

## THEORETICAL PROBLEMS OF LAW AND POLITICS

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### ON THE WAYS OF THE HUMANITIES EVOLUTION BY MEANS OF SYNERGETICS

The article considers the history of maturity of the Natural Science and Fundamental Science. Three directions of their evolution were revealed. Two of them are traditional; they have attracted methodologists' attention for a long period of time; their advantages and disadvantages have been well studied. The first one is *inductive*. This is the most natural and common way of gradual generalizations, unification and systematization of the facts. A scientist, at the end of each stage of the way he follows, hopes to get the empiric laws, which he/she will be able to apply to some other observations, that is done to receive the nomologic explanation and correspondent predictions. This way is still open for the development of the Humanities; however, it is not efficient enough. The second way is *hypothetical- deductive*. There is no hope that in the foreseeable prospective the Humanities – from History and Sociology to Culture studies – will follow this way. The most hopes are linked with the third way which can be called *synthetic*. Under this term we do not mean the merger of one discipline with another more developed science, or the amalgamation of two disciplines in order to get a kind of a centaur, in which each of them will lose its own specifics.

**Key words:** the Humanities, evolution of science, synthetic way of evolution, synergetics

#### INTRODUCTION

The issues of sociology, structural linguistics, cognitology, experimental psychology are more or less in accordance with the classical canons of science. However, these disciplines have not been summoned yet to solve the problems of globalization. Here we speak about such disciplines as general sociology, politic studies, culture studies, history, general psychology, pedagogies etc. All these disciplines can be referred to as to science only in the broadened meaning of the word.

#### THE MAIN BODY

The term “science” initially is always referred to in its “weaker” sense – in case when the knowledge, in the form of the descriptions acquired empirically, is accumulated in the great volume. Then, there comes disciplinary organization of the knowledge and the scientists need to turn to classifications. Although, the other requirements that the “strong” science has to correspond with are not yet met by it (for, example, nomologic explanations, as well as the relevant predictions, almost always cause some complications), all the branches of the Humanities are full of descriptions, classifications, and various interpretations of the subjects. Apparently, structuring the models of the subject, together with the particular classifications, to which, beyond one's volition, the objective status is often attributed, - is a sufficient grounding that allows us to call this domain of knowledge “science”.

The described way has the disadvantages, typical for any inductive research, as not only do the empiric laws have the probable character, but they are also hard to be verified. Though, the Humanities' subjects are extremely complicated and dynamic, the reliability of the general conclusions made for them is quite low, and the ethic reasons make experimenting on people prohibited. Besides, this way is long, while the success on it is not guaranteed. History, general psychology, pedagogies, sociology, for instance, have existed for more than one thousand years, they continually make some generalizations and classifications, but yet they have not crossed the line which separates the science in the broadened sense of the word from the *strong* science. Some things that are supposed to be the terms in these types of science, as a rule, do not have generally (commonly) meaningful definitions.

Liberal hypothesizing is possible, but then there come the problems: how to find the empiric verification (proof) or contradiction for such hypothesis? And the way of formalization, or formal

confirmation of the hypothesis is, in fact, closed: formalization of the affirmations in the Humanities is hardly ever made.

Such a method is the method of inoculation, when one of the existing theories, corresponding to the classical canons, is used to strengthen one of the Humanities' branches; that theory is considered as a method of the tasks. Natural science has applied this method for long: we should once more recall here how effective application of mathematics in the area of physics was, or think of "physical chemistry" or "chemical physics". There is a similar phenomenon on the border between two disciplines in the sphere of the Humanities. From time to time, there emerge the concepts of historical psychology or political culture, social psychology or social pedagogy etc. However, the problem of adequacy comes to the foreground in this case. Thus, as a rule, in all concepts of this kind the question of relevancy of the method is not raised; the second condition of the adequacy is not completed, we mean the necessary divergence of the means of the problems solution. As a result, in the new concepts the indefiniteness of the problem solution is not reduced, but on the contrary, is multiplied by the indefiniteness of the method, by means of which the problem is solved.

