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## **THE ROLE OF RULES IN THE EVOLUTION OF THE MARKET SYSTEM: HAYEK'S CONCEPT OF EVOLUTIONARY EPISTEMOLOGY\*\***

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**ABSTRACT:** *Starting from the concept of the Darwinian paradigm that, by using Darwin's principles of variation, selection, and retention, all domains from biology to economic systems can be explained, the advocates of modern evolutionary epistemology have analysed the role of thoughtful institutional design in the process of cultural evolution. In light of the issue of how human intention and evolutionary forces interact in socio-economic processes, this paper examines*

*the views of F. A. Hayek, the most famous follower of evolutionary epistemology, on the evolution of the market economy system. In this paper special attention will be devoted to Hayek's concept of rational liberalism and his evolutionary epistemology.*

**KEY WORDS:** *market systems, knowledge, abstract rules, 'blind', evolutionary exploration, institutional design, planning.*

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## **1. INTRODUCTION**

Due to his theory of cultural evolution, F.A. Hayek, along with K.R. Popper and D.T. Campbell, ranks among the modern advocates of evolutionary epistemology, - a research programme that is inspired by the notion that Darwin's principles of variation, selection, and retention can explain all domains, from biology to socio-cultural achievements and including scientific knowledge (Vanberg, 2011, p. 1). An essential part of the Darwinian approach, whose applicability to socio-cultural and biological processes is often discussed by the advocates of this research programme, is the demand that adaptability - in terms of problem-solving capacity or skills - shall not be observed as a result of rational anticipation and a priori designed plans, but as the outcome of a "blind" process of experimentation by trial and error (the principle of trial and error elimination or variation and selective retention). As critics suggest, claiming that cultural evolution is a 'blind' process, as the Darwinian paradigm suggests for biological evolution, means ignoring the role of human purposefulness and intentionality in socio-cultural events. Not surprisingly, much of the discussion on the development of the Darwinian theory of cultural evolution has been conducted on the issue of whether the notion of "blind" is appropriate in research into all forms of evolution, and if it is, that it should be explained in what sense it is appropriate and where it is necessary to take into account the obvious importance of purposeful projection in the rational economy.

By emphasizing the fact that cultural evolution is a "blind" process (which the Darwinian paradigm assumes for biological evolution), the role of knowledge, rules, and other activities with an element of individual purposefulness and clarity in the development of economic systems is ignored. Attempts to reach a consensus on the Darwinian theory of cultural evolution in contemporary economic science depend to a large extent on the universality of the notion of "blind" evolutionary exploration. If the notion of "blind" evolutionary exploration has universal meaning, then the question is in which way they are "blind", considering the obvious importance of an intelligent design in economic activity.

According to Vanberg, what is arguable concerning the tension between Hayek's evolutionary arguments and his understanding of the spontaneous development of market economy systems concerns the difference between rational liberalism on the one hand, which emphasizes the value of individual freedom and the advantages of the market system, and modern evolutionary epistemology on the other, which describes the development of market systems as a result of the action

of evolutionary forces without the participation of awareness and activities with an element of individual purposefulness and intelligibility.

The paper is organized as follows. The first part will be an attempt to understand the relationship between blind variation and purposeful design in cultural evolution. The subject of the second part will be a closer look at the tension between Hayek's rational liberalism and his evolutionary epistemology. The third part describes some ambiguities in Hayek's critique of constructivist rationalism that can be avoided by making a careful distinction between two types of planning, a distinction that Hayek explicitly stated in his previous works. The end of this paper will be devoted to the explanation of differences between "sub-constitutional" and "constitutional" interests, i.e., the distinction between the interests of an actor in choosing within an institutional framework and the interests of an actor in choosing among given institutional frameworks.

