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Metaphors and Analogies in Institutional Economic Theory

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Introduction. Using metaphors and a vague framework of categories and concepts are the major challenges of economic institutionalism. The amount of image-bearing terms is huge and is steadily growing. There are the following institutional terms as “climate” and “nucleus”, “rods” and “crossings”, “withdrawal” and “weariness”, “labyrinths” and “vacuum”, “matrices” and “holes”, “viscosity” and “mutations”, etc. These notions do not have a strictly formulated and well-defined nature very often. They are operational enough. Yet some metaphors are loosely bound with others and their positions in the general grade system have been insufficiently specified. On the one hand, pictorial images facilitate overcoming the barrier of new conceptions misunderstanding, encourage new objects and ideas involvement into the research field of institutionalism. On the other hand, they more often induce unproductive, apt to scholastic debates thus leading away from categorial means specifying and developing [9]. But if “metaphor is a means of great conceptual power” [1, p. 14], then comparative analysis of metaphor constructions and the most spread analogies is a specific methodological reflection which has a fundamental meaning for development of any science or research.

Main part. *Physical and biological metaphors are the two prevailing groups of metaphors in contemporary institutional economy.* The former rest on theoretical branches of physics, including mechanics, as well as engineering inseparably related to “academic purposes of transforming economic theory into deterministic study such as Newtonian mechanics” [31, p. 101]; the latter are based sometimes on too literal perception of A. Marshall’s saying that “the Mecca of the economist lies in economic biology rather than in economic dynamics” [18, p. 19]. Both directions of metaphorization are developing rather steadily increasing scientific turnover of the produced by them associative image-bearing notions growing step by step into extreme forms such as physicalism and biologism. The ever-growing *amorphousness of categorial means of institutional investigations prevents them from intensive development* to a greater degree than encourages multidisciplinary synthesis slowing down relevant reflection of the examined aspect of the objective reality in generally approved scientific terms.

Is it reasonable to use the notions from institutional matrix, structure and system (as well as field, environment, and context) as synonyms as D. Nort does or the language of science should be as precise as possible? How valuable are institutional metaphors from heuristic point of view and what their negative effects are? Is using metaphors (as the way of reality reflection) limited? How does efficiency of physical metaphors (particularly mechanistic) correlate with biological ones? What future do they have? The attempts to answer these disputable questions, to our mind, are significant for methodological self-determination of institutional economic theory.

Physical metaphors. Fundamental problem of natural science metaphors is firstly their correlation with inanimate nature which functioning and developing mechanisms are quite different from the ways living systems evolution, and secondly, the fact that elements inanimate nature such as atoms and molecules are closed systems whilst living particles are open not only thermodynamically but also informationally [5, p. 333-334]. For this reason though neoclassic conception of equilibrium is based on powerful analogy, but metaphors of this kind mostly correspond to training goals rather than to research as their strict and logical evidential base is substituted with self-evidence. Institutional processes belong to the ones which can be hardly formalized that brings to using formalization techniques from other scientific fields.

P. Samuelson sarcastically noted in his Nobel prize lecture while generalizing Le Chatelier's principle as applied to economics, "There is really nothing more pathetic than to have an economist ... try to force analogies between the concepts of physics and the concepts of economics. How many dreary papers have I had to referee in which the author is looking for something that corresponds to entropy or to one or another form of energy" [29, p. 8]. Nevertheless since 1990-s econophysics has been actively developing. This is an interdisciplinary research field, applying methods originally developed by physicists in to solve problems in economic. It was a rapid growth of synergetics that allowed adjusting analytical tools of theoretical physics to investigation of non-linear and sometime turbulent processes of economic systems development [33]. The tool set of econophysicist is made up of quantum and

statistical mechanics, physical kinetics, non-equilibrium thermodynamics, theory of dynamic systems and chaos, etc. [3; 13]. Proponents of institutionalism do not utilize these fundamental approaches comprehensively. They just turn to tenuous comparisons and general analogies by means of universal notions as bifurcation, chaos, synergetic effect, etc.

The notion of “institutional vacuum” has widely spread. It goes up to the conception of “structural holes” by R.Burt [2]. The notion is viewed as an aggregation of “blind spots” of types and forms of activities unregulated by the law, “grey zones” of free interpreting of formal rules, and “gaps” in incomplete contracts. However quantum physics defines vacuum as a space without particles but filled with quantum field in the lowest energetic (ground) state that does not allow identifying vacuum with emptiness as it appeared from classical physics statements. In other words “non-existence as absence of particles and field is impossible” [19, p. 86].