It is necessary to note, that application of maths in the humanitarian subjects has been quite restricted, as mathematics, which completes the second condition – of adequacy, fails to meet the first requirement – of relevance. Application of the traditional methods of mathematics to sociology has left out unstudied the whole group of problems that deal with a person in particular as well as all the whole complex of globalization issues.

Why, at all, should we strive to turn the Humanities into science according to some classical pattern (model), when science as it is has come to its non-classical (or, as it is said, post non-classical) phase of the development? Thus, the classical patterns of structuring the scientific knowledge have undergone some changes. Perhaps, the Humanities have skipped the classical phase and will acquire their post non-classical status in science at once? Isn't it the fact which is confirmed by the humanities thinkers' attempts to apply their ideas, characteristic for studying the processes of self-organization in non-linear environment, in order to explain the complex social, ethic, esthetic, and psychological-political processes?

And in the Humanities cognition, in particular, especially in history and psychology, the inevitable significance of randomness is emphasized; the impossibility to predict the future unambiguously is stated. The research on the dissipative structures (Haken, Prigozhin and others) and emergence of the conception called synergetics have only made this tendency stronger. So, the limited nature of classical physics in the description of time irreversibility, which allows us to distinguish past and present, was realized; while this distinctions are really essential for biology, and of course, for description of the social and other humanities' objects.

It was shown that within something which was considered to be chaos (in its classical understanding – a misbalanced systems with non-linear changes), tiny fluctuations on the micro-level can lead to the changes in the macro-systems, and so become the beginning of the directed evolution (that means, of the new order).<sup>1</sup>

(However, the other side of this matter was noticed: when the environment is homogenous, its instability, sustainability to small fluctuations in some cases result in the formation of complicated structures, in other cases – to their destruction).<sup>2</sup> However, it should be highlighted that the conception of synergetic grew up in the depths of classical science and so, it does not cancel the determinism where there is no chaos in its classic sense, but there is order; as well as it does not cancel the classical scientific methodology in general. Non-classical science did not bring about any principle changes in the requirements to the formation of the strong theory. The methodological alterations affected only the fact that, although science is still aimed on the maximum avoidance of subjectivity, or bias, at any stage of a research it should also limit its requirements of objectivity. Knowledge of the nomen, of the world "as it is", without a person's (individual's) impact on the picture of the world – by means of the ontological prerequisites that are believed in by this individual – is impossible at any phase of the cognitive process. It is particularly what was noticed by I. Kant, who limited the sphere of knowledge by the phenomena.

The ideas of synergetics are expressed and presented to the judgment of the scientific society via the adequate scientific means. At the same time, it is highlighted that although the time and place, where the

<sup>1</sup> See a well known work by I. Prigozhin: Пригожин, И., Стенгерс, И. (1986). *Порядок из хаоса: Новый диалог человека с природой*. Москва: Прогресс.

<sup>2</sup> See Kurdyumov's comments to the article by I. Prigozhin: Пригожин, И. (1991). *Философия неустойчивости. Вопросы философии*, 6, 46-57.

points of bifurcation may appear, and then the new order may develop out of chaos, definitely cannot be predicted by means of classical methods; but after such an order emerges, the new system will be described by the traditional language of science. In the prospective, the construction of the synergetic theory supposes its ability to make plausible predictions – at least, the meteorologists, who obviously deal with the dissipative structures can make short-term, middle-term and long-term predictions, and we all sometimes trust these predictions. In other words, the more essential task of synergetics is not the description of how the order emerges from chaos, but the search of the order in the chaos, indeed. Non-classical science does not suggest rejecting the quantities analysis, but it emphasizes the practical difficulties concerning making decisions in the circumstance when one has to deal with the factors the quantity of which is comparable to Avogadro's number (i.e. about  $6 \cdot 10^{23}$ ). Here are some suggestions by I. Prigozhin<sup>1</sup>: "...for every billion of photons that are being in the chaos there is, at least, one elementary particle which is able to stimulate their transition into the organized structure of this myriad photons..."; "...order and chaos co-exist as two aspects of the one whole and give us different visions of the world". And finally: "... the science of the future, *maintaining the analytic accuracy of its western version*, will care about the global, *holistic view on the world*"<sup>2</sup>. By this, in the most obvious manner, it is supposed that both determinism and classical scientific methodology cannot be left out by the modern science as something unnecessary, they are only limited by what we call the randomness and freedom of choice.

