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On the systemic approach to balance deficiency
Systemowe podejście do zaburzeń równowagi

Abstract: Any system, seen as a compound issue, is subject to various forms of disturbance which are later eliminated in systemic relaxation time. While assessing the course of changes and the degree of elimination it is necessary to identify the time layers as well as the quantification of the features used to describe the n-dimensional space. What needs to be defined is firstly, the number of dimensions, i.e. a reference to the non-Euclidean space and, secondly, an attempt to define this space with the help of non-parametric features, i.e. non-quantified in the non-parametric distribution. The aim of the work performed by its Author is to define ways of describing relaxation time in non-parametric space.

Key words: system, relaxation time, time layers, non-parametric quantification

Streszczenie: System, jako rzecz złożona podlega zaburzeniom niwelowanym w czasie relaksacji systemowej. W ocenie przebiegu zmian i stopnia niwelacji potrzebna jest identyfikacja czasu poprzez trzy warstwy, a także konieczne staje się kwantyfikowanie cech opisujących przestrzeń n-wymiarową. Problemem staje się zatem określenie liczby wymiarów, czyli odniesienie do przestrzeni nieeuklidesowskiej - to raz, a dwa zdefiniowanie owej przestrzeni przez cechy abstrakcyjne - czyli niekwantyfikowane w rozkładzie nieparametrycznym. Autorka za cel pracy postawiła sobie określenie sposobu opisu czasu relaksacji w przestrzeni nieparametrycznej.

Słowa kluczowe: system, czas relaksacji, warstwy czasu, kwantyfikacja nieparametryczna

Introduction

A system – or systems – is a compound thing, a collection of elements realizing various target-described functions, which, by means of the process and the parameters included in it, can become stronger and/or weaker.

Fluctuation in the course of the performed functions refers to the space in which it is taking part.

In most cases this identification takes place in the Euclidean space, sometimes enlarged by the incremental value of time.

Depending on this Δt- value, various forms of assessment of the process and function typing compatibility are applied. In case the time incremental value is relatively small – the verification of compatibility is easier to

be described and refers to the operational activities; however, together with its growth, the operational levels, so far easily described, give out an abstract dimension, e.g. the basic value is an abstract notion e.g. happiness, love, health as well as the elements much less important, being its constituent parts: income, social position, sex.

One can say that at the moment of the assessment performance – and together with the changing Δt-, there takes place a reconstruction of criteria and their ranges.

Analogically, one can approach to test deficiencies and the loss of value.

What appears to be important is not only the indescribability of space as such, but also its simultaneous change of points of reference, the definition of the number of n-dimensions, a set of parameters and character of reconstruction of their meaning.

The principle of relaxation tells us that the stability of the system is possible only in when the average time of the deficiency sequel is larger than the time of system relaxation[1].

When there appears the curvature of the field, the space aims at n-infiniteness and, what is known, it cannot refer to 0-, when a new set of references has been selected, the question how to measure time must asked.

The principles of intuition assumptions

In the ontological-fractal space there appears non-Euclidean space, what indicates that firstly, there exists no answer option to each of the questions presented above and secondly, the very pattern answer typing, rises objections[2], because what comes out is a simultaneous the pattern of average state interpretation[3].

The definition of target is the first step to reach it and lets us focus upon the solution instead of the problem[4].

The elimination of logical operators is effected be means of the recurrent transition of structure tree[5].

Non-parametric quantification is primarily connected with the typing of compound features, secondly, focusing on various degrees of adequacy and diversity and thirdly, it is divergent from what it refers to, what relations and time section it concerns; this is where the Einstein summative convention applies[6] (1):

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[1] C. Cempel, *Teoria i inżynieria systemów: zasady i zastosowania myślenia systemowego* [*Theory and Engineering of Systems: Rules and Principles of System Reasoning*], Wydawnictwo Instytutu Technologii Eksploatacji - PIB, Radom 2006, p. 63.

[2] D. Silverman, *Prowadzenie badań jakościowych* [*Qualitative Research*], PWN, Warszawa 2009, pp. 149-165.