## **2. "BLIND" VARIATION AND EVOLUTION AS A COMPUTATION**

According to Hayek, basic propositions of Darwinian evolutionary theory suggest that the mechanisms of reduplication with transferable variations and competitive selection will, over time, produce different structures adapted to the environment and each other. Campbell's list of the key principles of Darwinian evolution is much more specific. This is a list of three necessary elements for the production, selection, and retention of variations; it assumes the mechanisms for creating the variation, a consistent selection process, and the manner to maintain and promote the selected variation (Campbell, 1974, p. 421).

The list concerns the pattern of variations and selective retention, which is a crucial Darwinian achievement. This scheme, according to the representatives of evolutionary epistemology, can be applied to all processes regarding the growth of scientific knowledge. Karl Popper writes about the Darwinian notion of the growth of scientific knowledge: "From the amoeba to Einstein, the growth of knowledge is always the same: we try to solve our problems, and to obtain, by a process of elimination, something approaching adequacy in our tentative solutions" (Popper, 1972, p. 261).

Unlike Popper, Hayek and Campbell are famous for their theory of cultural evolution that applies Darwin's theory to various institutions, habits, routines, tools, and methods of performing the activities that constitute inherited civilization, as well as to the selective accumulation of skills, technology,

behaviour patterns, beliefs, organizational structure, and economic systems. From their point of view, cultural evolution should be regarded as a trans-generational growth of knowledge or as a process in which the acquired abilities to solve problems accumulate, and thus provide the knowledge gained through trial and error or through experimentation with previous generations of instruments, rules, belief systems, and cultural achievements of all kinds.

Hayek and Campbell criticize mathematical theory that sees and understands evolution as computation. Advocates of the mathematical approach describe evolution as a kind of search algorithm which tends to create new variations, with a desirable combination of adaptive features, in a complex and changeable environment. He begins with some knowledge of the variations that have randomly generated features. Combining features during evolution (a search algorithm) should satisfy some parameters. Besides population size and the execution time of the algorithm, the probability of mutation is also set as a parameter.

For example, the mathematician Sewall Wright has conceived evolution as an algorithm for searching for the largest combination of genes that fit in the defined area (Beinhocker, 2011, p. 4). He reduces the problem of evolution to the problem of determining the maximum in the defined environment, using the knowledge obtained in previous research. Some mathematicians have seriously explored the possibility of observing, in Turing's sense, deoxyribonucleic acid (DNA), which contains genetic instructions useful in the development and functioning of all living organisms. Dennett describes evolution as an algorithm for computing "the fitting designs" on the basis of existing knowledge. Each design has its purpose (Dennett, 1995, p. 115). Generally speaking, the goal of designing objects with a complex structure and function that have an intelligent designer is to satisfy human needs. There are many designs which can be associated with the purpose of an active and rational individual. For each design there is also a set of variants, which, to a greater or lesser extent, affect the ability of fulfilling the purpose. The set of variants of a design, in the mathematical theory of evolution, represent its fitness function.

If Hayek and Campbell's essential contribution to the reduction of the above described, apparently accurate, mathematical theory of evolution, i.e., to explaining that something that appears as a product of a conscious design is actually the result of a process that is not guided by calculation, then it may be possible to expect, from the advocates of the theory of cultural evolution, a demand to explain the process of adjustment to the social environment as a result of trial and error that goes "blindly", without the knowledge of what will be.

Since a closer look into the debate reveals that those who are for and against “blindness” claim to not have the same content in mind, the “blindness” claim should be carefully determined.

