t_{S_4f}$ - software operators will differ only just because aggregates  $\{A(t)\}, \{p(t)\}, \{B(t)\}, \{f(t)\}$  will be formed from corresponding processes tS(t) for above mentioned programming operators through form (1) or form (2) for more complex operators.

Consider hierarchical dynamic tS-program operator:

$$\frac{B(q)}{A(q)} St(q) = \left\{ \left( \frac{t(q)_{S_1 f(A(q) \cap B(q))} + \frac{\{ \}}{A(q) - A(q) \cap B(q)} St(q)}{(B(q) - A(q) \cap B(q)) - (A(q) - A(q) \cap B(q))} \right) \right\}$$

Consider  $S^1e$ -program operators (form  ${}_D^B S^1 t_B^A$ ). For example,  

$$\frac{\{g(t)\}}{\{p(t)\}} S^1 t_{\{g(t)\}}^{IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t)}$$
.

Consider hierarchical dynamic  $S^1e$ -program operator: (form  ${}_{D-A}^B S^1 t_B^A$ ).

Consider  $Set_1$ -program operators (form  ${}_D^C S_1 t_B^A$ ).

$$St_{t_0} \left\{ \frac{q({}_a^a S_1 t_a^a)}{W_q} St_{q({}_a^a S_1 t_a^a)}^{Eq}, St_{d_r} \left\{ El^{d_r}, q({}_a^a S_1 t_a^a) \right\} \right\}$$
—program structure example,  
 where the assemblage point  $d_r$  is the cursor [2], it is quite complex self—  
 program.

Remark. The energy of a living organism:

$$f(r, a(E_q)) = St_{t_0} \left\{ \frac{q({}_a^a S_1 t_a^a)}{W_q} St_{q({}_a^a S_1 t_a^a)}^{Eq}, St_{d_r} \left\{ El^{d_r}, q({}_a^a S_1 t_a^a) \right\} \right\}$$

${}_a S_1 t_a^a$ -internal energy of a living organism,  $q$ - a gap in the energy cocoon of  
 a living organism,  $r$ -the position of the assemblage point  $d_r$  on the energy  
 cocoon of a living organism,  $W_q$ - energy prominences from the gap in the  
 cocoon of a living organism,  $E_q$ -external energy entering the gap in the cocoon  
 of a living organism,  $El^{d_r}$  - a bundle of fibers of external energy self-capacities,  
 collected at the point of assembly of the cocoon of a living organism.

${}_a S_1 t_a^a$ -- sample  $\begin{pmatrix} self \\ oself \end{pmatrix}$ -program structure example.

$$St_{t_0} \left\{ \frac{q({}_a^a S_1 t_a^a)}{W_q} St_{q({}_a^a S_1 t_a^a)}^{Eq}, St_{d_r} \left\{ El^{d_r}, q({}_a^a S_1 t_a^a) \right\} \right\}$$
 can be interpreted as a program  
 operator.

${}_a S_1 t_a^a$  can be interpreted as a  $\begin{pmatrix} self \\ oself \end{pmatrix}$ -program operator.

Consider structure examples hierarchical  $Set_1$ -program operator

1.  $\left( \begin{matrix} S_{01}^{et} f B \\ {}_{R-B} S_1 t_B^{A-B} \end{matrix} \right),$
2.  $\left( \begin{matrix} S_{21}^{et} f_A^B \\ {}_{Q-A} S_1 t_B^A \end{matrix} \right).$

An entire neural network as instantaneous simultaneous RAM in Sit-elements and self-elements.  $self^{self \dots self}, f1 \downarrow I \uparrow_{-1}^1 f2, \dots, f1 \downarrow I \uparrow_{-1}^1 f2, \dots, f1 \downarrow I \uparrow_{-1}^1 f2, \dots$ ,  $sin \infty^{sin \infty \dots sin \infty}$ . When activated in a neural network, the entire neural network becomes a working memory. Use of self-energy as activation or from outside.  $Q_0 = St_{St_{activation}^{S_{mn}St}}^{S_{mn}St} \rightarrow \text{self-RAM}$ ,  $Q_{00} = \frac{S_{mn}St}{S_{mn}St_{activation} St} Q_0$ ,  $Q_{01} = \frac{St_{activation}^{S_{mn}St}}{St_{activation}^{S_{mn}St}} Q_0$ .  $Q_0, Q_{00}, Q_{01}$ -coding, translation, realization in eprograms, use  $Q_0, Q_{00}, Q_{01}$ - $S_{mn}St$ , Assembler.

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#### Declarations:

#### **Availability of data and material**

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## Part IV. Fuzzy Sit – elements and their applications

### 1 Introduction

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

We consider expression

$${}^C_D fSt_B^A (*_4)$$

where A fits into B, D is forced out of C. If A, B, D, C are taken as fuzzy sets [1], [2], then we will call  $(*_4)$  a dynamic fuzzy set. The need  $(*_4)$  arose to describe processes in networks. Threshold element  $\text{Sit}_{\{qy\}}^b fSt(t)_b^{\{ax\}}$ , b- artificial neurons of type fuzzy Sit (designation - mnfSt),  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$  is the fuzzy set of values of the initial signals,  $a=(a_1, a_2, \dots, a_n)$  are the weights of Sit-synapses and  $\tilde{y}=(y_1|\mu_{\tilde{y}}(y_1), y_2|\mu_{\tilde{y}}(y_2), \dots, y_n|\mu_{\tilde{y}}(y_n))$  is the fuzzy set of values of the output signals with weights  $q=(q_1, q_2, \dots, q_n)$ . It can be considered a simpler version of the dynamic fuzzy set

$$fSt_B^A (**_4)$$

where fuzzy set A fits into fuzzy set B, or

$${}^B_A fSt (***_4)$$

where fuzzy set A is forced out of B. We consider: the measure:

- 1)  $\mu * {}^b_D fSt_b^A = \frac{\mu(A)}{\mu(D)}$ , where (A),(D) –usual measures of fuzzy sets A, D.
- 2) measure of fuzziness  $\mu_{\widetilde{{}^b_D fSt(t)_b^A}} (**_4) = \frac{\mu_{\tilde{A}}(A)}{\mu_{\tilde{D}}(D)}$ , where  $\mu_{\tilde{A}}(A)$ ,  $\mu_{\tilde{D}}(D)$  –measures of fuzziness of fuzzy sets A, D.  $\mu_{\tilde{x}}(\tilde{x})$  - measure of fuzziness of  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$ . Let's define it as  $\frac{\mu_{\tilde{x}}(x_1)+\mu_{\tilde{x}}(x_2)+\dots+\mu_{\tilde{x}}(x_n)}{n}$ .

Remark 1.1 One can consider some generalization for  $(*_4)$ :  ${}^{q_1(C)}_D fSt_{q(B)}^A$ , where A is contained into B through q, D is forced out of C through  $q_1$ , A, B, D, C are taken as fuzzy sets. Similarly, for  $(**_4)$ :  $fSt_{q(B)}^A$ , where A is contained into B through q, for  $(***_4)$ :  ${}^{q(B)}_A fSt$ , where D is displaced from C through q.

Let us introduce the concepts fCha, the fuzzy capacity measure, and fCca, the measure of its fuzzy content. fCca is the same as the number of fuzzy capacity content items. Consider the compression ratios of the fuzzy dynamic set:  $q_1=fSt_B^A$  answers I compression power of dynamic fuzzy set A,  $q_2=fSt_B^{q_1}$  –II compression power of dynamic fuzzy set A,  $\dots$ ,  $q_{n+1}=fSt_B^{q_n}$  –n+1 compression

power of dynamic fuzzy set  $A$ . In contrast to the classical one-attribute fuzzy set theory [2],[3], where only its contents are taken as a fuzzy set, we consider a two-attribute fuzzy set theory with a fuzzy set as a fuzzy capacity and separately with its contents. We introduce the designations:  $\text{Cof}Q$ —the contents of the fuzzy capacity  $Q$ .

## 2 Fuzzy Sit – elements

Definition 2.1. The fuzzy set of elements  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$  at one point  $q$  of space  $X$  we shall call fuzzy Sit – element, and such a point in space is called fuzzy capacity of the fuzzy Sit – element. We shall denote  $fSt_q^{\tilde{x}}$ .

Definition 2.2.  $fSt_q^{\tilde{x}}$ -dynamic fuzzy set  $\tilde{x}$  at  $q$ .

Definition 2.3. An ordered fuzzy set of elements at one point in space is called an fuzzy ordered Sit – element.

It's possible to  $fSt_q^{\tilde{x}}$  correspond to the fuzzy set of elements  $\tilde{x}$ , and to the fuzzy ordered Sit - element - a fuzzy vector, a fuzzy matrix, a fuzzy tensor, a fuzzy directed segment in the case when the totality of elements is understood as a fuzzy set of elements in a fuzzy segment.

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

Fuzzy capacity in itself.

Definition 2.5. The fuzzy capacity  $A$  in itself of the first type is the fuzzy capacity containing itself as an element. Denote  $fS_1fA$ .

Definition 2.6. The fuzzy capacity  $A$  in itself of the second type is the fuzzy capacity that contains elements from which it can be generated. Denote  $fS_2fA$ .

An example of the fuzzy capacity in itself of the first type is a fuzzy 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 2.7. Fuzzy partial capacity  $A$  in itself of the third type is the fuzzy capacity  $A$  in itself, which partially contains itself or contains elements from which it can be generated in part or both. Let us denote  $fS_3fA$ .

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

Connection of fuzzy Sit – elements with fuzzy capacities in themselves.

For example,  $fSt_{g\{R\}}^{\{R\}}$  is the fuzzy capacity in itself of the second type if  $g\{R\}$

is a fuzzy program capable of generating  $\{R\}$ .

Consider a third type of fuzzy capacity in itself. For example, based on  $fSt_q^{\tilde{x}}$ , where  $\tilde{x}=(x_1|\mu_x(x_1), x_2|\mu_x(x_2), \dots, x_n|\mu_x(x_n))$  i.e.  $n$  - elements at one point, we can consider the fuzzy capacity  $fS_3f$  in itself with  $m$  elements from  $\tilde{x}$ ,  $m < n$ , which is formed according to the form (1.1), that is, the structure  $fSt^{\{\}}$  contains only  $m$  elements. Form (1.1) can be generalized into the following forms:

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

or

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

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

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

$$\begin{pmatrix} (n_1, 1) \\ (\dots) \\ (n_m, 1) \end{pmatrix} \text{ or}$$

$$w_{m,m_1,n_1,m_2,n_2,m_3,n_3}^4 = (m, ((m_1, n_1), ((m_2, n_2), (m_3, n_3)))) \quad (1.4),$$

or

$$(Q, R) \quad (1.1.5),$$

where  $Q$  – any,  $R$  – any fuzzy 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  $R$ . Fuzzy capacities in themselves of the third type can be formed for any other structure, not necessarily fuzzy  $Sit$ , only by necessarily reducing the number of elements in the structure, in particular, using form (1.2).

Structures more complex than  $fS_3f$  can be introduced. For example, through the forms that generalizes (1.1): (1.3), (1.4).

The energy of self-(fuzzy containment) in itself closes on itself.

Remark 2.1. Fuzzy self, in particular, according to a fuzzy form of type (1.1):

$$(1|\mu_1, (2|\mu_2, 1|\mu_3)) \quad (2.1^*),$$

$i$  ( $i=1,2,3$ )– the fuzziness of the indicated positions. For example

1) forming from element with fuzziness in the form  $\{(2,1)\}$ :  $(1|, (2, 1))$

- 2) forming from element in the form  $\{(2,1)\}$  with fuzziness :  $(1, (2,1)| )$
- 3) formation of partial self in the form (1.1) with fuzziness :  $(1, (2,1)) |)$
- 4) etc

By analogy the same for the fuzzy forms of type (1.1.1) – (1.4).

Math fuzzy self.

Let's consider fuzzy Sit arithmetic first:

1. Simultaneous addition of a fuzzy set of elements  $\tilde{x}=(x_1|\mu_x(x_1), x_2|\mu_x(x_2), \dots, x_n|\mu_x(x_n))$  is carried out using  $fSt_q^{\{\tilde{x}^+\}} = (St_q^{\{x_1*\mu_x(x_1)+x_2*\mu_x(x_2)+\dots+x_n*\mu_x(x_n)\}})$ .

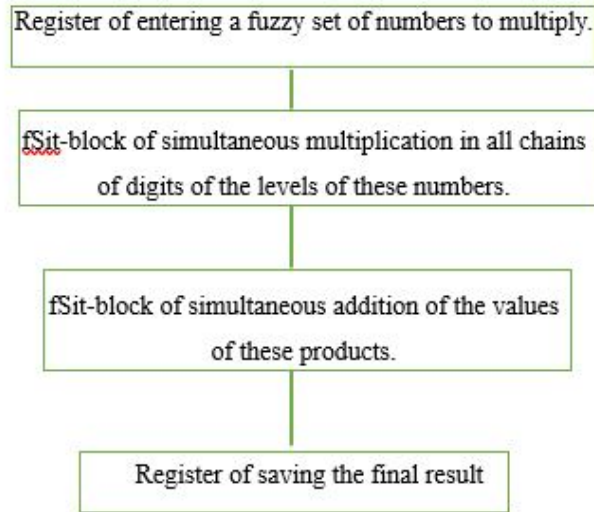


Figure 1: The straightforward functional scheme of the assumed arithmetic-logical device for fSit-multiplication.

2. Similarly, for simultaneous multiplication:  $fSt_q^{\{\tilde{x}^*\}}$ : the notation of the fuzzy set B with elements  $b_{i_1 i_2 \dots i_n} = \{(St_q^{\{x_{1i_1}*\mu_x(x_{1i_1})^*, x_{2i_2}*\mu_x(x_{2i_2})^*, \dots, x_{ni_n}*\mu_x(x_{ni_n})^*\}})\}_R$

for any  $\{i_1, i_2, \dots, i_n\}$  without repetitions,  $q = St_w^{\{K\}}$ , K-set of any  $\{k_1^*, k_2^*, \dots, k_n^*\}$  without repeating them,  $k_i$ -any digit,  $i=1,2,\dots,n$ ,  $R=St_w^{\{i_1+, i_2+, \dots, i_n\}}$ , R is the index of the lower discharge (we choose an index on the scale of discharges): Table 1.1.

Then  $fSt_q^{\{B+\}}$  gives the final result of simultaneous multiplication. Any system of calculus can be chosen, in particular binary.

Remark. 2.2. The algorithm for simultaneously adding 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 fuzzy 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 fuzzy set by the ones following it, etc.

3. Similarly for simultaneous execution of various operations:  $fSt_r^{\{\widetilde{xq}\}}$ , where  $\widetilde{q}=(q_1|\mu_{\widetilde{q}}(q_1), q_2|\mu_{\widetilde{q}}(q_2), \dots, q_n|\mu_{\widetilde{q}}(q_n))$   $q_i$  -an operation,  $i = 1, \dots, n$ .

4. Similarly, for the simultaneous execution of various operators:  $fSt_r^{\{\widetilde{Fx}\}}$ , where  $\widetilde{F}=(F_1|\mu_{\widetilde{F}}(F_1), F_2|\mu_{\widetilde{F}}(F_2), \dots, F_n|\mu_{\widetilde{F}}(F_n))$ ,  $F_i$  is an operator,  $i = 1, \dots, n$ .

5. The arithmetic itself for fuzzy capacities in themselves will be similar: addition -  $fS_1f\{\widetilde{x}+\}$ , (or  $fS_3f\{\widetilde{x}+\}$ , for the third type), multiplication  $fS_1f\{\widetilde{x}*\}$ , ,  $(fS_3f\{\widetilde{x}*\})$ .

6. Similarly with different operations:  $fS_1f\{\widetilde{xq}\}$ ,  $(fS_3f\{\widetilde{xq}\})$ , and with different operators:  $fS_1f\{\widetilde{Fx}\}$ ,  $(fS_3f\{\widetilde{Fx}\})$ .

7.  $fSt_B^A$  - the result of the containment operator. For fuzzy sets A, B we have

$fSt_B^A = \{A \cup B - A \cap B, D\}$ , where D is self-(fuzzy set) for  $A \cap B$ . There is the same for structures if it's considered as fuzzy sets.

8. Sit-(fuzzy derivative) of  $g(x_1, x_2, \dots, x_n)$  is  $fSt_{g(x_1, x_2, \dots, x_n)}^{\left\{\frac{\partial}{\partial x_1}, \frac{\partial}{\partial x_2}, \dots, \frac{\partial}{\partial x_{k_i}}\right\}}$ , where  $x=(x_{1_i}, x_{2_i}, \dots, x_{k_i})$ - any fuzzy set from  $\widetilde{x}=(x_1|\mu_{\widetilde{x}}(x_1), x_2|\mu_{\widetilde{x}}(x_2), \dots, x_n|\mu_{\widetilde{x}}(x_n))$  Let's designate  $fSit-\frac{\partial^k g(x)}{\partial x_1 \partial x_2 \dots \partial x_{k_i}}$ . Fuzzy Sit-(fuzzy integral) off  $\widetilde{x}=(x_1|\mu_{\widetilde{x}}(x_1), x_2|\mu_{\widetilde{x}}(x_2), \dots, x_n|\mu_{\widetilde{x}}(x_n))$  is  $fSt_{g(x_1, x_2, \dots, x_n)}^{\left\{\int ()dx_{1_i}, \int ()dx_{2_i}, \dots, \int ()dx_{k_i}\right\}}$ , where  $(x_{1_i}, x_{2_i}, \dots, x_{k_i})$ - any fuzzy set from  $\widetilde{x}=(x_1|\mu_{\widetilde{x}}(x_1), x_2|\mu_{\widetilde{x}}(x_2), \dots, x_n|\mu_{\widetilde{x}}(x_n))$ . Let's designate  $fSit-(\int \dots \int g(x)dx_{1_i}dx_{2_i} \dots dx_{k_i}$ -k-multiple fuzzy integral. Fuzzy Sit-lim off  $\widetilde{x}=(x_1|\mu_{\widetilde{x}}(x_1), x_2|\mu_{\widetilde{x}}(x_2), \dots, x_n|\mu_{\widetilde{x}}(x_n))$  is  $fSt_{f(x_1, x_2, \dots, x_n)}^{\left\{\lim_{x_{1_i} \rightarrow a_{1_i}}, \lim_{x_{2_i} \rightarrow a_{2_i}}, \dots, \lim_{x_{k_i} \rightarrow a_{k_i}}\right\}}$ .