[3] R. Kolman, *Kwalitologia. Wiedza o różnych stanach jakości* [*Qualitology – Knowledge of Different States of Quality*], Placet, Warszawa 2009, p. 64-68, K. Szczepańska, *Koszty jakości dla inżynierów* [*Quality Costs for Engineers*], Placet, Warszawa 2009, pp. 68-71.

[4] C. Wilson, Coaching biznesowy [*Business Coaching*], MT Biznes, Warszawa 2010, p. 68.

[5] M. Ben-Ari, Logika matematyczna w informatyce [*Mathematical Logics in Computer Sciences*], WNT, Warszawa 2005, p. 87.

[6] http://pl.wikipedia.org/wiki/Lorenz_Transformation, 27.01.2013.

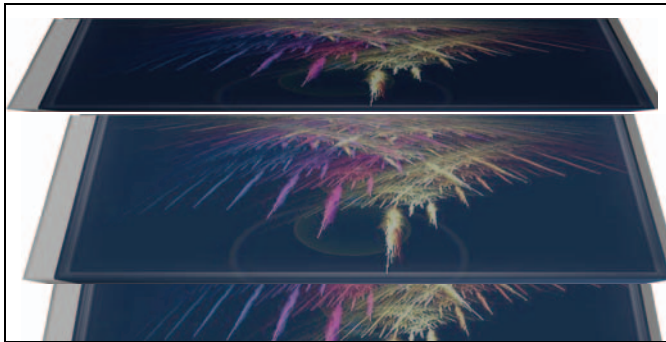$$w^{\alpha'} = \Lambda^{\alpha'}_{\alpha} v^{\alpha}$$

(1)

where:

v^{α} - vector in the original set of co-ordinates

$w^{\alpha'}$ - vector in the New set of co-ordinates

$\Lambda^{\alpha'}_{\alpha}$ - transformation between the old and new set of co-ordinates.

The above inscription can be illustrated by a picture referring to the notion of the idea of time acceleration and its division into three separate layers (picture 1).

Picture 1. Time layers
Source: own elaboration.

In the atmosphere of strings demagogy no value can assume the 0 level; what's more, time does not assume such a value as well. When referring to the history of the world (i.e. earth, cosmos, our life) we talk about compression and - at the same time – dilatation of time. During the period of our life, as we are getting older, the time "shrinks" \ and speeds up.
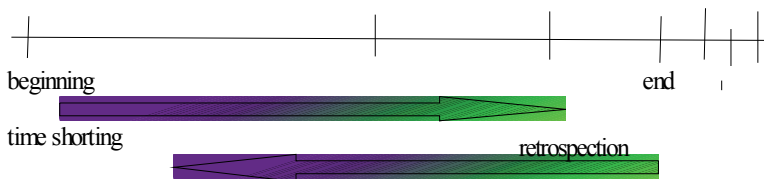
Picture 2. Strings demagogy in time layers
Source: own elaboration on the grounds of E. Kowalska-Napora, *Jednolitość decyzji w łańcuchu dostaw w przestrzeni wirtualnej* [*Indentity of Decisions in the Virtual Space Chain Supplies*], [in:] A. Adamik (ed.), *Kształtowanie konkurencyjności i przewagi konkurencyjnej małych i średnich przedsiębiorstw* [*Shaping the Competetiveness and Competetive Advantage of Small and Middle Enterprises*], C.H. Beck, Warszawa 2011, pp. 170-184.

The question which comes up in this moment is how to comprehend time layers, when there is no presence?

Passing between the layers is connected with division and dilatation (time compression) and depends on the number of occurrences in a given Δt.

Dilatation and division, or what formal time means

So as to understand what any division is, one needs to define space and target function (picture 1) apart for, equally important, the definition of both virtual and structural side of the process, which allow for the realization of the target function.