The modern science, despite its entire advancement, has not even started doing the task *instead* of the Humanities scholars – we mean completing the proper analysis and looking for the instruments suitable for the holistic reproduction of the Humanities' subjects. However, if we agree with the statement that non-classical science has made an important step to come closer to the Humanities, we cannot stop thinking that the Humanities should move forward closer to science, to go their half of the way: the "ball is on the Humanities' half of the pitch". The attempts to plant the ideas of synergetics on the field of the Humanities, which have been quite popular recently, did not bring any fruit, as the second requirement- of the adequacy- was not met. So, nobody succeeded to apply the language of synergetics (the language of non-linear equations) to the Humanities' subjects.

Turning directly to the conceptual side of the issue – to the synergetic ideology – we can only find out the things which have already been well known. Didn't anyone know before synergetics, that the Humanities researchers were interested in misbalanced as well as balanced systems, in particular? Did not anyone speak of the fact that the use of strict determinism in attempts to explain social and humanitarian problems is not really efficient? Did not anybody notice that fluctuations are typical for purely human systems, including social ones, that chaos turns into order within them (systems), as well as order turns into chaos? Or, maybe, nobody knew that predicting such fluctuations and the character of the future attractors is really complicated? Or that ostensibly unimportant events or circumstances can greatly affect the course of history (should we recall Napoleon feeling unwell before Waterloo battle, or any other similar to it accidents)?

It is highly ineffective to further defend the Humanities' specifics compared to natural science. Generally speaking, it would be quite bizarre, if a Person – facing the Universe and being on his/her own as a part of it – used two different and also opposing methods of cognition. In our opinion, the meeting of the two methodologies is inevitable.

If the most reassuring way to improve the scientific status of the Humanities is the method of inoculation, so the most plausible "substance" the Humanities can be inoculated with should be looked for among the General Science theories. Here we should pay attention to such theories which: would meet two requirements of the method's adequacy, at minimum would be based on the extensional approach to their subjects, and would not exclude synergetic and, in general, non-classical ideology. No matter how far the Humanities have moved on the way to acquire the classical characteristics of scientific knowledge, the principle of being complementary to the corresponding humanitaristic area will always remain fundamental for it; in particular, when it goes about generalization and individualization. Correspondingly, the nomologic and idiographic approaches, as well as the intentional understanding of the world and ontological component of the view on the world, come forward as supplementary ones. As long as the Humanities and the humane science complement each other they cannot and, perhaps, will never be able to,

<sup>1</sup> By Prigozhin I., see Пригожин, И. (1991). *Философия неустойчивости. Вопросы философии*, 6, 46-57.

<sup>2</sup> Italics - by the author.

prove their exclusive nature. At the same time, we suppose to search the ways in which this complementary character can be presented by.

It is obvious, that all the modern crises root in the spiritual crisis, including the spiritual crisis of science, in particular. Is not turning to synergetic a representation of crisis in science which took on too much responsibility, and now it (science) is, apparently, losing its authority? It has been a century since L. Tolstoy said, that science did not only fail to come close to the answers, but had not even stated the most essential for individuals questions – questions of the consciousness and happiness, duty and freedom etc. Here we should mention J. - P. Sartre, who thought, that philosophy is something different from what the European philosophers of the New Age had been doing. In fact, it (philosophy) starts where science finishes, but not where science still exists. However, at the point where science finishes there is no and even cannot be any answers to the questions about the future. In the discussions of this type we do not usually refer to the pop-art, but at some extent it reflects the state of the “everyday” consciousness. So, as early as in the 80-s a popular group “Sex pistols” created a slogan “There’s no future!” and, thus, their concerts gathered thousands of spectators. Nobody – even at that time – believed in the happy future. But, in this case we can paraphrase Dostoevsky’s sentence and say: if there is no future, nothing is prohibited.