Let's designate fSit-  $\left( \lim_{x \rightarrow a} f(x_1, x_2, \dots, x_n) \right)$   $\begin{matrix} x_{1_i} \rightarrow a_{1_i} \\ \dots \\ x_{k_i} \rightarrow a_{k_i} \end{matrix}$  . fSelf-lim  $\lim_{x \rightarrow a} = fSt_Q^Q$ , Q =

9. In the case of self-(fuzzy derivatives), inclusions of multiple fuzzy derivatives are obtained. The same is true for self-(fuzzy integrals): we get inclusions of multiple fuzzy integrals.
10. Let's denote self-(self- $\tilde{Q}$ ) through self<sup>2</sup>- $\tilde{Q}$  , fS(n, $\tilde{Q}$ )= self-(self-(... (self- $\tilde{Q}$ ))) = self<sup>n</sup>- $\tilde{Q}$  for n-multiple fuzzy self.

fOperator itself.

Definition 2.8. An operator that transforms  $fSt_q^{\{x\}}$  into any  $fS_i f_q^{\{b\}}$ ,  $i = 2, 3$ ; where  $\{b\} \subset \{x\}$ ; is the foperator itself.

Example. The operator contains the fuzzy set in itself.

fLim-itself.

1. fLim Sit, in particular, for partial limits.

For example, the double limit:  $f\lim \tilde{G}(x, y) | \mu_{\tilde{G}}$  corresponds to  $fSt_{(g_1, g_2)}^{\{\tilde{G}(x, y)\}}$ .

$$\begin{matrix} x \rightarrow g_1 \\ y \rightarrow g_2 \end{matrix}$$

Similarly, for flim Sit with n variables.

In the case of flim-itself, for example, for m variables, it suffices to use the forms (1.1) – (1.4), (2.1\*) of lim Sit 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 fSit element, and then translate it, for example, into  $fS_3 f$  – the fuzzy 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  $fSt_x^{\{\frac{\partial u}{\partial x}, \frac{\partial}{\partial x} (\frac{\partial u}{\partial x})\}}$ , which can be translated into the corresponding  $fS_1 f$ . The differential operator  $fSt_x^{\{\frac{\partial}{\partial x}, \frac{\partial}{\partial x} (\frac{\partial}{\partial x})\}}$  - is interesting too.

Remark 2.3. fSit-displacement of A from B will be denoted by  ${}_A^B fSt$ . Then the notation  ${}_D^C fSt_B^A$  is both the fSit-containment of A in B and fSit-displacement of D from C simultaneously. Let's denote  ${}_A^B fSt_B^A$  through  $fTS_B^A$ ,  ${}_A fSt_A^A$  – through  $fTS_A^A$ .

We can consider the concept of fSit - element as  $fSt_B^A$ , where A fits in the fuzzy capacity B. Then  $St_B^B$  it will mean fS<sub>1</sub>f B

About fSit and fS<sub>3</sub>f programming.

The ideology of fSit and fS<sub>3</sub>f can be used for programming. Here are some of the fSit programming operators.

1. Simultaneous assignment of the expressions  $\tilde{p}=(p_1|\mu_{\tilde{p}}(p_1), p_2|\mu_{\tilde{p}}(p_2), \dots, p_n|\mu_{\tilde{p}}(p_n))$  to the variables  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$ . This is implemented via  $fSt_q^{\{\{\tilde{x}\}\{p\}\}}$ .
2. Simultaneous checking the fuzzy set of conditions  $\tilde{g}=(g_1|\mu_{\tilde{g}}(g_1), g_2|\mu_{\tilde{g}}(g_2), \dots, g_n|\mu_{\tilde{g}}(g_n))$  for the fuzzy set of expressions  $\tilde{B}=(B_1|\mu_{\tilde{B}}(B_1), B_2|\mu_{\tilde{B}}(B_2), \dots, B_n|\mu_{\tilde{B}}(B_n))$  Implemented via  $St_q^{IF\{\{\tilde{B}\}\{\tilde{g}\}\}}$  then  $\tilde{Q}$  where  $\tilde{Q}$  can be anything.
3. Similarly for loop operators and others.

fS<sub>3</sub>f- fuzzy software operators will differ only in that the aggregates  $\{\tilde{x}\}, \{\tilde{p}\}, \{\tilde{B}\}, \{\tilde{g}\}$  will be formed from the corresponding fSit program operators in form (1.1) or forms (1.1.1) – (1.4), (2.1\*) and analogs of forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators.

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 fSit we introduce the concept of fSit – the change in physical fuzzy quantity  $\tilde{B}$ :  $fSt_q^{\{\Delta_1\tilde{B}, \dots, \Delta_n\tilde{B}\}}$ . Then the mean fSit - velocity will be  $\tilde{v}_{cpfst}(t, t) = fSt_q^{\{\frac{\Delta_1\tilde{B}}{\Delta t}, \dots, \frac{\Delta_n\tilde{B}}{\Delta t}\}}$  and fSit-velocity at time  $t: \tilde{v}_{fst} = \lim_{\Delta t \rightarrow 0} \tilde{v}_{fst}(t, \Delta t)$ . fSit – acceleration  $a_{fst} = \frac{d\tilde{v}_{fst}}{dt}$ .

In normal use, simply fSt<sub>x</sub> reduces to a sum at point x of space . When using fSt<sub>x</sub> with "target weights", we get, depending on the "target weights", one or another modification, namely, for example, the velocity  $\tilde{v}_{st}^g$  (with a "target weight" f in the case when two fuzzy velocities  $\tilde{v}_1, \tilde{v}_2$  are involved in the fuzzy set  $\{\tilde{v}_1g, \tilde{v}_2\}$  for  $\tilde{v}_{fst}^g = fSt_x^{\{\tilde{v}_1g, \tilde{v}_2\}}$ , g instantaneous replacement we get an instantaneous substitution  $\tilde{v}_1$  by  $\tilde{v}_2$  at point x of space at time  $t_0$ .

Consider, in particular, some examples: 1)  $fSt_{\{x_1, x_2\}}^e$  describes the presence of the same electron e at two different fuzzy points  $x_1, x_2$ . 2) The nuclei of atoms can be considered as Sit elements.

Similarly, the concepts of fSit - force and fSit - energy are introduced . For example,  $E_{fst}^g = fSt_x^{\{E_1g, E_2\}}$  it would mean the instantaneous replacement of fuzzy energy  $E_1$  by  $E_2$  at time  $t_0$ . Two aspects of fSit-energy should be distinguished: 1) carrying out the desired "target weight" and 2) fixing the result of it. Do not confuse energy - Sit (the node of energies) with fSit – 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.

Remark 2.4. fSit – 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.

A self-search of the fuzzy solution of the equations  $g_i(x)=0$ , where  $i=1,2,\dots,n$ ,  $x=(x_1,x_2,\dots,x_n)$ , will be realized in  $fSt_a^{\{g_1(x)=0?x,g_2(x)=0?x,\dots,g(x)=0?x\}}$  or  $fSt_{?x}^{\{g_1(x)=0,g_2(x)=0,\dots,g(x)=0\}}$ .  $x$  acquires more degree of liberty and in this is direct decision. Self-equation for  $x$  has its decision for  $x$  in direct kind.

The same for  $fSt_{?}^{\{tasks(x)\}}$ . Self-task for  $x$  has its decision for  $x$  in direct kind. Self-question has its answer for  $x$  in direct kind.  $St_{(o,x)}^{\{t\}}$ , 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  $St_o^{\{t\}}$ .  $St_{\alpha}^{\{God-father,God-son,Holy Spirit\}}$  is three-concept representation, where  $\alpha$  is a point in the connectedness space. fSt is also great for working with fuzzy structures, for example: 1)  $fSt_B^{strA}$ --the structure  $A$  that fits into  $B$ , where  $B$  can be any fuzzy capacity, another fuzzy structure etc. 2)  $fSt_R^{strQ}$ -- embedding fuzzy structure from  $Q$  into  $R$ . Similarly for displacement: 1)  $fSt_{strA}^B$ --displacement of fuzzy structure  $A$  from  $B$ , 2)  $fSt_{strQ}^B$ --displacement of the fuzzy structure  $Q$  from  $B$ . To work with fuzzy structures, you can introduce a special operator fCt:  $fCt_B^{strA}$  structures  $B$  with the fuzzy structure  $A$ ,  $fCt_R^{strQ}$  fuzzy structures  $R$  with the fuzzy structure from  $Q$ ,  $fCt_B^{strA}$  destructors the fuzzy structure  $A$  by  $B$ ,  $fCt_R^{strQ}$  destructors the fuzzy structure that fuzzy structures  $Q$  by  $B$ .

Definition 2.9. A fuzzy structure with a second degree of freedom will be called fuzzy 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,  $fCt_{strA}^{strA}$  is such structure.

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

Remark 2.5. The concept of elements of physics fuzzy Sit is introduced for energy space. The corresponding concept of elements of chemistry Sit is in-

roduced accordingly. Examples: 1)  $E_{fst}^q = fSt_x^{\{a_1q, a_2\}}$  – 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  $St_{reaction}^{\{chemical\ elements\ with\ "target\ weights"\}}$ . The periodic table itself can also be thought of as the Sit – element:  $St_{Mendeleev\ table}^{\{list\ of\ chemical\ elements\}}$ . The ideology of fSit elements allows us to go to the border of the world familiar to us, which allows us to act more effectively.

### 3 Dynamic fuzzy Sit – elements

We considered stationary fuzzy Sit – elements earlier. Here we consider dynamic fuzzy Sit – elements.

Definition 3.1. The process of fitting a fuzzy set of elements  $\widetilde{x(t)} = (x_1(t) | \mu_{x(t)}(x_1(t)), x_2(t) | \mu_{x(t)}(x_2(t)), \dots, x_n(t) | \mu_{x(t)}(x_n(t)))$  into one point  $q(t)$  of space  $X$  at time  $t$  will be called a dynamic fSit – element. We will denote  $fSt(t)_{q(t)}^{\widetilde{x(t)}}$ .

Definition 3.2. Fitting an ordered fuzzy set of elements into one point in space is called a dynamic ordered fSit–element.

It is allowed to sum dynamic fSit – elements:

$$fSt(t)_{q(t)}^{\{\widetilde{a(t)}\}} + fSt(t)_{q(t)}^{\{\widetilde{b(t)}\}} = fSt(t)_{q(t)}^{\{\widetilde{a(t)} \cup \{\widetilde{b(t)}\}}.$$

Dynamic containment of oneself.

Definition 3.3. Dynamic fuzzy capacity  $Q(t)$  is fitting into  $Q(t)$ .

Definition 3.4. Dynamic fSit-capacity  $fSt(t)_{Q(t)}^{R(t)}$  is the process of embedding  $R(t)$  into  $Q(t)$ .

Definition 3.5. The dynamic fuzzy capacity  $A(t)$  containing itself as an element of the first type is the process of containing  $A(t)$  in  $A(t)$ . Denote  $fS_1f(t)A(t)$ .

Definition 3.6. Dynamic fuzzy capacity  $C(t)$  in itself of the second type is the process of containing elements from which it can be generated. Let's denote  $fS_2f(t)C(t)$ .

Definition 3.7. Dynamic partial fuzzy 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 generated partially or both at the same time. Denote  $fS_3f(t)B(t)$ .

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

Connection of dynamic fSit – elements with dynamic fuzzy containment of oneself.

Consider third type of dynamic partial containment of oneself. For example, based on  $fSt(t)_{q(t)}^{\widetilde{x(t)}}$ , where  $\widetilde{x(t)} = (x_1(t)|\mu_{\widetilde{x(t)}}(x_1(t)), x_2(t)|\mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t)|\mu_{\widetilde{x(t)}}(x_n(t)))$ , i.e.  $n$  – elements at one point  $q(t)$ , we can consider the dynamic fuzzy capacity in itself  $fS_3f(t)$  with  $m$  elements from  $\widetilde{x(t)}$ ,  $m < n$ , which is process formed according to the form (1.1), that is, only  $m$  elements from  $\widetilde{x(t)}$  are in the structure  $fS_3t(t)_{q(t)}^{\widetilde{x(t)}}$ , or forms (1.1.1) – (1.4), (2.1\*) and analogs of forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators [3]. Dynamic containment of oneself of the third type can be formed for any other structure, not necessarily fSit, only through the obligatory reduction in the number of elements in the structure. It is possible to introduce structures more complex than  $fS_3f(t)$ .

Dynamic math fuzzy itself.

1. The process of simultaneous addition of a fuzzy set of elements  $\widetilde{x(t)} = (x_1(t)|\mu_{\widetilde{x(t)}}(x_1(t)), x_2(t)|\mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t)|\mu_{\widetilde{x(t)}}(x_n(t)))$  realized by  $fSt(t)_w^{\left\{ \widetilde{x(t)+} \right\}}$ .
2. By analogy, for simultaneous multiplication:  $fSt(t)_w^{\left\{ \widetilde{x(t)*} \right\}}$ .
3. Similarly for simultaneous execution of various operations:  $fSt(t)_w^{\left\{ \widetilde{x(t)} \widetilde{q(t)} \right\}}$ , where  $\widetilde{q(t)} = (q_1(t)|\mu_{\widetilde{q(t)}}(q_1(t)), q_2(t)|\mu_{\widetilde{q(t)}}(q_2(t)), \dots, q_n(t)|\mu_{\widetilde{q(t)}}(q_n(t)))$ ,  $q_i(t)$  – an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $fSt(t)_w^{\left\{ \widetilde{F(t)} \widetilde{x(t)} \right\}}$  where  $\widetilde{F(t)} = (F_1(t)|\mu_{\widetilde{F(t)}}(F_1(t)), F_2(t)|\mu_{\widetilde{F(t)}}(F_2(t)), \dots, F_n(t)|\mu_{\widetilde{F(t)}}(F_n(t)))$ ,  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. Dynamic arithmetic fuzzy itself for containments of oneself will be similar: dynamic addition -  $fS_1f(t) \left\{ \widetilde{x(t)+} \right\}$ , (or  $fS_3f(t) \left\{ \widetilde{x(t)+} \right\}$  for the third type), dynamic multiplication  $fS_1f(t) \left\{ \widetilde{x(t)*} \right\}$ , (or  $fS_3f(t) \left\{ \widetilde{x(t)*} \right\}$ ).
6. Similarly with different fuzzy operations:  $fS_1f(t) \left\{ \widetilde{x(t)} \widetilde{q(t)} \right\}$ , (or  $fS_3f(t) \left\{ \widetilde{x(t)} \widetilde{q(t)} \right\}$ ) and with different fuzzy operators:  $fS_1f(t) \left\{ \widetilde{F(t)} \widetilde{x(t)} \right\}$ , (or  $fS_3f(t) \left\{ \widetilde{F(t)} \widetilde{x(t)} \right\}$ ).
7.  $fSt(t)_{B(t)}^{A(t)}$  – gives the result

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

8. Similarly, for dynamic fSit-derivatives, dynamic fSit-integrals, dynamic fSit-lim, dynamic self- (fuzzy derivatives), dynamic self- (fuzzy integrals)
9. Denote dynamic self- (dynamic self-Q(t)) through dynamic self<sup>2</sup>-Q(t),  $fgS(t)(n, Q(t)) = \text{dynamic self- (dynamic self- (... (dynamic self-Q(t))))} = \text{dynamic self}^n\text{-Q(t)}$  for n-multiple dynamic self.

Remark 3.1. The dynamic fSit-displacement of  $A(t)$  from  $B(t)$  will be denote by  $_{A(t)}^{B(t)}fSt(t)$ . Then the notation  $_{D(t)}^{C(t)}fSt(t)_{B(t)}^{A(t)}$  is dynamic fSit-containment of  $A(t)$  in  $B(t)$  and dynamic fSit-displacement of  $D(t)$  from  $C(t)$  simultaneously. Denote  $_{A(t)}^{B(t)}fSt(t)_{B(t)}^{A(t)}$  by  $fTS(t)_{B(t)}^{A(t)}, _{A(t)}^{A(t)}fSt(t)_{A(t)}^{A(t)}$  — through  $fTS(t)_{A(t)}^{A(t)}$ .

We can consider the concept of dynamic fSit - element as  $fSt(t)_{B(t)}^{A(t)}$ , where  $A(t)$  fits in dynamic fuzzy capacity  $B(t)$ . Then  $fSt(t)_{B(t)}^{B(t)}$  will mean fS<sub>1</sub>f(t)  $B(t)$ . Denote  $fSt(t)_{B(t)}^{B(t)}$  by  $fL(t)(B(t))$ .  $_{A(t)}^{A(t)}fSt(t)$  denotes the dynamic expelling  $A(t)$  oneself out of oneself,  $_{A(t)}^{A(t)}fSt(t)_{A(t)}^{A(t)}$ —simultaneous dynamic containment  $A(t)$  of oneself in oneself and dynamic expelling  $A(t)$  oneself out of oneself.  $_{A(t)}^{A(t)}fSt$  will be called dynamic anti- (fuzzy capacity) from oneself. For example, “white hole” in physics is such simple anti-(fuzzy 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.

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 the spirit of  $A$ , the containment of the Earth into oneself is the spirit of Earth, the containment of the man into oneself is spirit of the man (soul), the containment of the universe into oneself is the spirit of the universe. We may consider the following axiom: any fuzzy capacity is the fuzzy capacity of oneself. This is for each energy fuzzy capacity.

About dynamic fSit and fS<sub>3</sub>f(t) programming.

The ideology of dynamic fSit and fS<sub>3</sub>f(t) can be used for programming:

1. The process of simultaneous assignment of the expressions  $\widetilde{p(t)} = (p_1(t)|\mu_{\widetilde{p(t)}}(p_1(t)), p_2(t)|\mu_{\widetilde{p(t)}}(p_2(t)), \dots, p_n(t)|\mu_{\widetilde{p(t)}}(p_n(t)))$  to the variables  $\widetilde{x(t)} = (x_1(t)|\mu_{\widetilde{x(t)}}(x_1(t)), x_2(t)|\mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t)|\mu_{\widetilde{x(t)}}(x_n(t)))$ . This is implemented via  $fSt(t)_{w(t)} \left\{ \left\{ \widetilde{x(t)} \right\} := \left\{ \widetilde{p(t)} \right\} \right\}$ .
2. The process of simultaneous checking the fuzzy set of conditions  $\widetilde{g(t)} = (g_1(t)|\mu_{\widetilde{g(t)}}(g_1(t)), g_2(t)|\mu_{\widetilde{g(t)}}(g_2(t)), \dots, g_n(t)|\mu_{\widetilde{g(t)}}(g_n(t)))$  for the fuzzy set of expressions  $\widetilde{B(t)} = (B_1(t)|\mu_{\widetilde{B(t)}}(B_1(t)), B_2(t)|\mu_{\widetilde{B(t)}}(B_2(t)), \dots, B_n(t)|\mu_{\widetilde{B(t)}}(B_n(t)))$ . Implemented via  $fSt(t)_{w(t)} \left\{ \left\{ \widetilde{B(t)} \right\} \left\{ \widetilde{g(t)} \right\} \right\} \stackrel{IF}{\text{then}} \widetilde{Q(t)}$  where  $\widetilde{Q(t)}$  can be anything.