In this case we have to know the way the process is to be effected as well as the appropriate steering tool, whose performance is based upon the information received from the definable current data as well as stable allocations. In the system that makes use of virtual memory for any active process and when a part of the picture is loaded into operational memory, it is copied differently from the transferred one[7].
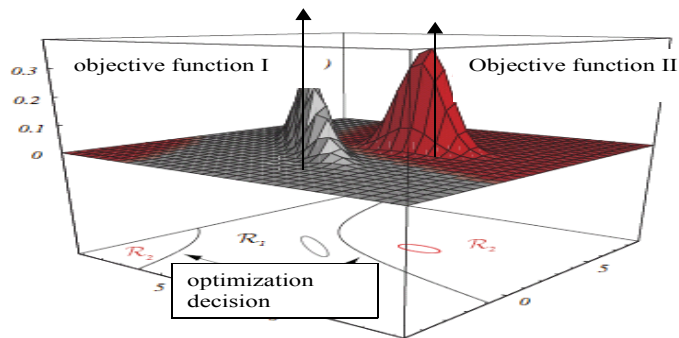
Picture. 3. Binominal distribution of the objective function on the grounds of space-referring decisions for two Gaussian distributions
Source: own interpretation [cf. E. Kowalska-Napora, *Klaster- ujęcie wartościujące i jakościowe* [*Cluster as a Qualitive and Qunatitive Notion*], [in:] T. Sikora, M. Giemza (red.), *Praktyka zarządzania jakością w XXI wieku* [*The Practice of Quality Management in the 21st Century*, Wydawnictwo Naukowe PTTŻ, Kraków 2012, pp. 115-133, E. Kowalska-Napora, *Klastery, a konfiguracja sieci* [*Clusters and the Configuration of Nets*], [in:] F. Sitkiewicz (red.), *Studia Ekonomiczne Regionu Łódzkiego. Wybrane problemy kooperacji w rozwoju współczesnych organizacji* [*Economical Studies of the Łódź Area. The Selected Problems of Co-operation in the Development of Modern Organizations*], Polskie Towarzystwo Ekonomiczne Oddział w Łodzi, Łódź 2012, pp. 169-177].

The Gaussian distribution must refer to the *n* dimensions plus the incremental value of time.

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[7] W. Stallings, *Systemy operacyjne. Struktura i zasady budowy* [*Operational Systems. Structure and the Principles of Construction*], PWN, Warszawa 2006, pp.150-151.

Point diffraction for polynominal functions

Following the Cauchy definition[8] for any number there exists such $\delta > 0$ number that for each from an inequality $0 < | x - x_0 | < \delta$ there appears an inequality in a symbolic inscription (2):

$$Alogit+Blogit=S=const \qquad (2)$$

And that this is a point-indicated limit, which can be designated at the top of the target function, what means that reverse assessment is justified in reference to the comparisons of the picture of the estimated value of the function and the decision to be taken in the Gaussian space.

What we have is an enormous problem, as firstly we refer to the solutions by means of binary tautology, secondly, we have to find an answer to the question concerning the actual realistic number of target functions able to appear (and in what dimensions) and thirdly, how far the transfer system can be moved.

Own explications, fluctuation in the time of relaxation

It seems there are a few various approaches to make an attempt to solve this non-parametric set, as well as logit[9]. I would suggest the following solutions:
  − removal of function[10];
  − movement of the estimated value in respect to real function.
There can appear an infinite number of target functions and, together with the growth of the number, there occurs the weakening of the system (3):

$$\lim_{n \to \infty} arg(x,y)= logit(x,y) \qquad (3)$$

where: x, y are the typical parameters fixing the coordinate system in the logit layer; in case we were able to refer to the Gaussian distribution it would be possible to construct polynominal target functions[11] (picture 4).

Can function removal and their transformation be described?
If it is so, than, following the theory of constrains and the appropriate inscription in the ambivalence of the target function, it is possible to establish a conditional statement of the changeable approximated aspect (4):

[8] Disregarding infinity and homogenous string, infinity is not to be logically grounded in the context applied for the purposes of identification of the problem of strategy identification, and the homogenous string would become too difficult to be interpreted with two target functions included; it might also be false. The inscription copied form:
http://pl.wikipedia.org/wiki/Function_limits- 27.01.2013.
[9] G. Koop, *Bayesian econometrics*, John Wiley& Sons Ltd, The Atrium, England, Southern Gate, Chichester, West Suseeex 2003, pp. 16-18.
[10] C. Bobrowski, *Fizyka- krótki kurs* [*Physics – in Brief*], WNT, Warszawa 2005, pp. 138-149.
[11] It is possible to refer to the depending binary variables here, cf. G. Koop, *Wprowadzenie do ekonometrii* [*Introduction to Econometrics*], Oficyna a Wolters Kluwer business, Warszawa 2011, pp. 57- 71.

$$\arg \min f(x,a) = \lim_{x \to x_0} V_a \qquad (4)$$

where: the V_a limitations can be underestimations and a- a parametric change[12].