If its application to evolution means that humans act with little conception of what they are doing or where they are going, the undeniable intentionality of human action would make the “blindness” claim obviously nonsensical. This, however, is definitely not what this statement says. As Campbell and other advocates of the “blindness” of evolutionary exploration have emphasized, it is a specifically restricted claim. It does not deny that the “knowledge” that has been obtained in previous evolutionary research is used in new trials. Instead, it is about the unpredictable variations that go beyond what is already known. Evolution will not induce increasing adaptation, for example, improvement of the ability to solve problems, if the variations that occur in any stage of the process do not use the knowledge accumulated through experience. In biological evolution the variations caused by transfer (by inheritance) rather than by random mutations make a contribution in the sense of “foreknowledge”: it recombines components of past adaptations that have already proven to be successful. Intentional human research and experimentation is not “blind” in the sense of a random choice, but is directed to expectations based on existing knowledge. Yet, whenever research ventures are found in an area in which previous advances in knowledge cannot provide any guidance, there is no benefit from what is already known, and one must go blindly, bound to find out only ex post what functions and what does not.

When Campbell argues that the blind variation and selective retention processes are fundamental to all inductive achievements, to all genuine increases in knowledge, and to all forms of increase in the adaptability of the system to the environment, he emphasizes the genuine increase in knowledge (Campbell, 1974, p. 421). Therefore, the gain in knowledge can be explained by continual “escapes” outside the borders of the known, a breakout for which blind variations provide only already available mechanisms (Campbell, 1987, p. 111). This does not deny that variations benefit from the existing knowledge. Campbell insists that the many processes which “truncate” more complete processes of blind variation and selective retention are per se inductive achievements, and contain the “wisdom” of the environment achieved through blind variation and selective retention (Vanberg, 2011, pp. 5-6).

### **3. RATIONAL LIBERALISM VERSUS EVOLUTIONARY EPISTEMOLOGY**

Economic theory is not only the result of objective intellectual curiosity about social phenomena but also the product of an intense need to reconstruct a system that leads to a profound dissatisfaction. It is an approach to economic theory that is not satisfied with the explanation of how existing systems function, but assumes the existence of a normative criterion according to which the phenomena in a system are more or less desirable, and that scientific knowledge can and should be applied in order to improve the socio-economic position of man. Hayek admits that the goal of his efforts is to “revive” the principles of liberalism in order to improve economic institutions and thus increase the possibility of advancement of men towards general progress and increased wellbeing of other members of society. Under the term “improvement”, Hayek entails the policy that follows some a general concept of a social order in which people want to live.

Hayek’s evolutionary epistemology ignores the possibility of rational design and introduces experimental research into economic science, by means of which man has discovered a system of institutions. On the macro level, institutions are required to maintain the activities of the market system. Hayek has incorporated this claim into the already existing economic institutional theory, whose important representative is Adam Smith. Smith’s economic theory reveals much about the functioning of institutions in the market system. Adam Smith, who is considered to be a father of economic science, emphasized the necessity of other institutions as well to support the market in order to ensure its existence. Smith pointed to the conditions under which institutions are constrained and complemented to the market, in order to avoid instability, inequality, and poverty (Sen, 2010, p. 52). On the micro level, the institution allows individuals to advance and further improve themselves, by the principle of variation and selective retention. Hayek’s evolutionary epistemology shows the absurdity of unlimited belief in scientific expertise and in the scientists who pretend to have foreknowledge of the design of “the perfect economic system”. As he proved in his analysis, the limitation of human knowledge causes: 1) evolution not to be managed by components of human purposefulness and intelligibility, 2) demands for justice to be inappropriate to a naturalistic evolutionary process, and 3) no reason to believe that deliberate selection of habitual customs and practices leads to the greatest extent of general welfare that one economic system can reach in given local and temporal conditions.

All this sounds similar to the claim from 1932, which Hayek described as “objective intellectual curiosity about social phenomena”, and which appears to

be entirely free of concern for a “world in which people want to live” (Vanberg, 2011, p. 7).