The humanitarians require artistic descriptions and narratives, while the Humanities researchers attempt to find strict descriptions of the events and try to predict at least something.

All this has happened on the background of the events when we witnessed how the unpredicted culture revolution took place and then the new civilization, though, yet not well enough understood, was born. Not speaking about the phenomenon of books being substituted by the TV, or the cinema being replaced by the Internet, “serious” music – by “pop” etc., and the most essential issue here is the fact that the new generation of young people with “the video consciousness” was born. Youngsters are excellent at acquiring visual information; they “digest” it much more successfully and in much greater quantities than the previous generations. At the same time, a great number of young people, even ones who got higher education, merely get stuck when they deal with written text and are not capable of creating a coherent opinion writing, as long as at least five pages.

We can complain about it and, following U. Eco, bitterly re-state “that the Middle Ages have started”, but the fact is still the fact. Nobody can say whether it is the progress or, on the contrary, the regression of the civilization, - we are not to understand it. Perhaps, the upcoming generation simply will not need the notions that people supposed to be vital during the previous two thousand years, -the coherence and clarity of the ideas, logic and proofs. All of the mentioned will be, for instance, left for the portable computer, which has already become an inescapable part of everybody’s life, like a pen, for example, used to be. And will there be anything that will stop them from implanting such a computer into a person’s body?

It is likely that after the collapse of the two-three thousand year old scientific-book civilization people will leave for themselves only one function – to solve problems by means of intuition – it is the only thing which is not available for computers. A well-known mathematician Van Hao confessed that, as a child, he simply “saw” the solutions of the mathematic problems without knowing exactly how he got the correct answers. N.Tesla also noted that he somehow saw the solutions for the engineering tasks; that those solutions came to him from “somewhere above (heaven)”. From the modern “intelligent person’s” point of view, it is seen that Homo sapiens is transforming into someone new, unknown before, but... But, what kinds of attitude will the people of the globalized future – Homo Novus, - will have to it?

However, we cannot stop thinking about the following: Is it possible to make a person refuse to understand, analyze the days of yesterday, today or tomorrow? Let us leave all the attempts to comprehend our own selves in our world. This Homo Novus of the future will not even be a Homo. What if some of the humanitarians decide to step on the “stone” of science in the uncertain “swamp” of our perception of the world? Why don’t they try to say something really clever, but not too elaborately clever, - about a human being - using the language of science, not of poetry? Eventually, nobody urges the humanitarians to reject a “free floating of a thought”?

A. Pushkin once said: “Why should one try to bite the nurturing breast? Only because the teeth have just come out?” Here we mean that if some universal catastrophe happens the next day, we all will turn to scientists in search of advice on how we should live then. Also, we can recollect Dostoevsky’s lines. In “The Adolescent” a 20-year old Arcady Dolgoruky says: “... It is also good to say some nonsense. What did I tell Lambert about the principles? I said, that there are no general principles, but there are only particular cases; I told him lies, the grand lies! And on purpose, in order to show off! I am a bit ashamed,

but it is not important – I will make it up. Don't be ashamed, Arcady Makarovich. I do like you, Arcady Makarovich. I like you indeed, my young friend. It is such a pity that you are a little liar..."<sup>1</sup>

Despite his refusal to make predictions, he described such a believable, plausible picture of our future, that it really urges us to change the whole system of education! Why don't we cut the number of Maths and Physics classes in the schools curricula; introduce the classes in design, commercials' analysis or pop-music! Or, what if one could ask the physiologists to "switch off" children's left-brain thinking at all? Why not to let them use only images in their thinking process, the same as artists do? In this case we may get the emotional-intellectual symbiosis of a human being and a computer!