3. Similarly for fuzzy loop operators and others.

$fS_3f(t)$  – fuzzy software operators will differ only just because aggregates  $\widetilde{x(t)}, \widetilde{p(t)}, \widetilde{B(t)}, \widetilde{g(t)}$  will be formed from corresponding processes by fSit-program operators in form (1.1) for more complex operators in forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators.

Remark 3.2. With the help of dynamic fSit-elements, the concepts of dynamic fSit – force, dynamic fSit – energy are introduced. For example,  $fE(t)_{st}^g = fSt(t)_{x(t)}^{\{fE_1(t)g, frE_2(t)\}}$  will mean the process of instantaneous replacement  $g$  of energy  $fE_1(t)$  by  $fE_2(t)$  at time  $t$ . Similarly, using  $fS_if(t)$ , the concepts of fS<sub>i</sub>f(t)-force, fS<sub>i</sub>f(t)-energy,  $i=1,2,3$ , and etc are introduced.

Remark 3.3. It is the containment of oneself in oneself that can “give birth” to the capacities in itself – that is what self-organization is.

Remark 3.4.  $fSt(t)_{St(t)_{B(t)}^{B(t)}}$  can increase self- level of  $B(t)$ .

Remark 3.5. For example, the operator itself [3],[4] is fS<sub>1</sub>f(t).

3.6. May be considered the following derivatives:  $\frac{dfSt(t)_{B(t)}^{A(t)}}{dt}$ ,  $\frac{d_{A(t)}^{B(t)}fSt(t)}{dt}$ ,  $\frac{d_{D(t)}^{C(t)}fSt(t)_{B(t)}^{A(t)}}{dt}$ ,  $\frac{dfSif(t)}{dt}$ ,  $i=1,2,3$ .

Remark 3.7. It is the fuzzy containment of oneself in itself as an element that can be interpreted as dynamic fuzzy capacities in itself.

Remark 3.8. Not every fuzzy capacity containing itself as an element will manifest itself as a sedentary fuzzy capacity or fuzzy capacity.

#### 4 Sit – elements for continual fuzzy sets

Earlier, we considered finite-dimensional discrete fuzzy Sit-elements and self- (fuzzy capacities) in itself as an element. Here we believe some continual fuzzy

Sit-elements and continual self- (fuzzy capacities) in themselves as an element.

Definition 4.1. The fuzzy set of continual elements  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$  at one point  $w$  of space  $X$  will be called continual fuzzy Sit – element, and such a point in space will be called fuzzy capacity of the continual fuzzy Sit – element. We will denote  $fSt_w^{\tilde{x}}$ .

Definition 4.2. An ordered fuzzy set of continual elements at one point in space is called an ordered continual fuzzy Sit–element.

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

Definition 4.3. The continual self- (fuzzy capacity)  $A$  in itself as an element of the first type is the fuzzy capacity containing itself as an element. Denote  $fS_1fA$ .

Definition 4.4. The ordered continual self- (fuzzy capacity)  $A$  in itself as an element of the first type is the ordered fuzzy capacity containing itself as an element. Denote  $f\overrightarrow{S_1fA}$ .

For example,

$$fS_{\infty}^{+}=(\sin\infty|\mu_{\sin\infty}(\sin\infty))$$

is one of this type. It denotes continual ordered self-(fuzzy capacities) in itself as an element of following type - the fuzzy range of simultaneous “activation” of fuzzy numbers from  $[-1,1]$  in mutual directions:  $\uparrow I \downarrow_{-1}^1$ . Also consider the following elements:  $fS_{\infty}^{-}=(\sin|\mu_{\sin-\infty}(\sin-\infty)) - \downarrow I \uparrow_{-1}^1$ ,  $fT_{\infty}^{+}=(tg\infty|\mu_{tg\infty}(tg\infty)) - \uparrow I \downarrow_{-\infty}^{\infty}$ ,  $fT_{\infty}^{-}=(tg-\infty|\mu_{tg-\infty}(tg-\infty)) - \downarrow I \uparrow_{-\infty}^{\infty}$ , don't confuse with values of these functions. Such elements can be summarized. For example:  $a fS_{\infty}^{+} + b fS_{\infty}^{-} = (a-b) fS_{\infty}^{+} = (b-a) fS_{\infty}^{-}$ , if  $fS_{\infty}^{+}$  and  $fS_{\infty}^{-}$  have the same fuzzy structure of the fuzzy range from  $[-1,1]$ .

Definition 4.5. The continual self-(fuzzy capacity)  $A$  in itself, as an element of the second type, is the fuzzy capacity containing fuzzy elements from which it can be generated. Let's denote  $fS_2fA$ .

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 4.6. Partial continual self- (fuzzy capacity) in itself as an element of the third type is called continual (self- fuzzy capacity) in itself as an element that partially contains itself or contains fuzzy elements from which it can be generated in part or both simultaneously. Denote  $fS_3f$ .

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

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

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

The connection of continual fuzzy Sit – elements with continual self- (fuzzy capacities) in themselves as an element.

Consider a third type of continual self- (fuzzy capacity) in itself as an element.

For example, based on  $fSt_w^{\tilde{x}}$ , where  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$ , i.e.  $x_i$  - continual elements at one point,  $i=1, 2, \dots, n$ . The continual self- (fuzzy capacity) in itself as an element with  $m$  continual elements from  $\tilde{x}$ , at  $m < n$ , can be considered as  $fS_3f$ , which is formed by the form (1.1), i.e., only  $m$  continual elements are located in the structure  $fSt_w^{\tilde{x}}$ . Continual self- (fuzzy capacities) in itself as an element of the third type can be formed for any other structure, not necessarily fuzzy Sit, only by obligatory reducing the number of continual elements in the structure. In particular, using the forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators. Structures more complex than  $fS_3f$  can be introduced.

Mathematics fuzzy itself for continual elements.

1. Simultaneous addition of the continual elements of the fuzzy set  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$  is implemented using  $fSt_w^{\{\tilde{x} \cup\}}$ .
2. By analogy, for simultaneous multiplication:  $fSt_w^{\{\tilde{x} \cap\}}$ .
3. Similarly, for simultaneous execution of various operations:  $fSt_w^{\{\tilde{x} q\}}$ , where  $\tilde{q}=(q_1|\mu_{\tilde{q}}(q_1), q_2|\mu_{\tilde{q}}(q_2), \dots, q_n|\mu_{\tilde{q}}(q_n))$ ,  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $fSt_w^{\{\tilde{F} x\}}$ , where  $\tilde{F}=(F_1|\mu_{\tilde{F}}(F_1), F_2|\mu_{\tilde{F}}(F_2), \dots, F_n|\mu_{\tilde{F}}(F_n))$ ,  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. For continual self-capacities in themselves as an element will be similar: addition -  $fS_1f\{\tilde{x}+\}$ , ,  $(fS_3f\{\tilde{x}+\})$  for the third type), multiplication  $fS_1f\{\tilde{x}*\}$ , ,  $(fS_3f\{\tilde{x}*\})$ .
6. Similarly with different operations: :  $fS_1f\{\tilde{x}\tilde{q}\}$ ,  $(fS_3f\{\tilde{x}\tilde{q}\})$ , and with different operators:  $fS_1f\{\tilde{F}\tilde{x}\}$ ,  $(fS_3f\{\tilde{F}\tilde{x}\})$ .
7.  $fSt_B^A$  – is the result of the containment operator. For fuzzy sets  $A, B$  we have  $fSt_B^A = \{A \cup B - A \cap B, D\}$ , where  $D$  is self-(fuzzy set) for  $A \cap B$ . The same is true for structures if they are treated as fuzzy sets.

Remark 4.1. fSit-displacement of  $A$  from  $B$  will be denoted by  ${}_B^A fSt$ . Then the

notation  ${}^C fSt_B^A$  is fSit-containment of A in B and fSit-displacement of D from C simultaneously. Denote  ${}^B fSt_B^A$  by  $fTS_B^A$ ,  ${}^A fSt_A^A$  – through  $fTS_A^A$ . Three in one is  $St_\infty^{\{\infty \text{ in itself, an element that is not anyone's element, } 0 \text{ out oneself}\}}$ , - point space connectedness.

We can consider the concept of a continual fuzzy Sit - element as  $fSt_B^A$ , where A fits in continual fuzzy capacity B. Then  $fSt_B^B$  will mean fS<sub>1</sub>f B.

These elements are used for fSit-coding, fSit translation, fuzzy coding self, and fuzzy 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 [5]. You can also try to optimize and research some processes with these elements using the techniques from [6]. Let's introduce operators for transforming fuzzy capacity to self- (fuzzy capacity) in itself as an element: fQ<sub>1</sub>S(A) transforms A to ff<sub>1</sub>SA, fQ<sub>0</sub>S(A) transforms A to  ${}^A fSt$ , fSO(A) transforms A to  $\uparrow fA \downarrow, \uparrow fA \downarrow$  -- ordered self-fuzzy capacity in itself as an element of simultaneous "activation" of all elements of A in mutual directions. For example, fSO([-1,1]) =  $fS_\infty^+$ , fSO([1,-1]) =  $fS_\infty^-$ , fSO([-∞, ∞]) =  $fT_\infty^+$ , fSO([∞, -∞]) =  $fT_\infty^-$ . The operator (fQ<sub>1</sub>S(A))<sup>2</sup> increases self- (fuzzy level) for A: it transforms Self-fA = ff<sub>1</sub>SA to self<sup>2</sup>-fA, (fQ<sub>1</sub>S(A))<sup>n</sup> → self<sup>n</sup>-fA,  $e^{fQ_1 S(A)} \rightarrow e^{self} - fA$ . Let us introduce the following notations:  ${}_{(A,A)}^A fSt$  by 2oself-fA,  $fSt_A^{(A,A)}$  by 2self-fA,  $fSt_{(A,A)}^A$  by 1/2self-fA,  $fSt_{q(A)}^A$  by qself-fA,  ${}_{q(A)}^A fSt$  by q()oself-fA, q-any operator,  ${}_{(q_1, \dots, q_N)}^A fSt$  by Noself-fA, q<sub>i</sub> = A, i = 1, ..., N;  ${}^A fSt_A^A$  by self-fA- oself-fA,  ${}_{q_3(A)}^{q_2(A)} fSt_{q_1(A)}^A$  by q<sub>1</sub>self-fA-  $\begin{pmatrix} q_3() \\ q_2() \end{pmatrix}$ oself-fA,  ${}_{(A,A)}^A fCt$  by 2Coself-fA,  $fCt_A^{(A,A)}$  by 2Cself-fA,  $fCt_{(A,A)}^A$  by 1/2Cself-fA,  $fCt_{q(A)}^A$  by qCself-fA,  ${}_{q(A)}^A fCt$  by q()Coself-fA, q-any operator,  ${}_{(q_1, \dots, q_N)}^A fCt$  by NCoself-fA, q<sub>i</sub> = A, i = 1, ..., N;  ${}^A fCt_A^A$  by Cself-fA- Coself-fA,  ${}_{q_3(A)}^{q_2(A)} fCt_{q_1(A)}^A$  by q<sub>1</sub>Cself-fA-  $\begin{pmatrix} q_3() \\ q_2() \end{pmatrix}$ Coself-fA,  $fS2t_A^A$  = (self-fA, self-fA),  $fSnt_A^A$  = (q<sub>1</sub>, ..., q<sub>N</sub>), q<sub>i</sub> = self-fA, i = 1, ..., N. self( $fSt_B^A$ ) =  $fSt_{St_B^A}^A$ . Can be considered Q( ${}^A fSt_A^A$ ), Q-any operator.

## 5 Dynamic continual fuzzy Sit – elements

Definition 5.1. The process of containing the fuzzy set of continual elements

$\widetilde{x(t)} = (x_1(t) | \mu_{\widetilde{x(t)}}(x_1(t)), x_2(t) | \mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t) | \mu_{\widetilde{x(t)}}(x_n(t)))$  at one point  $w$  of the space  $X$  at time will be called the dynamic continual fuzzy Sit – element. We will denote  $fSt(t)_w^{\widetilde{x(t)}}$ .

Definition 5.2. The process of containing an ordered fuzzy set of continual elements at one point in space is called dynamic continual ordered fuzzy Sit – element.

It is allowed to sum dynamic continual fSit – elements [3]:

$$fSt(t)_w^{\widetilde{\{a(t)\}}} + fSt(t)_w^{\widetilde{\{b(t)\}}} = fSt(t)_w^{\widetilde{\{a(t)\} \cup \{b(t)\}}}.$$

Dynamic continual containment of oneself in oneself as an element.

Definition 5. 3. The dynamic continual fuzzy capacity  $Q(t)$  is called the process of embedding in  $Q(t)$ .

Definition 5. 4. The dynamic continual fSit-capacity  $fSt(t)_{Q(t)}^{R(t)}$  is called the process of embedding  $R(t)$  in  $Q(t)$ .

Definition 5. 5. The dynamic containment continual fuzzy  $A(t)$  of oneself of the first type is the process of putting  $A(t)$  into  $A(t)$ . Denote  $fS_1f(t)A(t)$ .

Definition 5. 6. The dynamic containment continual fuzzy  $C(t)$  of oneself of the second type embedding contains the continual fuzzy elements from which it can be generated. Denote  $fS_2f(t)C(t)$ .

Definition 5. 7. The partial dynamic containment continual fuzzy  $B(t)$  of oneself of the third type is the process of partial embedding continual fuzzy  $B(t)$  into oneself or continual fuzzy elements from which it can be generated in part or both simultaneously. Denote  $fS_3f(t)B(t)$ .

The connection of dynamic continual fSit – elements with dynamic fuzzy containment of oneself in oneself as an element.

Let us consider the partial dynamic continual fuzzy containment of oneself in oneself as an element of the third type. For example, based on  $fSt(t)_w^{\widetilde{x(t)}}$ , where  $\widetilde{x(t)} = (x_1(t) | \mu_{\widetilde{x(t)}}(x_1(t)), x_2(t) | \mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t) | \mu_{\widetilde{x(t)}}(x_n(t)))$ , i.e.  $n$  - continual elements at one point  $x$ , one can consider the dynamic containment  $\widetilde{fS_3f(t)}$  of oneself in oneself as an element with  $m$  continual elements from  $\widetilde{x(t)}$ ,  $m < n$ , which is a process that is necessary form according to the form (1.1), i.e. only  $m$  continual elements from  $\widetilde{x(t)}$  are located in the structure  $fSt(t)_w^{\widetilde{x(t)}}$ . Dynamic continual containments of oneself in oneself as an element of the third type can be formed for any other structure, not necessarily fSit, only by necessarily reducing the number of continual elements in the structure. In particular, with the help of forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators. It is possible to introduce structures more complex than  $fS_3f(t)$ .

Dynamic fuzzy continual mathematics self.

1. The process of simultaneous addition of the fuzzy set of continual elements  $\widetilde{x(t)} = (x_1(t)|\mu_{\widetilde{x(t)}}(x_1(t)), x_2(t)|\mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t)|\mu_{\widetilde{x(t)}}(x_n(t)))$  is realized by  $fSt(t)_w \left\{ \widetilde{x(t) \cup} \right\}$ .
2. By analogy, for simultaneous multiplication:  $fSt(t)_w \left\{ \widetilde{x(t) \cap} \right\}$ .
3. Similarly for simultaneous execution of various operations:  $fSt(t)_w \left\{ \widetilde{x(t) \ q(t)} \right\}$ , where  $\widetilde{q(t)} = (q_1(t)|\mu_{\widetilde{q(t)}}(q_1(t)), q_2(t)|\mu_{\widetilde{q(t)}}(q_2(t)), \dots, q_n(t)|\mu_{\widetilde{q(t)}}(q_n(t)))$ ,  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $fSt(t)_w \left\{ \widetilde{F(t) \ x(t)} \right\}$  where  $\widetilde{F(t)} = (F_1(t)|\mu_{\widetilde{F(t)}}(F_1(t)), F_2(t)|\mu_{\widetilde{F(t)}}(F_2(t)), \dots, F_n(t)|\mu_{\widetilde{F(t)}}(F_n(t)))$ ,  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamic arithmetic self for the dynamic continual containments of oneself will be similar: dynamic addition -  $fS_1 f(t) \left\{ \widetilde{x(t) \cup} \right\}$ , (or  $fS_3 f(t) \left\{ \widetilde{x(t) \cup} \right\}$  for the third type), dynamic multiplication  $fS_1 f(t) \left\{ \widetilde{x(t) \cap} \right\}$ , (or  $fS_3 f(t) \left\{ \widetilde{x(t) \cap} \right\}$ ).
6. Similarly with different fuzzy operations  $fS_1 f(t) \left\{ \widetilde{x(t) \ q(t)} \right\}$ , (or  $fS_3 f(t) \left\{ \widetilde{x(t) \ q(t)} \right\}$ ), and with different fuzzy operators:  $fS_1 f(t) \left\{ \widetilde{F(t) \ x(t)} \right\}$ , (or  $fS_3 f(t) \left\{ \widetilde{F(t) \ x(t)} \right\}$ ).
7.  $fSt(t)_{B(t)}^{A(t)}$  - gives the result  $fSt_{B(t)}^{A(t)} = \{A(t) \cup B(t) - A(t) \cap B(t), D(t)\}$  for fuzzy continual sets  $A(t), B(t)$ , where  $D(t)$  is self- (fuzzy continual set) for  $A(t) \cap B(t)$ . The same is true for structures if they are treated as fuzzy continual sets.
8. Similarly, for dynamic fSit-derivatives, dynamic fSit-integrals, dynamic fSit-lim, dynamic self- (fuzzy derivatives), dynamic self- (fuzzy integrals).
9. Denote dynamic continual self- (dynamic continual self-Q(t)) through dynamic continual self<sup>2</sup>-Q(t),  $fS(t)(n, Q(t))$  = dynamic continual self- (dynamic continual self- (... (dynamic continual self-Q(t)))) = dynamic continual self<sup>n</sup>-Q(t) for n-multiple dynamic continual self.