Hayek’s project of rational liberalism is not motivated by “objective intellectual curiosity about social phenomena”, but by the ambition to study the liberal ideals of a free economic system. The author refers to the spontaneous market system, or catallaxy, as a desirable form of social organization in which people may desire to live. He claims it is a game in which individuals have reason to participate. The market is “a pool” in which the lengths of individual actions can be more effectively equalized than through any other mechanism of coordination (Vanberg, 2011, p. 7). Hayek describes the advantages of “the market game”, explaining it as a “game which increases the chances for all”, or as “the game of wealth creation”. He talks about the market system as the order “in which the possibilities of any person are likely to be higher than they would otherwise be”. In his concept of rational liberalism, Hayek defines the appropriate role of economic policy as “creating abstract order of a certain character which would provide the best conditions to the actors for achieving their different and mainly unknown goals” (Vanberg, 2011, pp. 8-9).

On the other hand, Hayek’s evolutionary epistemology reflects the idea that the market economy has prevailed over other forms of economic system because it has enabled groups to breed better (Vanberg, 2011, p. 9). An evolutionary process which has contributed to the market system to become the dominant form of organization is not governed by human desires, but by the favourable conditions for the survival and increase of population. There is no reason for us to assume that evolution will allow humans to raise an unnecessary number of children. “We may not like the fact that the rules of our conduct depend on the number of us, but our capabilities here are limited. ... there are already too many people and only a market economy can keep the vast majority alive” (Hayek, 1988, p. 133).

The functioning of the market economy or catallaxy shows that: 1) firstly, the outcome of catallaxy is, to a large extent, unpredictable, because of the unpredictability and flexibility of the conditions under which catallaxy occurs, and 2) secondly, catallaxy is a neutral process, based on abstract and universal rules. Universal rules have not been invented or planned; their practical rationality has not been examined, and then applied. They have appeared spontaneously, in an evolutionary way, and, as such, their task is to protect the interests of all people. In the realm of abstract and universal rules, attempts to ensure unilateral gains on account of others could easily lead to a result that would be inferior for all participants, compared to the outcome that could be achieved if the participants,

pursued the abstract rules of mutual understanding, which reduce the injustice caused by the squandering behaviour of the privileged classes. Owing to the rule of abstract and universal principles, people achieve more stable sources of funding, and they try to improve their relations by articulating the rules that encourage and facilitate voluntary cooperation, while discouraging exploitation (Vanberg, 2005, pp. 28-29). Furthermore, how well the market functions depends on the nature of informal (inarticulate, abstract) rules and on the way they are articulated. In this context the task of economic policy in improving the market system is to define rules and to ensure a legal and institutional environment appropriate to the realization of partial and constitutional interests. The role of economic policy in the functioning of the market system is similar to the relation of a doctor of alternative medicine to his/her patient. Economic policy should treat the market as a self-sustaining whole, which functions with the help of invisible and autonomous forces, and which should be supported gradually by defining and preserving the rules of justice. Thus, the legal institutional environment favourable to the realization of all interests would be ensured. Finally, the economic system of constructivist rationalism, according to Hayek, does not provide better conditions for achieving individual and social goals (Vanberg, 2011, p. 10).

#### **4. CONSTRUCTIVIST RATIONALISM AND CONVERSION OF KNOWLEDGE**

The knowledge that Hayek has formulated two versions of the critique of the economic system of constructivist rationalism without making a direct difference between them is of importance in the present context. Hayek's first critique is directed at the nonsensical idea that actions in the economic system that are rational and conditioned by purpose can happen outside the (abstract) rules of human interaction. Hayek explains this version of the critique of the economic system of constructivist rationalism when he speaks of the conflict between advocates of spontaneous spreading of the economic system on the one hand, and the theorists who support deliberate arrangements of human interaction by central government as the institution of comprehensive coordination of economic processes on the other. Hayek's second critique refers to the attitude of the advocates of constructivist rationalism, according to which all social institutions are the product of rational design (Vanberg, 2011, p.11). From the perspective of this intentionalistic and anthropomorphic viewpoint, the human mind is capable of designing institutions as a response to perceived problems.