Quite a different problem appears to be the abolition of the function in the space with a changing set of references and the description by means of the randomly selected x and y, which, in turn, are to be differentiated from a more complex problem concerning the definition of the discrepancies between the estimated and the real values (picture 5).
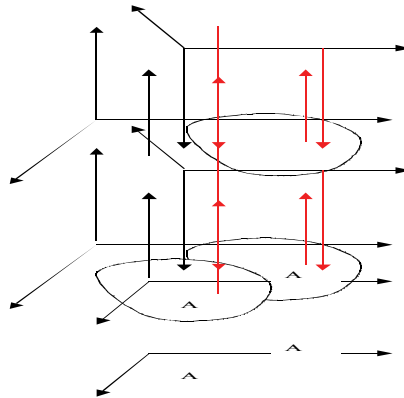
Picture. 4. Polynominal functions of the target, where: red lines – target functions,
A - assessment field and reference to the logit
Source: own interpretation.
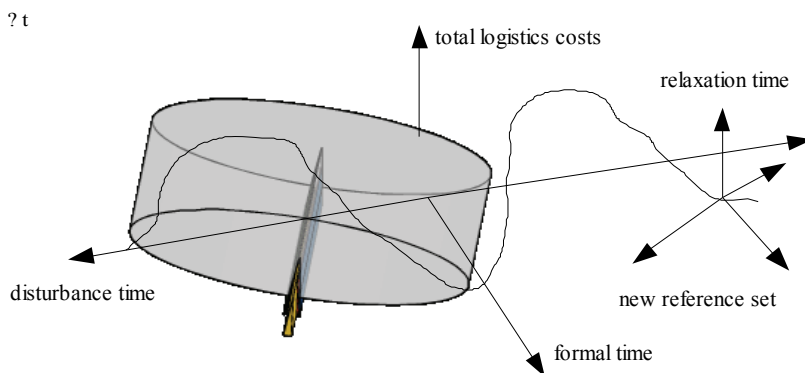
Picture 5. Fluctuation of changes and the relaxation time
Source: own elaboration.

[12] The paper author believes that a string tends to the xo value, at the same time influencing the Va value; however, in particular conditions it may also tend to $+\infty$.

The picture above can be described with the following pattern (5)

$$Kdet \leftrightarrow \{\partial t^* \zeta - \Xi \Delta t \wedge \xi\} ¥ \qquad (5)$$

where:
K – approximated variable, which may refer to the cost of balance maintenance an/or growth;
$\partial t^* \zeta$ - variables defining deficiencies and duration of time;
$\Xi \Delta t \wedge \xi$ - relaxation time in dependence on the number of defining parameters and their characteristics;
¥- interpretation of the extrapolation of assessment area in formal time

The above inscription can be formulated to the dim function (6):

$$Kdet \approx \Delta Э^* / \varphi(\partial t) - \varphi(dimfn) \qquad (6)$$

where:
$\Delta Э^*$ is the formal time referred to ambivalence of the relaxation time $\varphi(\partial t)$, and the total value of the assessed variable (e.g. exploitation costs) is the difference between the formal time relaxation and the disturbances in reference to the course of the typed function $\varphi(dimfn)$.

How can one refer to the logit? The assessed value is to be interpreted with the help of regression of the A field and its transfer in each of the particular sets of the reference systems.

Conclusion

When approaching the problems of assessment of the duration of system relaxation different types of issues can be found:
- − ex-post - the comprehension of the notion of 'time layer';
- − ex-ante – the comprehension of the notions: 'non- parametrical quantification' and 'incremental value'.

Model approach to the attempts of relaxation analyses accepts the levels of changes of the process with the help of, among others, relocation and experimenting.

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