Remark 5.1. Dynamic continual fSit-displacement of  $A(t)$  from  $B(t)$  will be denote through  $fSt(t)_{A(t)}^{B(t)}$ . Then the notation  $fSt(t)_{B(t)}^{C(t)A(t)}$  is dynamic continual fSit- embedding of  $A(t)$  in  $B(t)$  and dynamic continual fSit-displacement of  $D(t)$

from  $C(t)$  simultaneously. Denote  $\frac{B(t)}{A(t)}fSt(t)_{B(t)}^{A(t)}$  by  $fTS(t)_{B(t)}^{A(t)}$ ,  $\frac{A(t)}{A(t)}fSt(t)_{A(t)}^{A(t)}$  — through  $fTS(t)_{A(t)}^{A(t)}$ .

We can consider the concept of dynamic continual fSit - element as  $fSt(t)_{B(t)}^{A(t)}$ , where  $A(t)$  fits in dynamic continual fuzzy capacity  $B(t)$ . Then  $fSt(t)_{B(t)}^{B(t)}$  it will mean  $fS_1f(t)B(t)$ . Denote  $fSt(t)_{B(t)}^{B(t)}$  by  $fL(t)(B(t))$ .  $\frac{A(t)}{A(t)}fSt(t)$  denotes the dynamic continual displacement of fuzzy  $A(t)$  from itself,  $\frac{A(t)}{A(t)}fSt(t)_{A(t)}^{A(t)}$  — simultaneous dynamic continual containment of oneself  $A(t)$  in oneself  $A(t)$  and dynamic continual expelling oneself  $A(t)$  out of oneself  $A(t)$ .  $\frac{A(t)}{A(t)}fSt$  will be called dynamic continual anti fuzzy capacity from itself.

Connection of dynamic continual fSit – elements with target weights with dynamic continual fuzzy containment of oneself with target weights.

Consider a third type of dynamic partial fuzzy containment of oneself

with target weights  $\widetilde{g(t)}$ . For example, based on  $fSt(t)_w^{\{x(t)\widetilde{g(t)}\}}$ , where  $\widetilde{x(t)}=(x_1(t)|\mu_{\widetilde{x(t)}}(x_1(t)), x_2(t)|\mu_{\widetilde{x(t)}}(x_2(t)), \dots, x_n(t)|\mu_{\widetilde{x(t)}}(x_n(t)))$ , i.e.  $n$  continual fuzzy elements with target weights  $\widetilde{g(t)}$  at one point  $w$ , we can consider the dynamic containment  $S_3f(t)\widetilde{g(t)}$  of oneself with target weights with  $m$  continual fuzzy elements with target weights  $\widetilde{g(t)}$  from  $\widetilde{x(t)}$ ,  $m < n$ , which is the fuzzy process of formation according to the form (1.1), i.e., only  $m$  continual fuzzy elements with target weights  $\widetilde{g(t)}$  from  $\widetilde{x(t)}$  are located in the structure  $fS_3f(t)\widetilde{g(t)}$ , or forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators. Dynamic fuzzy containments of oneself with target weights of the third type can be formed for any other structure, not necessarily fSit, only by reducing the number of continual fuzzy elements with target weights in the structure. Structures more complex than  $fS_3f(t)\widetilde{g(t)}$  can be introduced.

**Definition 5.8.** The dynamic fuzzy embedding of continual fuzzy  $A(t)$  into itself with target weights  $\widetilde{g(t)}$  of the first type is the process of fuzzy embedding  $A(t)$  into  $A(t)$  with target weights. Denote  $fS_1f(t)A(t)\widetilde{g(t)}$ .

**Definition 5.9.** The dynamic containment of continual fuzzy  $C(t)$  itself into itself with target weights  $\widetilde{g(t)}$  of the second type is the process of fuzzy containment of the continual fuzzy elements from which it can be generated. Let's denote  $fS_2f(t)C(t)\widetilde{g(t)}$ .

**Definition 5.10.** Partial dynamic containment of continual fuzzy  $B(t)$  itself into itself with target weights  $\widetilde{g(t)}$  of the third type is the process of partial containment of continual fuzzy  $B(t)$  into itself or continual fuzzy elements from which it can be generated partially, or both at the same time. Denote  $fS_3f(t)B(t)\widetilde{g(t)}$ .

## 6 The usage of fSit-elements for networks

A. Galushkin's comprehensive monograph [7] covers all aspects of networks, but traditional approaches go through classical mathematics, mainly through the usual correspondence operators. 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 fSit-networks. fSit-networks(fSmnst) are a fSit-structure that can be built for the required weights. fSit-OS (fSit operating system) uses fSit-coding and fSit-translation. In the first one, coding is carried out through a 2-dimensional matrix-row (a, b), where the fuzzy number b is the code of the action, and the fuzzy number a is the code of the object of this action. fSit-coding (or self- (fuzzy coding)) is implemented through a matrix consisting of 2 columns (in the continuous case, two intervals of fuzzy numbers). Here, the source encoding is used for all matrix rows simultaneously. fSit-translation is carried out by inversion. In this case, self- (fuzzy coding) and self- (fuzzy translation) will be more stable. The target weights  $g_i$  in  $fSt_a^{(gx)}$  are chosen for necessary tasks. We will not touch on the issues of applications, or network optimization. They are described in detail by Galushkin [7]. 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 fSit (designation - mnfSt) for simple information processing. More complex executing programs are used for mnfSt nodes. fSit-threshold element  $\text{sgn}(fSt_b^{\{y\}})$ , b- mnfSt,  $\tilde{x}=(x_1|\mu_{\tilde{x}}(x_1), x_2|\mu_{\tilde{x}}(x_2), \dots, x_n|\mu_{\tilde{x}}(x_n))$  - source signals values,  $\tilde{y}=(y_1|\mu_{\tilde{y}}(y_1), y_2|\mu_{\tilde{y}}(y_2), \dots, y_n|\mu_{\tilde{y}}(y_n))$  - fSit-synapses weights. The first level of mnfSt consists of simple mnfSt. The second level of mnfSt consists of  $fSt_D^{\{mnSt\}}$  - Sit-node of mnfSt in range D, D- fuzzy capacity for mnfSt node. The third level of mnfSt consists of  $fSt_D^{\{fSt_D^{\{mnfSt\}}\}}$  - Sit<sup>2</sup>- node of mnfSt in range D, thus D becomes fuzzy capacity of itself in itself as an element for mnfSt. For our networks, it is sufficient to use fSit<sup>2</sup>- nodes of mnfSt, but self-level is higher in living organisms, particularly fSit<sup>n</sup>,  $n \geq 3$ . 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 6.1. 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. mnfSt contains  $fSt_{mnSt}^{\{feprograms\}}$ , *feprogram*-executing program in fSit- OS. fSit-OS (or Self-OS) is based on fSit-assembly language (or fSelf-assembly language), which is based on assembly language through Sit-approach in turn, if the base of elements of fSit-networks is sufficient. The feprograms are in fSit-programming

environments (or Self- fuzzy programming environments), but this question and fSit-networks base will be considered in the following monographs. In particular, feprograms may contain Sit- programming operators. In mnfSt cores, the constant memory fSit with correspondent feprograms depending on mnfSt.

The OS (operating system) and the principles and modes of operation of the fSit-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 rotors based on fSit – physics and special neural networks with artificial neurons operating in normal and fSit-modes. Let's denote this model through fSmnst. To do this, it's proposed to use mnfSt of different levels; for example, for the usual mode, mnfSt 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 fSit-mode with the desired "target weight" is realized in this section, etc., to the center. In the case of a monster during the test, fSmnst is activated with the desired "target weight." Here are realized other tasks also. To reach the self-energy level, the mode  $fSt_{fSmnst}^{fSmnst}$  is used. In normal mode, it's planned to carry out the movement of fSmnst 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 fSmnst 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 fSmnst. fSmnst is represented by a neural network that extends from the center of one of the main clusters of fSit - 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 fSmnst's actions is below the operator's cab. In fSit – mode, the entire network or its sections are fSit – activated to perform specific tasks, in particular, with "target weights." In the target, block used fSit-coding, fSit-translation for activation of all networks to "target weights" simultaneously, then –the reset of this fSit-coding after activation. Unfortunately, triodes are not suitable for fSit -neural networks. In the most primitive case, usual separators with corresponding resistances and cores for feprograms may be used instead triodes since there is no necessity to unbend the alternating current to direct. The fSit-operative memory belt is disposed around a central core of fSmnst. There are fSit-coding, fSit-translation, and fSit-realize of feprograms and the programs from the archives without extraction, fSit-coding and fSit-translation may be used in high-intensity, ultra-short optical pulses laser of Nobel laureates 2018-year Gerard Mourou, Donna, Strickland. fSit – structure or an feprogram if one is present of needed «target weight» are taken in target block at fSit – activation of the networks.  $fSt_{activation}^{fSmnst:g}$  derives fSmnst to the self-level boundary with target weight g.

It's used an alternating current of above high frequency and ultra-violet light, which can work with fSit – structures in fSit-modes by its nature to activate the networks or some of its parts in fSit-modes and locally using fSit-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.”

## Appendix

You can try to consider the equations:  $fSt_x^x=a, x(a) - ?$ ,  $fSt_b^x = a, x(a,b)-?$ ,  $fSt_x^q=a, x(a, q)- ?$ .

Supplement for string theory: May be to try represent elementary particles in the form of continual self-elements of the type  $fS_\infty^- = f\sin(-\infty)$ ,  $fT_\infty^+ = f\lg\infty$ ,  $fT_\infty^- = f\lg(-\infty)$ ,  $\uparrow I \downarrow_g^f$  for any f, g etc.

We consider fuzzy Sit-logic: consider the functional  $g(Q)$ , which gives a numerical value for the truth of the fuzzy statement  $Q$  from the interval  $[0,1]$ , where 0 corresponds to "no," and one corresponds to the logical value "yes." Then for joint fuzzy statements  $A, B$ :  $g(A+B)=g(A)+g(B)-g(A*B)+gS(D)$ ,  $D$ - self- (fuzzy statement) from  $A*B$ ,  $gS(x)$ - the value of self-truth for self- (fuzzy statement)  $x$ ; for dependent fuzzy statements:  $g(A*B)=g(A)*g(B/A)=g(B)*g(A/B)$ , where  $g(B/A)$ - conditional truth of the fuzzy statement  $B$  at fuzzy statement  $A$ ,  $g(A/B)$ - dependent truth of fuzzy statement  $A$  at the fuzzy statement  $B$ . Adding the truth values of inconsistent fuzzy propositions:  $g(A+B)=g(A)+g(B)$ . The formula of complete truth:  $g(A)=\sum_{k=1}^n g(B_k) * g(A/B_k)$ ,  $B_1, B_2, \dots, B_n$ -full group of hypotheses- (fuzzy statements):  $\sum_{k=1}^n f(B_k)=1$  (“yes”). Remark. A fuzzy statement can be interpreted as an fuzzy event, and its truth value as a probability.

fSit- statement for fuzzy set of statements  $\tilde{x}=(x_1|\mu_x(x_1), x_2|\mu_x(x_2), \dots, x_n|\mu_x(x_n))$ :  $fSt_w^{(x_1|\mu_x(x_1), x_2|\mu_x(x_2), \dots, x_n|\mu_x(x_n))}$ ,  $fSt_x^{\{g(x_1), g(x_2), \dots, g(x_n)\}}$  - fSit-truth for these statements. It is possible to consider the self-statement  $fS_3\tilde{x}$  with  $m$  statements from  $\tilde{x}$ , at  $m < n$ , which is formed by the form (1.1) or forms (1.1.1) – (1.4), (2.1\*) by type (2.1\*) for more complex operators [3], that is, only  $m$  statements from  $\tilde{x}$  are located in the structure  $fSt_w^{\tilde{x}}$ . The same for self- truth  $fS_3\{g(x_1), g(x_2), \dots, g(x_n)\} : fSt_x^{\{g(x_1), g(x_2), \dots, g(x_n)\}}$ .

One can introduce the concepts of fSit-group:  $fSt_w^{\tilde{x}}$ ,  $\tilde{x}$  is usual fuzzy group,  $fSt(t)_B^{\tilde{x}}$ , where  $\tilde{x}, B$ - usual fuzzy groups, self-groups:  $f_i\tilde{x}, i=1,2,3$  [2].

Definition 6.1. 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,  $fCt_{strA}^{strA}$  is such structure. Similarly, for working with models, each is structured by its structure; for example, use

fSit-groups, fSit-rings, fSit-fields, fSit-spaces, self-(fuzzy groups), self- (fuzzy rings), self- (fuzzy fields), and self- (fuzzy spaces). Like any task, this is also a structure of the appropriate fuzzy 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- (fuzzy equation) concerning unknowns, i.e., the structure of the self-equation is complete. The transition process in the form of  ${}^C_D fSt_B^A$  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.

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- 2) Danilishyn .V. Danilishyn O.V. THE USAGE OF SIT-ELEMENTS FOR NETWORKS. IV International Scientific and Practical Conference "GRUNDLAGEN DER MODERNEN WISSENSCHAFTLICHEN FORSCHUNG ", 31.03.2023/Zurich, Switzerland. <https://archive.logos-science.com/index.php/conference-proceedings/issue/view/9>

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## Supplement1

### Connection Sit – elements with usual functionals and operators and others

Consider the functional  $g(x): X \rightarrow g, x \in X$ ,  $g$  is the numerical value of functional  $g(x)$ . This is the specific capacity for  $X$ .  $St_{\{g(x)\}}^{\{g(x)\}}$  produces from it the self-consistency in itself as an element  $f_1 S\{g(x)\}$  [1],  $\{g(x)\}$ - functional for all  $X$ . In particular, the probability  $p(X)$  -is such a functional,  $X$ -an event. Here  $St_{p(X)}^{p(X)}-f_1 Sp(X)$ , we denote it by  $pS(X)$ . The usual event is dynamic capacity. Definition 588. Sit-probability of events  $A, B$  is  $p(St_B^A)$ , denote  $Sp_B^A$ .

In particular,  $Sp_B^A$  for joint  $A, B$ :  $Sp_B^A = p(St_B^A) = p(\{AB-AB, D\}) = p(A) + p(B) - p(AB) + pS(D)$ ,  $D$ -/- the self-consistency in itself as an element from  $AB$ ,  $pS(D)$ -probability self of  $D$  of the next level-self level. The probability of a stochastic value  $X$  is capacity. We represent its distribution in the kind of Sit-element:

$$St(t)_X^{\{(x_1, p_1), (x_2, p_2), \dots, (x_n, p_n)\}} (*)$$

Here interest represents the partial distribution self from (\*) by form (1) or (2) with value self of stochastic value  $X$  for some subset  $\{x_{j_1}, x_{j_2}, \dots, x_{j_k}\} \in \{x_1, x_2, \dots, x_n\}$  with probabilities self  $\{pS_1, pS_2, \dots, pS_j\}$ .

For operator  $X_1 \xrightarrow{F} X_2$ :  $\xrightarrow{F} X_2$  is the capacity for  $X_1$ .  $St_{\xrightarrow{F} X_2}^{\xrightarrow{F} X_2}$  -- self-consistency

in itself as an element for  $X_1$ . More complicated for an implicit operator:  $F(X_1, X_2)=0$ . Then  $St_{F(X_1, X_2)=0}^{F(X_1, X_2)=0}$  forms self-consistency 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 liberty and is a direct solution (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 a greater degree of freedom, and this is a direct solution.

We consider  $St_D^D$ ,  $D$ -block over execution subject in  $S_{mnst}$  for networks [6], [26], [27]. Then we have self-consistency  $D$  in itself as an element, where the full realization requires the corresponding self-energy.  $St_{S_{mnst}}^{S_{mnst}}$  increase self-level of  $S_{mnst}$  and may not display it.

For an element from flora or fauna, one can try to consider the following energy distribution  $R=Q+D$ ,  $Q$ - internal energy,  $D$  is the energy of its interaction with the external environment:  $St_R^R = St_{Q+D}^{Q+D} = St_{Q+D}^Q + St_{Q+D}^D = St_Q^Q + St_D^Q + St_Q^D + St_D^D$ ,  $St_Q^Q$ - internal self-

energy,  $St_D^D$ -the external self-energy,  $St_D^Q$ - object component of an element,  $St_Q^D$ - usual energy component of an element.

The energy of a living organism:

$$f(r, a(E_q)) = St_{t_0}^{\left\{ \begin{matrix} q(a_a St_a^a) St_{W_q}^{E_q} \\ q(a_a St_a^a) \end{matrix} \right\}, \quad \left\{ El^{d_r}, q(a_a St_a^a) \right\}}$$

${}_a St_a^a$  -internal energy of a living organism, q- a gap in the energy cocoon of a living organism, r-the position of the assemblage point  $d_r$  on the energy cocoon of a living organism,  $W_q$ - energy prominences from the gap in the cocoon of a living organism,  $E_q$ -external energy entering the gap in the cocoon of a living organism,  $El^{d_r}$  - a bundle of fibers of external energy self-capacities, collected at the point of assembly of the cocoon of a living organism.

The Chinese book of Changes “I Ching” uses a structure similar to (\*) implicitly.

## Supplement 2: S<sup>2</sup>t - elements [40]

Introduction.

There is a need to develop an instrumental mathematical base for new technologies. The task of the work is to develop new approaches for this through the introduction of new concepts and methods. Our constructive approach to set theory differs from the construction of constructive sets by A. Mostowski [41]: we construct completely different types of constructive sets.