G. Hodgson’s conception of “impurities” is mechanistic in its content. “Impurities” are defined as institutions that “infringe on economic system of this or that type” [7, p. 365], i.e. essential for its operating but not taking a dominant lead. However experience gained in related sciences (chemistry, ecology, geology, material science, etc.) is ignored as well as experience in categorizing impurities among which unintentional, latent, harmful ones, etc. are distinguished. Although “any system depends on its impurities” [8, p. 125], they may influence it in different ways. The policy of economic pluralism, which G. Hodgson stands for, implies a combination of administrative and market methods and tools, both public and private institutes, i.e. a kind of “admixing” planned elements to the market system. But ignoring the variety of institutional “impurities” leads to their unilateral understanding and does not allow forming a complete theory, as the author admits [8, p. 127].

Biological metaphors. More often institutional biological analogies are created on the basis of generalized evolutionary theory which forms general principles and methodological frames for investigating various complex, developing systems both in nature and society. Principle unanimity of laws and mechanisms of developing any

complex systems (both biological and social) necessitates efficient use of ideas and conceptions of evolutionary biology. Certainly following R. Nelson and S. Winter “We emphatically disavow any intention to pursue biological analogies for their own sake, or even for the sake of progress toward an abstract, higher-level evolutionary theory” [20, p. 11]. Economic evolution is far more complex and diverse than biological one, and yet these processes have certain similarities reflected in closeness (but not identity) of theoretical interpretations [21, p. 213]. However “direct analogies are certainly to be avoided but higher forms of reality movement keep their link to less developed ones and the strongest links are between immediately preceding ones” [11, p. 7] that is particularly significant for research methodology of evolution of economic systems, their institutions and institutionalization mechanisms.

Methodologic conventions of evolutionary biology are rather “flexible” as they are often disputed and revised. *Economists, as representatives of other social sciences, risk to give disputable or out-of-date biological conventions the benefit of the doubt*, therefore it is crucial to focus on the “forefront” of research. Using know-hows in the field of evolutionary biology allows working out unique conceptual solutions. Thus P. Luksha is developing evolutionary theory of firm basing on nich construction conception [17]. Since the 1980-s biologists have been trying to break stereotype of exogenous environment as a main mechanism of natural selection which assigns to organisms a passive role of “adaptors” to external changes and “translators” of genetic coding that obviously results from the Extended Phenotype by R. Dawkins. Evolutionary changes (dO/dt) were traditionally considered dependent on both individual organisms and their groups (O) and the environment (E) whilst changes of the environment (dE/dt) were treated independent of organisms’ activity: $dO/dt = f(O, E)$, $dE/dt = g(E)$. An attempt to overcome a kind of externalism of conventional evolution theory is expressed by amending the formula: $dE/dt = g(O, E)$ [16], which results in rethinking the evolution as a process of continuous, direct, and backward interactions of organisms and their ecological niches focused on selecting environment factors by the species and transferring the reconstructed environment to new generations [14]. In other words, “type of business

is able to play a more active role in forming the environment trying to make it more suitable for itself" [15]. Firms and their business landscapes interfere with the firms in fact selecting evolutionary the most effective resources and transform the nearby market environment according to their needs and capacities within the framework of constructive development strategy.

The profound examining of institutional changes suggests reasonably analyzing the ways of their originating, and facilitating the related pathological conditions and processes. Institutional pathologies can be tentatively defined as "various destructive manifestations in institutional constructions and mechanisms of their impact on economic agents' behavior" [25, p. 372]. Any recession and transition processes and states as well as disproportions and various economic "diseases" [24] can certainly be referred to pathologies only in case of broader interpretation of the term. However controversial character of interpretations should not prevent institutional pathologies theory from developing. This is urgent for the theory of economic institutions "transplantation" as "transplanted institutions "do not survive" and "fall ill" often [27, p.25] and one of the key topics on the agenda of the modern institutional economics is "How to "cure" transplantation disfunctions [27, p. 47-48]. This research trend is still underdeveloped not only domestically but also in economic research worldwide although the researches use such terms as "Duch disease" and "Venezuelan disease" rather often.