Such nomologic considerations will always be only *the opinion*, not the knowledge. Why do not we think in another way? The civilizations develop in an uneven, irregular way that is why in any of them there are both the main, central, and marginal cultures. So, after the Ancient Greeks, the next peak of interest to Mathematics and other abstract branches of science took place only at the New Age. Here we can see the sufficient grounding to suppose that now we experience the decline of interest to science (besides, not to science in general, but only to the fundamental research). But as the time passes, a century, fifty or even a thousand years later, and the intellectuals (maybe even the humanitarians), not the pop-singers or Hollywood film celebrities, will make it big, will become the most recognized and respected people in the society. Generally speaking, we should admit that futurology still remains the area of competitions in making the more or less believable and impressive pictures of our future.

I suppose, there are no children or parents who would agree to have their left-brain thinking "switched off". And hardly ever there can be a case when it will become necessary. However, the fact that pedagogies, formed within the previous centuries, becomes an anachronism in the conditions of exponential increase in the pace of technical progress and globalization, is undoubted. Transformation of a computer into a person's everyday companion, as common as a ball-point pen or a pencil, - is revolution, not less essential than the changes which once Guttenberg's ideas brought. So, nowadays the principles on which modern pedagogies is based should also be different.

A lot of people pay attention to the importance of the systematic methodology for the Humanities. So, D. Easton, K. Deutsch and A.A. Davydov<sup>2</sup> spoke about its application in sociology and politic studies. Davydov, in particular, complained that modern sociology is an out-side discipline, which is the state of crisis and whose future does not give any hopes. He saw the way out in the determination to use systematic methodology. And the problem that should be solved was seen by Davydov in the fact that *the majority* of the theories lean on the quantitative methods, which are suitable for studying the repetitive phenomena, while sociology deals with the unique phenomena, presented by their qualitative characteristics. In fact, in the search of an adequate method Davydov came up with the theories... which try to restrict the qualitative characteristics to the quantitative descriptions. It seems that particularly quantitative methods brought science the great success. However, one should look for the methods among the conceptions which go in the opposite direction, i.e. which try to present the quantitative characteristics as the qualitative ones. The difference will be clear if we take into consideration the ideas which are discussed in one of the works on philosophy. There it is said that qualitative characteristics are the ones each component of which can be attributed to the subject as a whole, while the same cannot be said of its quantitative components<sup>3</sup>. For example, if we say referring to the author of the "systematic sociology" conception that he is intelligent, and take his wit, insight, ability of a good guess, of foreseeing, tolerance to the opponents etc. as the components of intelligence, we can attribute any of the mentioned components to sociologist A. Davydov in general. Though, we cannot state the same about such components of his characteristics as his particular height, weight or age.

It is also stated that any particular understanding (interpretation) allows some other understanding; there are no objects which can be understood only in one and the only way. Thus, this means that it is necessary to rely on such a systematic method that not only allows but also suggests a possibility of a different understanding of any object. And taking into consideration that the Humanities find differentiating

<sup>1</sup> By F. Dostoevsky: Достоевский, Ф. М. Подросток, Ч.III, Гл. 6.

<sup>2</sup> See.: Истон Д. Категории системного анализа политики.

<<http://www.politnauka.org/library/teoria/iston.php>>; Deutsch, K.W. The nerves of government: models of political communication and control.

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Системная социология – социология XXI века? *Социс*, 6.

<sup>3</sup> See: Уёмов, А.И. (2010). *Метафизика: учебное пособие*. Одесса: Астропринт, 74.

levels of understanding essential, we cannot see any other way to reasonably distinguish these levels than to use systematic analysis. Without systematic presentation of the object, and knowledge in general, it is impossible to “measure, weigh” understanding in other aspects, - in particular, to study its depth and width.

#### CONCLUSION

The Humanities researchers, unlike scientists, are mainly aimed at the description of the unique phenomena. However, here we cannot do without the definition of the notion of “uniqueness”, i.e. without turning the word of natural language to the term of science. And as a term the word “uniqueness” is used only in the systems theory where, by the way, appears possibility to distinguish the types of the unique. As the terms of systemology some other notions are also defined; without them the scientific work in the domain of the Humanities is hardly possible; they are such notions as “autonomy”, “stability”, “reliability”, “model”, “regeneration”, “isomorphism” and others.

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