We consider expression

$$^C_D S^2 t^A_B (*_{S.2})$$

where A is contained into B, D is expelled from C [40]. If A, B, D, C are taken in the capacities of sets with the next operations: the addition of S<sup>2</sup>t – elements:

$$^C_{D_1} S^2 t^{A_1}_{B_1} + ^C_{D_1} S^2 t^{A_2}_{B_1} = ^C_{D_1} S^2 t^{A_1 \cup A_2}_{B_1} (*_{S.2.1}),$$

$$^C_{D_1} S^2 t^{A_1}_{B_1} + ^C_{D_1} S^2 t^{A_1}_{B_2} = ^C_{D_1} S^2 t^{A_1}_{B_1 \cup B_2} (*_{S.2.2}),$$

$$^C_{D_1} S^2 t^{A_1}_{B_1} + ^C_{D_2} S^2 t^{A_1}_{B_1} = ^{C_1 \cup C_2}_{D_1} S^2 t^{A_1}_{B_1} (*_{S.2.3}),$$

$$^C_{D_1} S^2 t^{A_1}_{B_1} + ^C_{D_2} S^2 t^{A_1}_{B_1} = ^{C_1 \cup D_2}_{D_1} S^2 t^{A_1}_{B_1} (*_{S.2.4}),$$

then we shall call (\*) the dynamical hierarchical set S<sup>2</sup>t. Necessity of (\*) arised for processes description in networks. Threshold element  $S^2 t -^b_{\{qy\}} S^2 t(t)^{\{gx\}}_b$ , b-artificial neurons of type S<sup>2</sup>t (designation - mnS<sup>2</sup>t),  $x = (x_1, x_2, \dots, x_n)$  – source signals values,  $g = (g_1, g_2, \dots, g_n)$  – S<sup>2</sup>t -synapses weights, and output signals values. May be considered simplest variant of dynamical hierarchical set

$$S^2 t^A_B (**_{S.2})$$

where the set A is contained into the set B, or

$$^B_A S^2 t (***_S.2)$$

A is expelled from B.

We consider the measure of external influence on b:  $\mu * (^b_D S^2 t(t)^A_b) = \frac{\mu(A)}{\mu(D)}$ , where (A), (D) –usual measures of sets A, D.

We introduce the concepts Cha –the measure of capacity and Cca- the cardinality of its contents. Cca coincides with cardinal number if contents of capacity is set. We consider compression powers of dynamical set:  $q_1 = S^2 t^A_B$  answers I compression power of dynamical set A,  $q_2 = S^2 t^{q_1}_B$  –II compression power of dynamical set A,  $\dots$ ,  $q_{n+1} = S^2 t^{q_n}_B$  –n+1 compression power of dynamical set A. We introduce the designations: CoQ—the contents of the capacity Q, Q<sup>–</sup> –empty capacity Q (without the contents).  $S^2 t^A_{activation} \equiv^A_A S^2 t$ , as a result, there is a displacement from A to a higher level s<sup>2</sup>elf: s<sup>2</sup>elf -A.

$S^2t$  – elements.

Definition S2.1. The set of elements  $\{g\} = (g_1, g_2, \dots, g_n)$  at one point  $x$  of space  $X$  we shall call  $S^2t$  – element, and such a point in space is called capacity of the  $S^2t$  – element. We shall denote  $S^2t_x^{\{g\}}$ .

Definition S2.2.  $S^2t_x^{\{g\}}$ —dynamical set  $A$  at  $x$ .

Definition S2.3. An ordered set of elements at one point in space is called an ordered  $S^2t$  – element.

It's possible to  $S^2t_x^{\{g\}}$  correspond to the set of elements  $\{g\}$ , and to the ordered  $S^2t$  – 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 add  $S^2t$  – elements:

$$S^2t_x^{\{g\}} + S^2t_x^{\{b\}} = S^2t_x^{\{g\} \cup \{b\}} \quad (*_{S.2.5})$$

$$S^2t_{\{g\}}^x + S^2t_{\{b\}}^x = S^2t_{\{g\} \cup \{b\}}^x \quad (*_{S.2.6})$$

It's allowed to multiply  $S^2t$  – elements:

$$S^2t_x^{\{g\}} * S^2t_x^{\{b\}} = S^2t_x^{\{g\} \cap \{b\}} \quad (*_{S.2.7})$$

$$S^2t_{\{g\}}^x * S^2t_{\{b\}}^x = S^2t_{\{g\} \cap \{b\}}^x \quad (*_{S.2.8})$$

where some or any elements may be by ordered elements.

The operator  $S^2t_x^{\{g\} \cup \{b\}}$  is not equal  $\{g\} \cup \{b\}$ , faster it is dynamical—the compression  $\{g\} \cup \{b\}$  into the point  $x$ . Similarly, for  $S^2t_x^{\{g\} \cap \{b\}}$ .

$S^2t$  – elements can be elements of a group both by multiplication (\*<sub>S.2.7</sub>), (\*<sub>S.2.8</sub>) and by addition (\*<sub>S.2.5</sub>), (\*<sub>S.2.6</sub>) and also form algebraic ring, field by these operations. This is more suitable sets use for energy space, for any objects. The operator  $S^2t$  is adapted for usual energies, using their property is superimposed one on another.

Capacity in its<sup>2</sup>elf.

Definition S2.4. The capacity in its<sup>2</sup>elf  $A$  of the first type is the capacity containing tse<sup>2</sup>lf as an element. Denote  $S^2_1fA$ .

Definition S2.5. The capacity in its<sup>2</sup>elf of the second type is the capacity that contains elements from which it can be generated. Let's denote  $S^2_2fA$ . An example of capacity in its<sup>2</sup>elf of the first type is a set containing its<sup>2</sup>elf. An example of capacity in its<sup>2</sup>elf of the second type is a living organism, since it contains a program: DNA, RNA.

Definition S2.6. Partial capacity in its<sup>2</sup>elf of the third type is called capacity in its<sup>2</sup>elf, which contains its<sup>2</sup>elf in part or contains elements from which it can be generated in part, or both. Let us denote  $S^2_3f$ .

All capacities in  $s^2elf$ -space are capacities in  $its^2elf$  by definition. The capacities in  $its^2elf$  may appear as  $S^2t$ -capacities and usual capacities. In these cases, there is used usual measure and topology methods.

Connection of  $S^2t$  – elements with capacities in  $its^2elf$ .

For example,  $S^2t_{w\{R\}}^{\{R\}}$  is the capacity in  $its^2elf$  of the second type if  $w\{R\}$  is a program capable of generating  $\{R\}$ . Consider a third type of capacity in  $its^2elf$ .

For example, based on  $S^2t^{\{g\}}$ , where  $\{g\} = (g_1, g_2, \dots, g_n)$ , i.e.  $n$  - elements at one point, it's possible to consider the capacity in  $its^2elf$   $S^2_3f$  with  $m$  elements and from  $\{g\}$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  elements are located in the structure  $S^2t^{\{g\}}$ , or forms of type (1.1.1) – (1.4). Capacities in  $its^2elf$  of the third type can be formed for any other structure, not necessarily  $S^2t$ , only through the obligatory reduction in the number of elements in the structure. Structures more complex than  $S^2_3f$  can be introduced. The connection between the elements of  $s^2elf$ -containment in  $its^2elf$  is a property of  $s^2elf$ -containment in  $its^2elf$  and therefore does not disappear when their location in it changes. The energy of  $s^2elf$ -containment in  $its^2elf$  is closed on  $its^2elf$ .

Mathematics  $its^2elf$ .

Consider first the arithmetic  $S^2t$ :

1. Simultaneous addition of a set of elements  $\{g\} = (g_1, g_2, \dots, g_n)$  are realized by  $S^2t^{\{g+\}}$ .

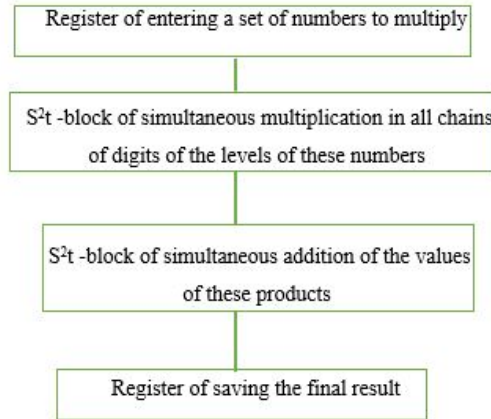


Figure 1: The straightforward functional scheme of the assumed arithmetic-logical device for  $S^2t$ -multiplication.

2. By analogy, for simultaneous multiplication:  $S^2t^{\{g*\}}$ : enter the notation of

the set B with elements  $b_{i_1 i_2 \dots i_n} = (S^2 t_x^{\{g_{1i_1}^*, g_{2i_2}^*, \dots, g_{ni_n}^*\}})_R$  for any  $\{i_1, i_2, \dots, i_n\}$  without repetitions,  $x = S^2 t_g^{\{K\}}$ , K-set of any  $\{k_1^*, k_2^*, \dots, k_n^*\}$  without repetitions of their,  $k_i$ -any digit,  $i=1, 2, \dots, n$ ,  $R = S^2 t_g^{\{i_1 + i_2 + \dots, i_n\}}$ , R is the index of the lower discharge (we choose an index on the scale of discharges): see Table 1. Then  $S^2 t_w^{\{B+\}}$  gives the final result of simultaneous multiplication. Any system of calculus can be chosen, in particular binary.

3. Similarly for simultaneous execution of various operations:  $S^2 t^{\{gq\}}$ , where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $S^2 t^{\{Fg\}}$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
5. The arithmetic itself for capacities in itself will be similar: addition -  $S^2_1 f^{\{g+\}}$ , (or  $S^2_3 f_x^{\{g+\}}$  for the third type), multiplication  $S^2_1 f^{\{g*\}}$ ,  $(S^2_3 f_x^{\{g*\}})$ .
6. Similarly with different operations:  $S^2_1 f^{\{gq\}}$ ,  $(S^2_3 f_x^{\{gq\}})$ . and with different operators:  $S^2_1 f^{\{Fg\}}$ ,  $(S^2_3 f_x^{\{Fg\}})$ .
7.  $S^2 t_B^A$  - is the result of the holding operator action, the dynamical hierarchical set of null type  $S^2 t_B^A$  - a kind of product of the sets A, B. For sets A, B we have

$$S^2 t_B^A = \left\{ S^2 t_{B-A \cap B}^{A-A \cap B} + S^2 t_{A \cap B}^{A-A \cap B} + S^2 t_{B-A \cap B}^{A \cap B} \right\} (*S.2.9)$$

where D is s<sup>2</sup>elf -set for  $A \cap B$ . The measure:

$$\mu(S^2 t_B^A) = \left( \frac{\mu^s(A \cap B)}{\mu(A) + \mu(B) - \mu(A \cap B)} \right) (*S.2.10)$$

There is the same for structures if it's considered as sets. Our approach to the theory of hierarchical sets differs from the construction of hierarchical sets by Y. L. Ershov [35]-[37]: we construct completely different types of hierarchical sets.

8. S<sup>2</sup>t-derivative of  $f(x_1, x_2, \dots, x_n)$  is  $S^2 t_{f(x_1, x_2, \dots, x_n)}^{\left\{ \frac{\partial}{\partial x_{1_i}}, \frac{\partial}{\partial x_{2_i}}, \dots, \frac{\partial}{\partial x_{k_i}} \right\}}$ , where  $x = (x_{1_i}, x_{2_i}, \dots, x_{k_i})$ - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate S<sup>2</sup>t- $\frac{\partial^k f(x)}{\partial x_{1_i} \partial x_{2_i} \dots \partial x_{k_i}}$ . S<sup>2</sup>t-integral of  $f(x_1, x_2, \dots, x_n)$  is  $S^2 t_{f(x_1, x_2, \dots, x_n)}^{\left\{ \int () dx_{1_i}, \int () dx_{2_i}, \dots, \int () dx_{k_i} \right\}}$ , where  $(x_{1_i}, x_{2_i}, \dots, x_{k_i})$ - any set from  $(x_1, x_2, \dots, x_n)$ . Let's designate S<sup>2</sup>t- $\int \dots \int f(x) dx_{1_i} dx_{2_i} \dots dx_{k_i}$ -k-multiple integral. S<sup>2</sup>t-lim of  $f(x_1, x_2, \dots, x_n)$  is  $S^2 t_{f(x_1, x_2, \dots, x_n)}^{\left\{ \lim_{x_{1_i} \rightarrow a_{1_i}}, \lim_{x_{2_i} \rightarrow a_{2_i}}, \dots, \lim_{x_{k_i} \rightarrow a_{k_i}} \right\}}$ .

Let's designate  $S^2t - \left( \lim_{x \rightarrow a} f(x_1, x_2, \dots, x_n) \right)$ .  $S^2elf - \lim_{x \rightarrow a} = S^2t_Q^Q$ ,  $Q =$   
 $\lim_{x \rightarrow a}$ . 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.

9. In the case a  $s^2elf$  - derivate it's obtained inclusions of multiple derivatives. There are the same for  $s^2elf$  -integrals: there are obtained inclusions of multiple integrals.
10. Let's denote  $s^2elf - (s^2elf - Q)$  through  $s^2elf^2 - Q$ ,  $fS(n, Q) = s^2elf - (s^2elf - (\dots (s^2elf - Q))) = s^2elf^n - Q$  for n-multiple  $s^2elf$ .

Operator  $its^2elf$ .

Definition S.2.7. An operator that transforms  $S^2t^{\{g\}}$  into any  $S^2if^{\{b\}}$ ,  $i = 2, 3$ ; where  $\{b\} \subset \{g\}$ ; is the operator  $its^2elf$ .

Example. The operator contains the set in  $tse^2lf$ .

Lim-  $its^2elf$ .

1. Lim  $S^2t$

For example, the double limit  $\lim_{xq_1} G(x, y)$  corresponds to  $S^2t_{(q_1, q_2)}^{\{G(x, y)\}}$ .

Similarly for  $its^2elf$  limit with n variables.

In the case of lim-  $its^2elf$ , for example, for m variables, it's sufficient to use the form (1.1) or forms of type (1.1.1) – (1.4) of  $\lim S^2t$ , for n variables ( $n > m$ ). Similarly, for integrals of variables m (for example, a double integral over a rectangular region- through a double lim).

The sequence of actions you can "collapse" into an ordered  $S^2t$  element, and then translate it, for example, to  $S^2_3f$  – capacity in  $its^2elf$ . As an example, you can take the receipt  $\frac{\partial^2 u}{\partial x^2}$ . Here is the sequence of steps 1)  $\frac{\partial u}{\partial x}$  2)  $\frac{\partial}{\partial x} (\frac{\partial u}{\partial x})$ . "collapses" into ordered  $S^2t_x^{\{\frac{\partial u}{\partial x}, \frac{\partial}{\partial x} (\frac{\partial u}{\partial x})\}}$ , ones that can be translated into the corresponding  $S^2_1f$ . The differential operator  $S^2t_x^{\{\frac{\partial}{\partial x}, \frac{\partial}{\partial x} (\frac{\partial}{\partial x})\}}$  -  $its^2elf$  is also interesting.

Remark S2.1.  $S^2t$ -displacement of A from B will be denoted through  ${}^B_A S^2t$ . Then the notation  ${}_D S^2t^A_B$  is  $S^2t$ -containment of A in B and  $S^2t$  -displacement of D from C simultaneously. Let's denote  ${}_A S^2t^A_B$  through  $TS^2A_B$ ,  ${}_A S^2t^A_A$  – through  $TS^2A_A$ .

We can consider the concept of  $S^2t$  - element as  $S^2t^A_B$ , where A fits in capacity B. Then  $S^2t^B_B$  it will mean  $S^2_1f$  B. Let's denote  $S^2t^B_B$  through  $L(B)$ .

About  $S^2t$  and  $S^2_3f$  programming.

The ideology of  $S^2t$  and  $S^2f$  can be used for programming. Here are some of the  $S^2t$  programming operators.

1. Simultaneous assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $\{g\} = (g_1, g_2, \dots, g_n)$ . It's implemented through  $S^2t^{\{\{g\}:\{p\}\}}$ .
2. Simultaneous check the set of conditions  $\{f\} = (f_1, f_2, \dots, f_n)$  for a set of expressions  $\{B\} = (B_1, B_2, \dots, B_n)$ . It's implemented through  $S^2t^{IF\{\{B\}\{f\}\} \text{ then } Q}$  where  $Q$  can be any.
3. Similarly for loop operators and others.

$S^2f$  – software operators will differ only in those aggregates  $\{g\}, \{p\}, \{B\}, \{f\}$  will be formed from corresponding  $S^2t$  program operators in form (1.1) or forms of type (1.1.1) – (1.4).

Quite interesting is the OS (operating system), the principles and modes of operation of the computer for this programming. But this is already the material of the next publications.

Using elements of the mathematics of  $S^2t$  [38], we introduce the concept of  $S^2t$  – the change in physical quantity  $B$ :  $S^2t_x^{\{\Delta_1 B, \dots, \Delta_n B\}}$ . Then the mean  $S^2t$  – velocity will be  $v_{s^2t}(t, \Delta t) = S^2t_x^{\{\frac{\Delta_1 B}{\Delta t}, \dots, \frac{\Delta_n B}{\Delta t}\}}$  and  $S^2t$  – velocity at time  $t$ :  $v_{s^2t} = \lim_{\Delta t \rightarrow 0} v_{s^2t}(t, \Delta t)$ .  $S^2t$  – acceleration  $a_{s^2t} = \frac{dv_{s^2t}}{dt}$ .

In normal use, simply  $S^2t_x$  reduce to result a sum at point  $x$  of space, and when using  $S^2t_x$  with "target weights", we get, depending on the "target weights", one or another modification, namely, for example, the velocity  $v_{s^2t}^f$  (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  $v_{s^2t}^f = S^2t_x^{\{v_1 f, v_2\}}$ ,  $f$  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)  $S^2t_{\{x_1, x_2\}}^e$  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  $S^2t$  elements.

Similarly, the concepts of  $S^2t$  – force,  $S^2t$  – energy are introduced. For example,  $E_{st}^f = S^2t_x^{\{E_1 f, E_2\}}$  it would mean the instantaneous replacement of energy  $E_1$  by  $E_2$  at time  $t_0$ . Two aspects of  $S^2t$  – energy should be distinguished: 1) carrying out the desired "target weight", 2) the fixing result of it. Do not confuse energy –  $S^2t$  (this is the node of energies) with  $S^2t$  – 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.

Remark S.2.2. In fact,  $S^2t$  – elements are all ordinary, but with "target weights" they become peculiar. Here you need the necessary kind of energy to perform them. As a rule, this energy lies in the region  $tse^{2lf}$ . This is natural, since it's much easier to control the elements of the  $k$  level by the elements of the more highly structured  $k + 1$  level. Consider the concepts of capacity in its<sup>2elf</sup> of

physical objects. Similar to the concepts of publication: the capacity in its<sup>2</sup>elf of the first type contains its<sup>2</sup>elf, the second type contains a program (like DNA) capable of generating it, the third type - partially containing its<sup>2</sup>elf or a program capable of generating it, or both. The question arises about the s<sup>2</sup>elf -energy of the object.  $S^2t_B^B$  will mean  $S1_1^2f B$ . In particular, it allows you to determine the s<sup>2</sup>elf -energy of DNA through  $S^2t_{DNA}^{DNA}$ ,  $S^2t_Q^Q$  - s<sup>2</sup>elf -energy Q. The law of s<sup>2</sup>elf -energy conservation acts on the level of s<sup>2</sup>elf -energy already. Also, in addition to capacities in its<sup>2</sup>elf, you can consider the types of containment in ones<sup>2</sup>elf: the first type is containment in its<sup>2</sup>elf, the second type is the containment of ones<sup>2</sup>elf potentially, for example, in the form of programming ones<sup>2</sup>elf, the third type is partial containment in ones<sup>2</sup>elf. For example: s<sup>2</sup>elf -operator, s<sup>2</sup>elf -action, whirlwind. It's as a result of containment in ones<sup>2</sup>elf that capacity in tse<sup>2</sup>lf can be formed.