Certainly, it is unnecessary to apply medical analogies directly to name institutional "diseases", although such a simulation approach can be useful at the stage of forming a new part of institutionalism. Then along with institutional "sclerosis" ("British disease"), first described by M. Olson [23], the notions of institutional "thromboses", "failure", "dischronation" (a painful loss developmental milestone of the implemented institution), etc. as well as institutional "traumas" one of which is examined by R. Kapelyushnikov [12] could be made more extended. It is acceptable to view institutional "diseases" as symptom complexes characterised by pathokinesis (i.e. pathologic process movement) in institutions and their systems. In other words, this is a set of symptoms or painful characteristics coming from

malfunctioning of an institution or institutional system. Such “diseases” are characterized by progressive stream unlike institutional “syndroms” which are even though registrable manifestations of pathological phenotype but at the same time they are “congenital” (immanent to the system) and do not change within the whole life cycle of the institutional system. It is important from the theory of institutional dysfunctionality perspective that numerous possible pathological states (“diseases”) and pathogenesis processes which require diagnostics and therapy correspond to a certain dysfunction (as a malfunction or disorder of the functional system). New metaphors may reveal new aspects of institutional dysfunctions, destructions, and deformations.

Contemporary economics as a whole has “strayed from rigidity to viewing dynamic, evolutionary development, as well as to the analysis of emerging complex adaptive systems” [31, p. 101], moving gradually towards composition analysis of boundary elements (“genes”) of economic systems and the ways of their adjustment, selection, and inheritance. It is interesting that metaphorization in genetics, as one of the most originally exact fundamental life sciences, has been forcedly used to design hypothetic schemes in empirical deficit context. It resulted in a constantly growing number of metaphors which increased “esotericity” of terminological system [30] and demanded for a constant conventionalization of interpretations of metaphors in glossaries. Thus, using the corresponding analogies is tangibly restricted by the need for a substantial volume of specialized knowledge. Nevertheless, the first genetic metaphors in institutionalism go back to the evolutionary theory of routines by Nelson – Winter according to whom “the great challenge of the subject of “organizational genetics”- to understand how the continuity of routinized behavior operates to channel organizational change” [20, p.187] that suggests interpreting sets of routines as peculiar genotypes of firms [20, p. 217]. According to G. Hodgson “prevailing impact of routinized behavior may be found in every social institution” and he concludes that “routines act as genes in all these institutions as in a firm” [8, p.217] ensuring inheritance of the acquired characteristics. Transferring from organizational genetics to institutional one has obviously run over though some

interesting attempts to adapt to the problems of theory of institutional dynamics of biological effects of “bottleneck” and “founder” which characterize genetic variability and genetic drift [32, p. 65-66]. One of the most productive applications of biologic analogies in institutionalism is endogenousness of the institutional factor as a reasonably required element of economic “genes” – various combinations of invariant set of endogenous factors of production and human activities in whole [10, p. 57-64]. This methodologic step makes it possible to overcome the interpretation of institutions as external determinants of individual and collective behavior (a kind of “exoskeleton” of economic system) as well as to refuse absolutization of their role in economy evolving in isolation from other transformational and transactional factors. Thus, metaphor of gene allows to understand better the complex infrastructure of institutional systems.

Conclusion. The given review demonstrates that unambiguous answer is hardly possible, however it allows to make some intermediate conclusions.

Firstly, metaphorism is a reliable, required learning stage of complex phenomena. On the one hand metaphorism is the way to overcome reductionism, emphasizing new aspects of the analysed objects, on the other hand, imagery always causes fussiness and polysemantics which restrain in fact theoretical analysis leading it to the sphere of institutional wandering. Metaphors in research are at the most relevant that is why developing institutional theory based on predominantly imaginative concepts can hardly become prospective. Alongside with that new areas of institution studies cannot do without applying analogies and associative constructions.

Secondly, using analogies in any science implies its orientation to the most realizable related areas of knowledge. i.e. rather to mainstream than avant-garde of other sciences. The longstanding domination of mechanic metaphors and analogies from Newtonian physics in economic theory is not explained by perceiving the complex systems from afar but by their better understanding by laypeople. That is why analogies from quantum physics and biogenetics are not so easy to survive. Cognitive benchmarking of the best theories (as analogies of the best practices in business) in the related research areas is one of the main progress vectors of

institutional analysis. Furthermore, physical and mechanic metaphors should be considered as the most relevant for associative characterization of institutional systems statics and kinetics, whereas biological ones are more suitable for vivid description of principles and ways of their evolution.

Thirdly, metaphorism and formal description are extreme poles of economic methodology range. Metaphors in terminology only emphasise but do not supersede higher heuristic potential of institutional analysis as compared to neoclassical approach and its highly formalized language. According to K. Godel's theorems inconsistency (as well as consistency) of neoclassical axiomatic cannot be proved on the basis of the postulates themselves. For this reason institutional analogies (even misty ones) and metaphors (scarcely ever convincing) fulfill the major task to "undermine" the most solid axiomatic foundation of neoclassic mainstream of contemporary economic theory.

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