Let's clarify the concept of the term capacity in its<sup>2</sup>elf: this is the capacity that contains its<sup>2</sup>elf potentially. Consider s<sup>2</sup>elf -Q, where Q may be any, including Q= s<sup>2</sup>elf, in particular it may be any action. Therefore s<sup>2</sup>elf -Q is s<sup>2</sup>elf -made Q, it does its<sup>2</sup>elf. There is a partial s<sup>2</sup>elf -Q for any Q with partial made its<sup>2</sup>elf. Consider some examples for capacity in its<sup>2</sup>e<sup>2</sup>lf: ordinary lightning, electric arc discharge, ball lightning.

A s<sup>2</sup>elf -search of the solution of the equations  $f_i(x)=0$ , where  $i=1,2,\dots,n$ ,  $x=(x_1,x_2,\dots,x_n)$ , will be realized in  $S^2t_a^{\{f_1(x)=0?x, f_2(x)=0?x, \dots, f_n(x)=0?x\}}$  or  $S^2t_{?x}^{\{f_1(x)=0, f_2(x)=0, \dots, f_n(x)=0\}}$ . x obtains more power of the liberty and in this is direct decision (i.e., s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element for x). S<sup>2</sup>elf-equation for x has its decision for x in direct kind.

The same for  $S^2t_{?}^{\{tasks(x)\}}$ . S<sup>2</sup>elf -task for x has its decision for x in direct kind. S<sup>2</sup>elf -question has its answer for x in direct kind. x acquires more degree of liberty and in this is direct decision.  $S^2t_{(o,x)}^{\{t\}}$ , 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  $S^2t_o^{\{t\}}$ .  $S^2t_{\alpha}^{\{God-father, God-son, Holy Spirit\}}$  is Three concept representation, where - point in connectedness space. S<sup>2</sup>t is also great for working with structures, for example: 1)  $S^2t_B^{strA}$ --the structure A containment to B, where by B you can understand any capacity, other structure, etc, 2)  $S^2t_R^{strQ}$ --containment structure from Q into R. Similarly for displacement: 1)  $\frac{strA}{B}S^2t$ --displacement of B from structure A, 2)  $\frac{strQ}{B}S^2t$ --displacement of the structure from Q to B. You can enter special operator C<sup>2</sup>t to work with structures:  $C^2t_B^{strA}$  structures B with the structure of A,  $C^2t_R^{strQ}$  structures R with the structure from Q,  $\frac{strA}{B}C^2t$  unstructures the structure A by B,  $\frac{strQ}{B}C^2t$  unstructures the structure which structures Q by B.

Definition S.2.8. A structure with a second degree of freedom will be called complete, i.e., "capable" of reversing tse<sup>2</sup>lf with respect to any of its elements clearly, but not necessarily in known operators, it can form (create) new special operators (in particular, special functions). In particular,  $C^2t_{strA}^{strA}$  is such

structure. Similarly, for working with models, each of which is structured by its own structure, for example, use  $S^2t$  -groups,  $S^2t$  -rings,  $S^2t$  -fields,  $S^2t$  -spaces,  $s^2elf$  -groups,  $s^2elf$  -rings,  $s^2elf$  -fields,  $s^2elf$  -spaces. Like any task, this is also a structure of the appropriate capacity.  $S^2elf$  -H ( $s^2elf$  - hydrogen), like other  $s^2elf$  -particles, does not exist in the ordinary, but in fact all  $s^2elf$  -molecules,  $s^2elf$  -atoms,  $s^2elf$  -particles are elements of the energy space.

Remark S.2.3. The concept of elements of physics  $S^2t$  is introduced for energy space. The corresponding concept of elements of chemistry  $S^2t$  is introduced accordingly. Examples: 1)  $S^2tE_D^{\{w_1q, w_2\}}$  – the energy of instantaneous substitution  $w_1$  by  $w_2$ , where  $w_1$ , and  $w_2$  are chemical elements,  $q$  is instant replacement. Similarly, one can consider for the node of chemical reactions  $S^2t_{reaction}^{\{\text{chemical elements with "target weights"}\}}$ . The periodic table  $s^2elf$  can also be thought of as the  $S^2t$  – element:  $S^2t_{Mendeleev\ table}^{\{\text{list of chemical elements}\}}$ . The ideology of  $S^2t$  elements allows us to go to the border of the world familiar to us, which allows us to act more effectively.

Dynamical  $S^2t$  – elements.

We considered stationary  $S^2t$  – elements earlier [40]. Here we consider dynamical  $S^2t$  – elements.

Definition S.2.9. The process of the containment of the set of elements  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$  in one point  $x$  of the space  $X$  at time  $t$  we shall call dynamical  $S^2t$  – element. We shall denote  $S^2t(t)_x^{\{g(t)\}}$ .

Definition S.2.10. The process of the containment of ordered set of elements in one point in space is called dynamical ordered  $S^2t$  – element.

It is allowed to add dynamical  $S^2t$  – elements:

$$S^2t(t)_x^{\{g(t)\}} + S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cup \{b(t)\}} \quad (*_{S.2.11}),$$

$$S^2t(t)_x^{\{g(t)\}} \cup S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cup \{b(t)\}} \quad (*_{S.2.12}),$$

where some or any elements may be by ordered elements.

It is allowed to multiply dynamical  $S^2t$  – elements:

$$S^2t(t)_x^{\{g(t)\}} * S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cap \{b(t)\}} \quad (*_{S.2.13}),$$

$$S^2t(t)_x^{\{g(t)\}} \cap S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cap \{b(t)\}} \quad (*_{S.2.14}),$$

where some or any elements may be by ordered elements.

Dynamical  $S^2t$  – elements can be elements of a group both by multiplication ( $*_{S.2.13}$ ), ( $*_{S.2.14}$ ) and by addition ( $*_{S.2.11}$ ), ( $*_{S.2.12}$ ) and form algebraic ring, field by these operations.

Dynamical containment of ones<sup>2</sup>elf.

Definition S.2.11. Dynamical capacity  $Q(t)$  is called the process of a containment in  $Q(t)$ .

Definition S.2.12. Dynamical  $S^2t$  -capacity  $S^2t(t)^{R(t)}_{Q(t)}$  is called the process of a containment  $R(t)$  in  $Q(t)$ .

Definition S.2.13. The dynamical containment of ones<sup>2</sup>elf  $A(t)$  of the first type is the process of putting  $A(t)$  into  $A(t)$ . Denote  $S^2_1f(t)A(t)$ .

Definition S.2.14. The dynamical containment of ones<sup>2</sup>elf  $C(t)$  of the second type is the process of a elements containment from which  $C(t)$  can be generated. Let's denote  $S^2_2f(t)C(t)$ .

Definition S.2.15. Dynamical partial containment of ones<sup>2</sup>elf  $B(t)$  of the third type is the process of partial containment of  $B(t)$  into ones<sup>2</sup>elf or a elements containment from which  $C(t)$  can be generated in part, or both simultaneously. Let us denote  $S^2_3f(t)B(t)$ .

All dynamical capacities in dynamical s<sup>2</sup>elf -space are containments of ones<sup>2</sup>elf by definition. The dynamical containments of ones<sup>2</sup>elf may to appear as dynamical  $S^2t$  -capacities and usual dynamical capacities. In these cases, there is used usual measure and topology methods.

Connection of dynamical  $S^2t$  – elements with dynamical containment of ones<sup>2</sup>elf. Consider a third type of dynamical partial containment of ones<sup>2</sup>elf. For example, based on  $S^2t(t)^{\{g(t)\}}$ , where  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$ , i.e.  $n$  – elements in one point  $x$ , it is possible to consider the dynamical containment of ones<sup>2</sup>elf  $S^2_3f(t)$  with  $m$  elements from  $\{g(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  elements from  $\{g(t)\}$  are located in the structure  $S^2t(t)^{\{g(t)\}}$ , or forms of type (1.1.1) – (1.4). Dynamical containments of ones<sup>2</sup>elf of the third type can be formed for any other structure, not necessarily  $S^2t$ , only through the obligatory reduction in the number of elements in the structure.

Structures more complex than  $S_3f(t)$  can be introduced.

Dynamical mathematics its<sup>2</sup>elf.

1. The process of simultaneous addition of a set of elements  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$  are realized by  $S^2t(t)^{\{g(t)+\}}$ .
2. By analogy, for simultaneous multiplication:  $S^2t(t)^{\{g(t)*\}}$ .
3. Similarly for simultaneous execution of various operations:  $S^2t(t)^{\{g(t)q(t)\}}$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $S^2t(t)^{\{F(t)g(t)\}}$  where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical arithmetic tse<sup>2</sup>lf for containments of ones<sup>2</sup>elf will be similar: dynamical addition -  $S^2_1f(t)^{\{g(t)+\}}$ , (or  $S^2_3f(t)^{\{g(t)+\}}_x$  for the third type), dynamical multiplication  $S^2_1f(t)^{\{g(t)*\}}$ , (or  $S^2_3f(t)^{\{g(t)*\}}_x$ ).

6. Similarly with different operations:  $S^2_1 f(t)^{\{g(t)q(t)\}}$ ,  $(S^2_3 f(t)^{\{g(t)q(t)\}})_x$ ,  
and with different operators:  $S^2_1 f(t)^{\{F(t)g(t)\}}$ ,  $(S^2_3 f(t)^{\{F(t)g(t)\}})_x$ .

$$7. S^2 t(t)^{A(t)}_{B(t)} = \left\{ S^2 t(t)^{A(t)-A(t) \cap B(t)}_{B(t)-A(t) \cap B(t)} + S^2 t^{A(t)-A(t) \cap B(t)}_{A(t) \cap B(t)} + S^2 t^{A(t) \cap B(t)}_{B(t)-A(t) \cap B(t)} \right\},$$

where  $D(t)$  is s<sup>2</sup>elf-set for  $A(t) \cap B(t)$ . The measure:

$$(S^2 t(t)^{A(t)}_{B(t)}) = (\mu^s(A(t) \cap B(t)) \cdot (\mu(A(t)) + \mu(B(t)) - \mu(A(t) \cap B(t)))).$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical S<sup>2</sup>t -derivatives, dynamical S<sup>2</sup>t -integrals, dynamical S<sup>2</sup>t -lim, dynamical s<sup>2</sup>elf - derivatives, dynamical s<sup>2</sup>elf -integrals
9. Let's denote dynamical s<sup>2</sup>elf -(dynamical s<sup>2</sup>elf -Q(t)) through dynamical s<sup>2</sup>elf <sup>2</sup> -Q(t),  $fS^2(t)(n, Q(t)) = \text{dynamical s}^2\text{elf} - (\text{dynamical s}^2\text{elf} - (\dots (\text{dynamical s}^2\text{elf} - Q(t)))) = \text{dynamical s}^2\text{elf } n\text{-}Q(t)$  for n-multiple dynamical s<sup>2</sup>elf.

Remark S.2.4. Dynamical S<sup>2</sup>t -displacement of A(t) from B(t) will be denote through  $S^2 t(t)^{B(t)}_{A(t)}$ . Then the notation  $S^2 t(t)^{A(t)}_{D(t)}$  is dynamical S<sup>2</sup>t -containment of A(t) in B(t) and dynamical S<sup>2</sup>t -displacement of D(t) from C(t) simultaneously. Let's denote  $S^2 t(t)^{A(t)}_{B(t)}$  through  $TS^2(t)^{A(t)}_{B(t)}$ ,  $S^2 t(t)^{A(t)}_{A(t)}$  — through  $TS^2(t)^{A(t)}_{A(t)}$ .

We can consider the concept of dynamical S<sup>2</sup>t - element as  $S^2 t(t)^{A(t)}_{B(t)}$ , where A(t) fits in dynamical capacity B(t). Then  $S^2 t(t)^{B(t)}_{B(t)}$  it will mean S<sub>1</sub>f(t) B(t). Let's denote  $S^2 t(t)^{B(t)}_{B(t)}$  through L(t)(B(t)).  $S^2 t(t)^{A(t)}_{A(t)}$  denotes the dynamical expelling ones<sup>2</sup>elf A(t) out of ones<sup>2</sup>elf A(t),  $S^2 t(t)^{A(t)}_{A(t)}$ —simultaneous dynamical containment of A(t) ones<sup>2</sup>elf in ones<sup>2</sup>elf and dynamical expelling A(t) ones<sup>2</sup>elf out of ones<sup>2</sup>elf.  $A S^2 t$  will be called anti-capacity from ones<sup>2</sup>elf. For example, “white hole” in physics is such simple anti-capacity. The concepts of “white hole” and “black hole” were formulated by the physicists proceeding from the physics subjects –usual energies level. The mathematics allows to find deeply and to formulate the concepts singular points in the Universe proceeding from levels of more thin energies. The experiments of Nobel laureates in 2022-year Ahlen Asle, John Clauser Anton, Zeilinger correspond to the concept of the Universe as its s<sup>2</sup>elf -containment in tse<sup>2</sup>lf. The connection between the elements of s<sup>2</sup>elf -containment in its<sup>2</sup>elf is a property of s<sup>2</sup>elf -containment in its<sup>2</sup>elf and therefore does not disappear when their location in it changes. The energy of s<sup>2</sup>elf -containment in its<sup>2</sup>elf is closed on its<sup>2</sup>elf. Hypothesis: the containment of the galaxy in ones<sup>2</sup>elf as spiral curl and the expelling her out of ones<sup>2</sup>elf defines its existence. A s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element A is the god of A, the

s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element the globe—the god of the globe, the s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element man-- the god of the man, the s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element of the universe-- the god of the universe, the containment of A into ones<sup>2</sup>elf is spirit of A, the containment of the globe into ones<sup>2</sup>elf is spirit of globe, the containment of the man into ones<sup>2</sup>elf is spirit of the man (soul), the containment of the universe into ones<sup>2</sup>elf is spirit of the universe. We may consider next axiom: any capacity is capacity of ones<sup>2</sup>elf in its<sup>2</sup>elf. This is for each energy capacity.

About dynamical S<sup>2</sup>t and S<sub>3</sub><sup>2</sup>f(t) programming.

The ideology of dynamical S<sup>2</sup>t and S<sub>3</sub><sup>2</sup>f(t) can be used for programming:

1. The process of simultaneous assignment of the expressions  $\{p\} = (p_1, p_2, \dots, p_n)$  to the variables  $\{g\} = (g_1, g_2, \dots, g_n)$  is implemented through  $S^2t(t)^{\{\{g\}:\{p\}\}}$ .
2. The process of simultaneous check the set of conditions  $\{f(t)\} = (f(t)_1, f_2(t), \dots, f(t)_n)$  for a set of expressions  $\{B(t)\} = (B_1(t), B_2(t), \dots, B_n(t))$  is implemented through  $S^2t(t)^{IF\{\{B(t)\}\{f(t)\}\} \text{ then } Q(t)}$  where Q(t) can be any.
3. Similarly for loop operators and others.

$S^2_3f(t)$ —software operators will differ only in these aggregates  $\{g\}, \{p\}, \{B(t)\}, \{f(t)\}$  will be formed from corresponding processes S<sup>2</sup>t (t) for above mentioned programming operators through form (1.1) or forms of type (1.1.1) – (1.4).

Remark S.2.5. Using dynamical S<sup>2</sup>t -elements, we introduce the concepts of dynamical S<sup>2</sup>t - force, dynamical S<sup>2</sup>t – energy. For example,  $E(t)^f_{s^2t} = S^2t(t)^{\{E_1(t)f, E_2(t)\}}_{x(t)}$  it would mean the process of instantaneous replacement f of energy E<sub>1</sub>(t) by E<sub>2</sub>(t) at time t. Similarly, using  $S^2_i f(t)$  we introduce the concepts of  $S^2_i f(t)$  -force,  $S^2_i f(t)$ -energy, i=1,2,3, etc.

Remark S.2.6. Namely the putting ones<sup>2</sup>elf into ones<sup>2</sup>elf may “gives birth” the capacities in its<sup>2</sup>elf –that’s what it is s<sup>2</sup>elf -organization.

Remark S.2.7.  $S^2t(t)^{S^2t(t)^{B(t)}_{B(t)}}_{S^2t(t)^{B(t)}_{B(t)}}$  may to increase B(t) s<sup>2</sup>elf -level.

Remark S.2.8. For example, operator its<sup>2</sup>elf [40] is  $S^2_1 f(t)$ .

Remark S.2.9. May be considered the next derivatives:  $\frac{dS^2t(t)^{A(t)}_{B(t)}}{dt}$ ,  $\frac{d^{B(t)}_{A(t)} S^2t(t)}{dt}$ ,  $\frac{d^{C(t)}_{D(t)} S^2t(t)^{A(t)}_{B(t)}}{dt}$ ,  $\frac{dS^2_i f(t)}{dt}$ , i=1,2,3.

Remark S.2.10. Namely a containment of ones<sup>2</sup>elf in ones<sup>2</sup>elf may be interpreted as dynamical capacities in its<sup>2</sup>elf.

Remark S.2.11. By far not each capacity in its<sup>2</sup>elf will appear as S<sup>2</sup>t - capacities or capacities.

S<sup>2</sup>t-elements for continual sets.

Earlier we considered finite-dimensional discrete  $S^2t$  -elements and  $s^2elf$  -capacities in  $its^2elf$  as an element [40]. Here we consider some continual  $S^2t$  -elements and continual  $s^2elf$  -capacities in  $its^2elf$  as an element.

Definition S.2.16. The set of continual elements  $\{g\} = (g_1, g_2, \dots, g_n)$  at one point  $x$  of space  $X$  we shall call  $S^2t$  – element, and such a point in space is called capacity of the continual  $S^2t$  – element. We shall denote  $S^2t_x^{\{g\}}$ .

Definition S.2.17. An ordered set of continual elements at one point in space is called an ordered continual  $S^2t$  – element.

It's allowed to add continual  $S^2t$  – elements:

$$S^2t_x^{\{g\}} + S^2t_x^{\{b\}} = S^2t_x^{\{g\} \cup \{b\}} \quad (*_{S.2.15})$$

$$S^2t_{\{g\}}^x + S^2t_{\{b\}}^x = S^2t_{\{g\} \cup \{b\}}^x \quad (*_{S.2.16})$$

It's allowed to multiply continual  $S^2t$  – elements:

$$S^2t_x^{\{g\}} * S^2t_x^{\{b\}} = S^2t_x^{\{g\} \cap \{b\}} \quad (*_{S.2.17})$$

$$S^2t_{\{g\}}^x * S^2t_{\{b\}}^x = S^2t_{\{g\} \cap \{b\}}^x \quad (*_{S.2.18})$$

where some or any elements may be by ordered elements.

The continual  $S^2t$  – elements can be elements of a group both by multiplication  $(*_{S.2.17})$ ,  $(*_{S.2.18})$  and by addition  $(*_{S.2.15})$ ,  $(*_{S.2.16})$  and also form algebraic ring, field by these operations.

Definition S.2.18. The continual  $s^2elf$  -capacity in  $its^2elf$  as an element  $A$  of the first type is the capacity containing  $tse^2lf$  as an element. Denote  $S^2_1fA$ .

Definition S.2.19. The ordered continual  $s^2elf$  -capacity in  $its^2elf$  as an element  $A$  of the first type is the ordered capacity containing  $its^2elf$  as an element. Denote  $\overrightarrow{S^2_1fA}$ .

For example,  $S_\infty^+ = \sin \infty$  has such type. It denotes continual ordered  $s^2elf$  -capacities in  $its^2elf$  as an element of next type—the range of simultaneous “activation” of numbers from  $[-1, 1]$  in mutual directions:  $\uparrow I \downarrow_{-1}^1$ . Also we consider next elements:  $S_\infty^- = \sin(-\infty) \rightarrow \downarrow I \uparrow_{-1}^1$ ,  $T_\infty^+ = \text{tg} \infty \rightarrow \uparrow I \downarrow_{-\infty}^\infty$ ,  $T_\infty^- = \text{tg}(-\infty) \rightarrow \downarrow I \uparrow_{-\infty}^\infty$ , don't confuse with values of these functions. Such elements can be summarized. For example:  $gS_\infty^+ + bS_\infty^- = (g - b)S_\infty^+ = (b - g)S_\infty^-$ .

Definition S.2.20. The continual  $s^2elf$  -capacity in  $its^2elf$  as an element of the second type is the capacity that contains continual elements from which it can be generated. Let's denote  $S^2_2fA$ . An example of continual  $s^2elf$  -capacity in  $its^2elf$  as an element of the second type is a living organism, since it contains a program: DNA, RNA.

Definition S.2.21. Partial continual  $s^2elf$  -capacity in  $its^2elf$  as an element of the third type is called continual  $s^2elf$  -capacity in  $its^2elf$  as an element, which

contains its<sup>2</sup>elf in part or contains elements from which it can be generated in part, or both simultaneously. Let us denote  $S^2_3fA$ .

Also, may be considered operators for them. All continual capacities in s<sup>2</sup>elf-space are continual s<sup>2</sup>elf-capacities in its<sup>2</sup>elf as an element by definition. The continual s<sup>2</sup>elf-capacities in its<sup>2</sup>elf as an element may to appear as continual S<sup>2</sup>t-capacities and usual continual capacities. In these cases, there is used usual measure and topology methods.

Connection of continual S<sup>2</sup>t – elements with s<sup>2</sup>elf-capacities in its<sup>2</sup>elf as an element.

Consider a third type of continual s<sup>2</sup>elf-capacity in its<sup>2</sup>elf as an element. For example, based on  $S^2t^{\{g\}}$ , where  $\{g\} = (g_1, g_2, \dots, g_n)$ , i.e.  $g_i$  - continual elements at one point,  $i=1, 2, \dots, n$ . It's possible to consider the continual s<sup>2</sup>elf-capacity in its<sup>2</sup>elf as an element  $S^2_3f$  with  $m$  continual elements from  $\{g\}$ , at  $m < n$ , which is formed by the form (1.1), that is, only  $m$  continual elements are located in the structure  $S^2t^{\{g\}}$ , or forms of type (1.1.1) – (1.4). Continual s<sup>2</sup>elf-capacities in its<sup>2</sup>elf as an element of the third type can be formed for any other structure, not necessarily S<sup>2</sup>t, only through the obligatory reduction in the number of continual elements in the structure. Structures more complex than  $S^2_3f$  can be introduced.

Mathematics its<sup>2</sup>elf for continual elements.

1. Simultaneous addition of a set of continual elements  $\{g\} = (g_1, g_2, \dots, g_n)$  are realized by  $S^2t^{\{g \cup\}}$ .
2. By analogy, for simultaneous multiplication:  $S^2t^{\{g \cap\}}$ .
3. Similarly for simultaneous execution of various operations:  $S^2t^{\{gq\}}$  where  $\{q\} = (q_1, q_2, \dots, q_n)$ .  $q_i$  -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $S^2t^{\{Fg\}}$ , where  $\{F\} = (F_1, F_2, \dots, F_n)$ .  $F_i$  is an operator,  $i = 1, \dots, n$ .
4. 5. For continual s<sup>2</sup>elf-capacities in its<sup>2</sup>elf as an element will be similar: addition -  $S^2_1f^{\{g+\}}$ , (or  $S^2_3f_x^{\{g+\}}$  for the third type), multiplication  $S^2_1f^{\{g*\}}$ ,  $(S^2_3f_x^{\{g*\}})$ .
11. Similarly with different operations:  $S^2_1f^{\{gq\}}$ ,  $(S^2_3f_x^{\{gq\}})$ . and with different operators:  $S^2_1f^{\{Fg\}}$ ,  $(S^2_3f_x^{\{Fg\}})$ .
12.  $S^2t_B^A$  – is the result of the holding operator action, the continual dynamical hierarchical set of null type  $S^2t_B^A$  – a kind of product of the sets  $A$ . For sets  $A, B$  we have

$$S^2t_B^A = \left\{ S^2t_{B-A \cap B}^{A-A \cap B} + S^2t_{A \cap B}^{A-A \cap B} + S^2t_{B-A \cap B}^{A \cap B} \right\} (*S.2.19)$$

where  $D$  is  $s^2elf$  -set for  $A \cap B$ . The measure:

$$\mu(St_B^A) = \left( \frac{\mu^s(A \cap B)}{\mu(A) + \mu(B) - \mu(A \cap B)} \right) \quad (*_{S.2.19.1})$$

There is the same for structures if it's considered as sets.

Remark S.2.12.  $S^2t$  -displacement of  $A$  from  $B$  will be denote through  ${}_A^B S^2t$ . Then the notation  ${}_D^C S^2t_B^A$  is  $S^2t$  -containment of  $A$  in  $B$  and  $S^2t$  -displacement of  $D$  from  $C$  simultaneously. Let's denote  ${}_A^B S^2t_B^A$  through  $TS_B^A$ ,  ${}_A^B S^2t_A^A$  - through  $TS_A^A$ . Three in one is  $S^2t_\infty^{\{\infty \text{ in itself, no element, } 0 \text{ out oneself}\}}$ , - point space connectedness.

We can consider the concept of continual  $S^2t$  - element as  $S^2t_B^A$ , where  $A$  fits in continual capacity  $B$ . Then  $S^2t_B^B$ , it will mean  $S^2_1 f B$ .

Namely such elements are used for  $S^2t$  -coding,  $S^2t$  translation, coding  $s^2elf$ , translation  $s^2elf$  for networks [40], what for electric current of ultrahigh frequency is suitable. May be considered more complex elements as continual sets of numbers with mutual directions "activation" them. For example, ranges of functions values, in particular, functions, which represent lightning form. Certainly, here may be applied differential geometry. Also, may be considered  $n$ -dimensional elements. The space of such elements is Banach space if we introduce usual norm for functions or vectors excluding their exceptions. We call this space--Selb-space. Then we introduce scalar product for functions or vectors excluding their exceptions and get Hilbert space. We call this space-- $S^2elh$ -space. In particular, may try to describe some processes with these elements by differential equations and to use methods from [28]. Also, may try to apply an optimization and others researches to some processes with these elements by methods from [31]. Let's introduce operators to transform capacity to  $s^2elf$  -capacity in its $s^2elf$  as an element:

$Q_1 S^2(A)$  transforms  $A$  to  $f_1 S^2 A$ ,  $Q_0 S^2(A)$  transforms  $A$  to  ${}_A^A S^2 t$ ,  $S^2 O(A)$  transforms  $A$  to  $\uparrow A \downarrow$ ,  $\uparrow A \downarrow$  -- ordered  $s^2elf$  -capacity in its $s^2elf$  as an element of simultaneous "activation" of all elements of  $A$  in mutual directions. For example,  $S^2 O([-1,1]) = S_\infty^+$ ,  $S^2 O([1,-1]) = S_\infty^-$ ,  $S^2 O([-\infty, \infty]) = T_\infty^+$ ,  $S^2 O([\infty, -\infty]) = T_\infty^-$ . Operator  $(Q_1 S^2(A))^2$  increases  $s^2elf$  level for  $A$ : it transforms  $S^2elf-A = f_1 S^2 A$  to  $s^2elf^2-A$ ,  $(Q_1 S^2(A))^n \rightarrow s^2elf^n-A$ ,  $e^{Q_1 S^2(A)} \rightarrow e^{s^2elf} - A$ .

Dynamical continual  $S^2t$  - elements.

Also, may be considered dynamical continual  $S^2t$  -elements, where may be transfer these definitions, operations using [38] on them by analogy:

Definition S.2.22. The process of the containment of the set of continual elements  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$  in one point  $x$  of the space  $X$  at time  $t$  we shall call dynamical continual  $S^2t$  - element. We shall denote  $S^2t(t)_x^{\{g(t)\}}$ .

Definition S.2.23. The process of the containment of ordered set of continual elements in one point in space is called dynamical continual ordered  $S^2t$  - element.

It is allowed to add dynamical continual  $S^2t$  – elements:

$$S^2t(t)_x^{\{g(t)\}} + S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cup \{b(t)\}} \quad (*_{S.2.20}),$$

$$S^2t(t)_{\{g(t)\}}^x + S^2t(t)_{\{b(t)\}}^x = S^2t(t)_{\{g(t)\} \cup \{b(t)\}}^x \quad (*_{S.2.21}),$$

where some or any elements may be by ordered elements.

It is allowed to multiply dynamical continual  $S^2t$  – elements:

$$S^2t(t)_x^{\{g(t)\}} * S^2t(t)_x^{\{b(t)\}} = S^2t(t)_x^{\{g(t)\} \cap \{b(t)\}} \quad (*_{S.2.22}),$$

$$S^2t(t)_{\{g(t)\}}^x * S^2t(t)_{\{b(t)\}}^x = S^2t(t)_{\{g(t)\} \cap \{b(t)\}}^x \quad (*_{S.2.23}),$$

where some or any elements may be by ordered elements.

Dynamical continual  $S^2t$  – elements can be elements of a group both by multiplication ( $*_{S.2.22}$ ), ( $*_{S.2.23}$ ) and by addition ( $*_{S.2.20}$ ), ( $*_{S.2.21}$ ) and form algebraic ring, field by these operations.

Dynamical continual containment of ones<sup>2</sup>elf [40].

Definition S.2.24. Dynamical continual capacity  $Q(t)$  is called the process of a containment in  $Q(t)$ .

Definition S.2.25. Dynamical continual  $S^2t$  -capacity  $S^2t(t)_{Q(t)}^{R(t)}$  is called the process of a containment  $R(t)$  in  $Q(t)$ .

Definition S.2.26. The dynamical containment of ones<sup>2</sup>elf continual  $A(t)$  of the first type is the process of putting  $A(t)$  into  $A(t)$ . Denote  $S^2_1f(t)A(t)$ .

Definition S.2.27. The dynamical containment of ones<sup>2</sup>elf continual  $C(t)$  of the second type is the process of a continual elements containment from which  $C(t)$  can be generated. Let's denote  $S^2_2f(t)C(t)$ .

Definition S.2.28. Dynamical partial containment of ones<sup>2</sup>elf  $B(t)$  of the third type is the process of partial containment of continual  $B(t)$  into ones<sup>2</sup>elf or a continual elements containment from which  $C(t)$  can be generated in part, or both simultaneously. Let us denote  $S^2_3f(t)B(t)$ .

Connection of dynamical continual  $S^2t$  – elements with dynamical containment of ones<sup>2</sup>elf.

Consider a third type of dynamical continual partial containment of ones<sup>2</sup>elf. For example, based on  $S^2t(t)^{\{g(t)\}}$ , where  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$ , i.e.  $n$  - continual elements in one point  $x$ , it is possible to consider the dynamical containment of ones<sup>2</sup>elf  $S^2_3f(t)$  with  $m$  continual elements from  $\{g(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements from  $\{g(t)\}$  are located in the structure  $S^2t(t)^{\{g(t)\}}$ , or forms of type (1.1.1) – (1.4). Dynamical continual containments of ones<sup>2</sup>elf of the third type can be formed for any other structure, not necessarily  $S^2t$ , only through the obligatory reduction in the number of continual elements in the structure. Structures more complex than  $S^2_3f(t)$  can be introduced.

Dynamical continual mathematics its<sup>2</sup>elf.

1. The process of simultaneous addition of a set of continual elements  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$  are realized by  $S^2t(t)^{\{g(t)\cup\}}$ .
2. By analogy, for simultaneous multiplication:  $S^2t(t)^{\{g(t)\cap\}}$ .
3. Similarly for simultaneous execution of various operations:  $S^2t(t)^{\{g(t)q(t)\}}$ , where  $\{q(t)\} = (q_1(t), q_2(t), \dots, q_n(t))$ .  $q_i(t)$ -an operation,  $i = 1, \dots, n$ .
4. Similarly, for the simultaneous execution of various operators:  $S^2t(t)^{\{F(t)g(t)\}}$  where  $\{F(t)\} = (F_1(t), F_2(t), \dots, F_n(t))$ .  $F_i(t)$  is an operator,  $i = 1, \dots, n$ .
5. The dynamical continual arithmetic its<sup>2</sup>elf for containments of ones<sup>2</sup>elf will be similar: dynamical continual addition -  $S^2_1f(t)^{\{g(t)\cup\}}$ , (or  $S^2_3f(t)^{\{g(t)\cup\}}_x$  for the third type), dynamical continual multiplication  $S^2_1f(t)^{\{g(t)\cap\}}$ , (or  $S^2_3f(t)^{\{g(t)\cap\}}_x$ ).
6. Similarly with different operations:  $S^2_1f(t)^{\{g(t)q(t)\}}$ ,  $(S^2_3f(t)^{\{g(t)q(t)\}}_x)$ , and with different operators:  $S^2_1f(t)^{\{F(t)g(t)\}}$ ,  $(S^2_3f(t)^{\{F(t)g(t)\}}_x)$ .
7.  $S^2t(t)^{A(t)}_{B(t)} = \left\{ S^2t(t)^{A(t)-A(t)\cap B(t)}_{B(t)-A(t)\cap B(t)} + S^2t^{A(t)-A(t)\cap B(t)}_{A(t)\cap B(t)} + S^2t^{A(t)\cap B(t)}_{B(t)-A(t)\cap B(t)} \right\}$ , where  $D(t)$  is s<sup>2</sup>elf-set for  $A(t) \cap B(t)$ . The measure:  

$$\mu(S^2t(t)^{A(t)}_{B(t)}) = \frac{\mu^s(A(t) \cap B(t))}{\mu(A(t)) + \mu(B(t)) - \mu(A(t) \cap B(t))}.$$

There is the same for structures if it's considered as sets.

8. Similarly for dynamical continual S<sup>2</sup>t -derivatives, dynamical continual S<sup>2</sup>t -integrals, dynamical continual S<sup>2</sup>t -lim, dynamical continual s<sup>2</sup>elf -derivatives, dynamical continual s<sup>2</sup>elf -integrals
9. Let's denote dynamical continual s<sup>2</sup>elf -( dynamical continual s<sup>2</sup>elf -Q(t)) through dynamical continual s<sup>2</sup>elf <sup>2</sup>-Q(t) ,  $fcS^2(t)(n, Q(t)) =$  dynamical continual s<sup>2</sup>elf -( dynamical continual s<sup>2</sup>elf -(... ( dynamical continual s<sup>2</sup>elf -Q(t)))) = dynamical continual s<sup>2</sup>elf <sup>n</sup>-Q(t) for n-multiple dynamical continual s<sup>2</sup>elf.

Remark S.2.13. Dynamical continual S<sup>2</sup>t -displacement of A(t) from B(t) will be denote through  $S^2t(t)^{B(t)}_{A(t)}$ . Then the notation  $S^2t(t)^{C(t)}_{D(t)} S^2t(t)^{A(t)}_{B(t)}$  is dynamical continual S<sup>2</sup>t -containment of A(t) in B(t) and dynamical continual S<sup>2</sup>t -displacement of D(t) from C(t) simultaneously. Let's denote  $S^2t(t)^{B(t)}_{A(t)} S^2t(t)^{A(t)}_{B(t)}$  through  $TS^2(t)^{A(t)}_{B(t)}$ ,  $S^2t(t)^{A(t)}_{A(t)} S^2t(t)^{A(t)}_{A(t)}$  - through  $TS^2(t)^{A(t)}_{A(t)}$ .

We can consider the concept of dynamical continual  $S^2t$  - element as  $S^2t(t)^{A(t)}_{B(t)}$ , where  $A(t)$  fits in dynamical continual capacity  $B(t)$ . Then  $S^2t(t)^{B(t)}_{B(t)}$  it will mean  $S^2_1f(t)^{B(t)}$ . Let's denote  $S^2t(t)^{B(t)}_{B(t)}$  through  $L(t)(B(t))$ .  $^{A(t)}_{A(t)}S^2t(t)$  denotes the dynamical continual expelling ones<sup>2</sup>elf  $A(t)$  out of ones<sup>2</sup>elf  $A(t)$ ,  $^{A(t)}_{A(t)}S^2t(t)^{A(t)}_{A(t)}$ —simultaneous dynamical continual containment of ones<sup>2</sup>elf  $A(t)$  in ones<sup>2</sup>elf  $A(t)$  and dynamical continual expelling ones<sup>2</sup>elf  $A(t)$  out of ones<sup>2</sup>elf  $A(t)$ .  $^{A(t)}_{A(t)}S^2t(t)$  will be called anti-capacity from ones<sup>2</sup>elf. For example, “white hole” in physics is such simple anti-capacity. The concepts of “white hole” and “black hole” were formulated by the physicists proceeding from the physics subjects –usual energies level. The mathematics allows to find deeply and to formulate the concepts singular points in the Universe proceeding from levels of more thin energies.

Hypothesis: the containment of the galaxy in ones<sup>2</sup>elf as spiral curl and the expelling her out of ones<sup>2</sup>elf defines its existence. A s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element  $A$  is the god of  $A$ , the s<sup>2</sup>elf -capacity in tse<sup>2</sup>lf as an element the glob-the god of the globe, the s<sup>2</sup>elf -capacity in tse<sup>2</sup>lf as an element man-- the god of the man, the s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element of the universe- the god of the universe, the containment of  $A$  into ones<sup>2</sup>elf is spirit of  $A$ , the containment of the globe into ones<sup>2</sup>elf is spirit of globe, the containment of the man into ones<sup>2</sup>elf is spirit of the man (soul), the containment of the universe into ones<sup>2</sup>elf is spirit of the universe. We may consider next axiom: any capacity is capacity of ones<sup>2</sup>elf in its<sup>2</sup>elf. This is for each energy capacity. The experiments of Nobel laureates in 2022-year Ahlen Asle, John Clauser, Anton Zeilinger correspond to the concept of the Universe as its s<sup>2</sup>elf -containment in its<sup>2</sup>elf. The connection between the elements of s<sup>2</sup>elf -containment in its<sup>2</sup>elf is a property of s<sup>2</sup>elf -containment in its<sup>2</sup>elf and therefore does not disappear when their location in it changes. The energy of s<sup>2</sup>elf -containment in its<sup>2</sup>elf is closed on its<sup>2</sup>elf.

Connection of dynamical continual  $S^2t$  – elements with target weights with dynamical continual containment of ones<sup>2</sup>elf with target weights.

It is allowed to add dynamical continual  $S^2t$  – elements with target weights  $w(t)$ :

$$S^2t(t)^{\{g(t)\}w(t)}_x + S^2t(t)^{\{b(t)\}w(t)}_x = S^2t(t)^{\{g(t)\} \cup \{b(t)\}w(t)}_x \quad (*_{S.2.24}),$$

$$S^2t(t)^x_{\{g(t)\}w(t)} + S^2t(t)^x_{\{b(t)\}w(t)} = S^2t(t)^x_{\{g(t)\} \cup \{b(t)\}w(t)} \quad (*_{S.2.25}),$$

where some or any elements may be by ordered elements.

It is allowed to multiply dynamical continual  $S^2t$  – elements with target weights  $w(t)$ :

$$S^2t(t)^{\{g(t)\}w(t)}_x * S^2t(t)^{\{b(t)\}w(t)}_x = S^2t(t)^{\{g(t)\} \cap \{b(t)\}w(t)}_x \quad (*_{S.2.26}),$$

$$S^2t(t)^x_{\{g(t)\}w(t)} * S^2t(t)^x_{\{b(t)\}w(t)} = S^2t(t)^x_{\{w(t)\} \cap \{b(t)\}w(t)} \quad (*_{S.2.27}),$$

where some or any elements may be by ordered elements.

Dynamical continual  $S^2t$  – elements with target weights  $w(t)$ : can be elements of a group both by multiplication (\*<sub>S.2.26</sub>), (\*<sub>S.2.27</sub>) and by addition (\*<sub>S.2.24</sub>), (\*<sub>S.2.25</sub>) and also form algebraic ring, field by these operations. Consider a third type of dynamical continual partial containment of ones<sup>2</sup>elf with target weights  $w(t)$ . For example, based on  $S^2t(t)^{\{g(t)w(t)\}}$ , where  $\{g(t)\} = (g_1(t), g_2(t), \dots, g(t))$ , i.e.  $n$  - continual elements with target weights  $\{w(t)\}$  in one point  $x$ , it is possible to consider the dynamical containment of ones<sup>2</sup>elf with target weights  $S^2_3f(t)w(t)$  with  $m$  continual elements with target weights  $\{w(t)\}$  from  $\{g(t)\}$ , at  $m < n$ , which is process to be formed by the form (1.1), that is, only  $m$  continual elements with target weights  $\{w(t)\}$  from  $\{g(t)\}$  are located in the structure  $S^2_3f(t)w(t)$ , or forms of type (1.1.1) – (1.4). Dynamical continual containments of ones<sup>2</sup>elf with target weights of the third type can be formed for any other structure, not necessarily  $S^2t$ , only through the obligatory reduction in the number of continual elements with target weights in the structure. Structures more complex than  $S^2_3f(t)w(t)$  can be introduced.

Definition S.2.29. The dynamical containment of ones<sup>2</sup>elf continual  $A(t)$  with target weights  $\{w(t)\}$  of the first type is the process of putting  $A(t)$  into  $A(t)$  with target weights. Denote  $S^2_1f(t)A(t)w(t)$ .

Definition S.2.30. The partial dynamical containment of ones<sup>2</sup>elf continual  $C(t)$  with target weights  $\{w(t)\}$  of the second type is the process of a continual elements containment from which  $C(t)$  with target weights  $\{g(t)\}$  can be generated. Let's denote  $S^2_2f(t)C(t)w(t)$ .

Definition S.2.31. Dynamical continual partial containment of ones<sup>2</sup>elf  $B(t)$  with target weights  $\{w(t)\}$  of the third type is the process of partial a continual elements containment from which  $B(t)$  with target weights  $\{g(t)\}$  can be generated partially. Let us denote  $S^2_3f(t)B(t)w(t)$ .

The usage of  $S^2t$  -elements for networks.

The all-encompassing monograph of A. Galushkin [32] embraces all aspects of networks but usual traditional approaches to networks are through classical mathematics, in particular through usual conformity operators. Here considers another approach – through new mathematics partition with containment operators, which though may be interpreted as a result of some conformity operators, but themselves are no conformity operators. The containment operators are more convenient for networks. Also, main lay stress on the processors use, which work with triodes use, that does not use in  $S^2t$  -networks in mainly.  $S^2t$  -networks is represented by  $S^2t$  -structure, which may be constructed for necessary weights.  $S^2t$  -OS ( $S^2t$  operating system) are used  $S^2t$  -coding and  $S^2t$  -translation. In the first the coding is realized through 2-measured matrix –row  $(a, b)$ , where the number  $b$  – the code of the action, the number  $a$  - the object code of this action.  $S^2t$  -coding (or  $s^2elf$  -coding) is realized through the matrix, which has 2 columns (in continuous case- 2 numbers intervals). Here initial coding is used for all matrix rows simultaneously.  $S^2t$  -translation is realized by the inversion. In this case  $s^2elf$  -coding and  $s^2elf$  -translation will be more stable in particular.

The target weights  $f_i$  in  $S^2t_a^{\{fx\}}$  are chosen for necessary tasks. We will touch no questions of the applications, optimization of networks. They are detailed by A. Galushkin [32]. We touch difference of it for complex networks hierarchy only. The same simple executing programs are in the cores of simple artificial neurons of type  $S^2t$  (designation -  $mnS^2t$ ) for simple information processing. More complex executing programs are used for  $mnS^2t$  nodes. Unfortunately, we change name  $S^2t$ -elements [40] to  $S^2t$  -elements because we find that  $S^2t$  -elements were used by other authors early.  $S^2t$  -threshold element  $sgn(S^2t_b^{\{gx\}})$ ,  $b$ -  $mnS^2t$ ,  $x=(x_1, x_2, \dots, x_n)$  – source signals values,  $\{g\} = (g_1, g_2, \dots, g_n)$  –  $S^2t$  -synapses weights. The first level of  $mnS^2t$  consists from simple  $mnS^2t$  . The second level of  $mnS^2t$  consists from  $St_D^{\{mnS^2t\}}$  –  $S^2t$  -node of  $mnS^2t$  in range  $D$ ,  $D$ -capacity for  $mnS^2t$  node. The third level of  $mnS^2t$  consists from  $S^2t_D^{\{St_D^{\{mnS^2t\}}\}}$  -  $S^2t$  <sup>2</sup>- node of  $mnS^2t$  in range  $D$ , thus  $D$  becomes capacity in its<sup>2</sup>elf for  $mnS^2t$ . The usage of  $S^2t$  <sup>2</sup>- nodes of  $mnS^2t$  is enough for our networks, but s<sup>2</sup>elf-level is more higher in living organisms, in particular  $S^2t$  <sup>n</sup>-,  $n \geq 3$ . Target structure or corresponding eprogram by corresponding s<sup>2</sup>elf -code enters to target block by means of alternating current. After that here takes place the activation of all networks or its part according to indicative target. May arise the opinion that we go out from networks ideology, but in fact networks presents complex hierarchy with capacity in tse<sup>2</sup>lf of different levels in living organisms.

Remark S.2.14. Traditional scientific approaches through classical mathematics allows to describe only on usual energy level. Here is approach- on more thin energy level.

In  $mnS^2t$  are  $S^2t_{mnS^2t}^{\{eprograms\}}$ , *eprogram*—executing program in  $S^2t$ -OS. In this connection  $S^2t$  -OS (or  $S^2t$  -elf-OS) is based on  $S^2t$  -assembly language (or s<sup>2</sup>elf -assembly language), which is based on assembly language through  $S^2t$  -approach in turn in the case of the sufficiency of the  $S^2t$  -networks elements base. The eprograms are in  $S^2t$  -programming environments (or  $S^2t$  -elf - programming environments ), but this question and  $S^2t$  -networks base will be considered in next articles. In particular, eprograms may contain  $S^2t$  - programming operators. In  $mnS^2t$  cores the constant memory  $S^2t$  with correspondent eprograms depending on  $mnS^2t$ .

Here is based on the elements of  $S^2t$  – physics and special neural networks with artificial neurons operating in normal and  $S^2t$  – modes, a model of a helicopter without a main and tail rotors was developed. Let's denote this model through  $SmnS^2t$ . To do this, it's proposed to use  $mnS^2t$  of different levels, for example, for the usual mode,  $mnS^2t$  serves for the initial processing of signals and the transfer of information to the second level, etc. to the nodal center, then checked and in case of anomaly - local  $S^2t$  – mode with the desired "target weight" is realized in this section, etc. to the center. Here, in case of anomaly during the test,  $S^2mnS^2t$  is activated with the desired "target weight". Here are realized other tasks also. To reach the s<sup>2</sup>elf -energy level, the mode  $S^2t_{SmnS^2t}^{SmnS^2t}$  is used. In normal mode, it's planned to carry out the movement of  $S^2mnS^2t$  on jet

propulsion with the conversion of 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  $S^2mnS^2t$  for the gases emitted by the jet engine, which first exit through a straight chute connected to the spiral one. There is a drainage of exhaust gases outside the  $S^2mnS^2t$ . Otherwise,  $S^2mnS^2t$  is represented by a neural network that extends from the center of one of the main clusters of  $S^2t$  - artificial neurons to the shell, turning on into the shell itself. Above the operator's cabin is the central core of the neural network and the target block, which is 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  $S^2mnS^2t$ 's actions is located below the operators' cab. In  $S^2t$  - mode the entire network or its sections are  $S^2t$  - activated to perform certain tasks, in particular, with "target weights". In target block are used  $S^2t$  -coding,  $S^2t$  -translation for activation all networks to "target weights" simultaneously, then -the reset of this  $S^2t$  -coding after activation. Unfortunately, triodes are not suitable for  $S^2t$  -neural network. In the most primitive case usual separators with corresponding resistances and core for eprograms may be used instead triodes since there is not necessity in the unbending of the alternating current to direct. The belt of  $S^2t$  -memory operative is disposed around central core of  $S^2mnS^2t$ . There are  $S^2t$  -coding,  $S^2t$  -translation,  $S^2t$  -realize of eprograms and of the programs from the archives without extraction theirs. For  $S^2t$  -coding and  $S^2t$  -translation may be use high-intensity, ultra-short optical pulses laser of Nobel laureates 2018 year Gerard Mourou, Donna Strickland.

$S^2t$  - structure or a eprogram if one is present of needed «target weight» are taken in target block at  $S^2t$  - activation of the networks.  $S^2t_{activation}^{SmnS^2t,f}$  derives  $S_{mnS^2t}$  to the self level boundary with target weight  $f$ .

It's used an alternating current of above high frequently and ultra-violet light, which are able to work with  $S^2t$  - structures in  $S^2t$  - modes by it's nature for an activation of the networks or some of its parts in  $S^2t$  - modes and at local using  $S^2t$  - mode. Above high frequently alternating current go through mercury bearers that overheating does not occur. The power of the alternating current of above high frequently increase considerably for target block. The activation of all networks is realized to indicative "target weights".

Appendix. Connection  $S^2t$  - elements with usual functionals and operators.

We consider functional  $g(x): X \rightarrow g, x \in X$ ,  $g$ —numerical value of functional  $g(x)$ . It is specific capacity for  $X$ .  $S^2t_{\{g(x)\}}^{\{g(x)\}}$  made from her the self-capacity in its self as an element  $S^2_1 f \{g(x)\}$  [38],  $\{g(x)\}$ —all functional for all  $X$ . In particular, probability  $p(X)$  -is such functional,  $X$ —an event. Here  $S^2t_{p(X)}^{p(X)} - S^2_1 f p(X)$ , denote it through  $pS^2(X)$ . Usual event is dynamical capacity.

Definition S.2.32.  $S^2t$  -probability of events  $A$ ,  $B$  is  $p(S^2t_B^A)$ , denote  $S^2p_B^A$ . In particular,

$S^2p_B^A$  for joint A, B:  $S^2p_B^A = p(S^2t_B^A) = p\left(\left\{ S^2t_{B-A\cap B}^A + S^2t_{A\cap B}^D + S^2t_{B-A\cap B}^{A\cap B} \right\}\right) =$   
 $\left( p(A) + p(B) - p(A \cap B) \right) \cdot p(S^2(D))$ , D- the s<sup>2</sup>elf-capacity in tse<sup>2</sup>lf as an element from AB,  
 $pS^2(D)$ —probability s<sup>2</sup>elf of D of next level—s<sup>2</sup>elf level. The probability for  
stochastic value X is capacity. We represent their distribution in the kind of S<sup>2</sup>t  
-element:

$$S^2t(t)_X^{\{(x_1, p_1), (x_2, p_2), \dots, (x_n, p_n)\}} \quad (*_{S.2.28})$$

Here interest represent partial distribution s<sup>2</sup>elf from (\*<sub>S.2.28</sub>) by the form (1.1)  
or forms of type (1.1.1) – (1.4) with value s<sup>2</sup>elf of stochastic value X for some  
subset  $\{x_{1_1}, x_{2_1}, \dots, x_{j_1}\} \in \{x_1, x_2, \dots, x_n\}$  with probabilities s<sup>2</sup>elf  $\{pS^2_{1_1}, pS^2_{2_1},$   
 $\dots, pS^2_{j_1}\}$ .

For operator  $X_1 \xrightarrow{F} X_2$ :  $\xrightarrow{F} X_2$  is capacity for  $X_1$ .  $S^2t \xrightarrow{F} \xrightarrow{F} X_2$  -- s<sup>2</sup>elf -capacity in  
 $\xrightarrow{F} X_2$

its<sup>2</sup>elf as an element for  $X_1$ . More complex for implicit operator:  $F(X_1, X_2)=0$ .  
Then  $S^2t_{F(X_1, X_2)=0}^{F(X_1, X_2)=0}$  forms s<sup>2</sup>elf -capacity in its<sup>2</sup>elf 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., s<sup>2</sup>elf  
-capacity in its<sup>2</sup>elf as an element for x). S<sup>2</sup>elf -equation for x has its decision  
for x in direct kind. S<sup>2</sup>elf -task for x has its decision for x in direct kind. S<sup>2</sup>elf  
-question has its answer for x in direct kind. x acquires more degree of liberty  
and in this is direct decision.

We consider  $S^2t_D^D$ , D-block over execution subject in  $S^2_{mnS^2t}$  for networks [40].  
Then we have s<sup>2</sup>elf -capacity in its<sup>2</sup>elf as an element D, where full realization  
requires correspondent s<sup>2</sup>elf -energy.  $S^2t_{S_{mnS^2t}}^{S_{mnS^2t}}$  increase s<sup>2</sup>elf level of  $S^2_{mnS^2t}$   
and may made no visual its.

**Conclusions:** 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 be-  
yond the horizon through chance, while we immediately start from the horizon.  
We have found a way to construct some mathematical class of complex pro-  
cesses 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 cor-  
responding software and application for new technologies, in the light of the new  
approach. The entire neural network as instantaneous simultaneous RAM in S<sup>2</sup>t

-elements and s<sup>2</sup>elf-elements.  $s^2elf^{s^2elf \dots s^2elf}, f1 \downarrow I \uparrow_{-1}^1 f2, f1 \downarrow I \uparrow_{-1}^1 f2, \dots, f1 \downarrow I \uparrow_{-1}^1 f2, \dots$

$\sin\infty^{\sin\infty\cdots\sin\infty}$ . When activated in a neural network, the entire neural network becomes a working memory. Use of s<sup>2</sup>elf -energy as activation or from outside.  
 $Q^2_0 = S^2t^{\frac{S^2_{mn}S^2_t}{S^2_{activation}S^2_t}} \rightarrow \text{s}^2\text{elf -RAM}, Q^2_{00} = \frac{S^2_{mn}S^2_t}{S^2_{mn}S^2_t} Q^2_0, Q^2_{01} = \frac{S^2_{mn}S^2_t}{S^2_{mn}S^2_t} Q^2_0.$   
 $Q^2_0, Q^2_{00}, Q^2_{01}$ -coding, translation, realization eprograms,  $Q^2_0, Q^2_{00}, Q^2_{01}$ - $S^2_{mn}S^2_t$ , Assembler

### Competing interest

There are no competing interests. All sections of the monograph are executed jointly.

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### Authors' contributions

The contribution of the authors is the same, we will not separate.

**Conclusions:** New concepts and new methods of information processing based on them, and new program operators have been introduced. We have a fairly non-classical section of mathematics, so the presentation of the material is a little non-classical to emphasize this. Classical science reaches the horizon and beyond the horizon by chance, whereas we start immediately from the horizon. We have found a way to build a certain mathematical class of models of complex processes that classical science can work with at best through probability theory. Classical science proceeds from the objective components, while we proceed immediately 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 the application for new technologies, in the light of the new approach.

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Declarations:

#### **Availability of data and material**

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