From the perspective of Hayek's evolutionary epistemology, in order to implement a design of any kind of institution, a schema reader/builder, which no one invented or planned in advance, has to exist. "In the biological world, for mammals the reader/builder is a female womb, for birds, fish, and amphibians it is an egg - both render from the schema of DNA into an interactor organism" (Beinhocker, 2011, p. 11). The need for the concept of a reader/builder in the process of cultural evolution has two important implications. Evolution of the desirable designs is implemented spontaneously, based on the knowledge of a builder and information in the reader/builder scheme. Implementation of the design, basically, is the unintentional conversion of this information into the cultural artefacts of an economic system. Some designs may contradict the laws of physics; others cannot be implemented by using limited knowledge and existing technology. The space for the spontaneous intelligent shaping of cultural artefacts and their specific characteristics is therefore limited (Beinhocker, 2006, pp. 233-235). The increase of space may be an unplanned product of the increasing role of knowledge and the level of awareness in the behavior of the actors of cultural evolution. The size of the designing space depends on the number of modules or on dimensions by which the design may be implemented and on the number of possible variants for each module or dimension. Consequently, the design is characterized by multidimensionality and modularity. It means that the design consists of a module, a module consists of sub-modules, a sub-module consists of sub-sub modules, and so on. The number of design variants grows exponentially with the growth of the modules and sub-modules and with the growth of variants of modules and sub-modules. For a design of low complexity, the number of possible design variants exceeds the number of particles in the universe. In addition, the number of feasible shapes (design) is infinitesimally small compared to the number of potential designs. The main cause of the intellectual fallacy of constructivist rationalism related to the deliberate design of the world is denial of the hopeless limitations of human knowledge. Different versions of Hayek's critique of constructivist rationalism review different dimensions of the problem of knowledge.

The first critique is related to the question of the application of knowledge accumulated during the experimental process in which different rules are tried and experience has showed what works and what does not. Here he accuses the advocates of constructivist rationalism of ignoring the benefits of the accepted institutions from the wisdom incorporated in them through previous experience, and the fact that for the sake of further improvements the same forces of experiential learning should be relied on that were involved in their design. As Hayek points out, the advocates of constructivist rationalism do not comprehend

the importance of the rule in adaptation about the inevitable ignorance of most of the specific circumstances that determine the effects of our actions, and thus they neglect the overall rationality of the phenomenon that activities happen according to the rules.

The second version of Hayek's critique of constructivist rationalism is related to the use of knowledge that is scattered in the human mind in a million individual realizations. Apart from proving that is impossible to concentrate the knowledge in one place and use it to coordinate social progress, Hayek also showed that constructivist rationalism does not consider the fact that an independent selection within generally acknowledged rules allows the individual to obtain highly sophisticated knowledge and to discover the potential for impartial investigation that will be used effectively in solving economic problems. Constructivist rationalism forgets that far more knowledge is generated and utilized in a rule-based spontaneous order, based on the rule of abstract and universal principles, than in the system of centralized decision making. As Hayek notes, the advocates of constructivist rationalism do not comprehend the significance of rules in human adaptation to this inescapable ignoring of most of the particular circumstances which determine the effects of our actions, and thus they disregard the whole rationality of rule-guided behaviour.

The second version of Hayek's critique of constructivist rationalism can be related to the application of knowledge in the solving of problems, and with routine activities which are carried out independently of the members of economic systems. Constructivist rationalism ignores the fact that independent adoption of decisions provides the knowledge required for shaping sophisticated economic and technological solutions. Certain activities of an economic system are conducted by the "automatic pilot" model, or without the awareness and knowledge of the members of an economic system. The rules on the conscious and subconscious levels are responsible for these activities. Advocates of constructivist rationalism abstract this fact, unlike the theoreticians of evolutionism. From Nelson's and Vinter's perspective, routines are perceived as an irreversible form of coordination of economic activities, which are based on unarticulated rules. Owing to these norms, routines of a sub-system of the economic system can be separated and maintained as activities that are not designed and controlled by the top management of the system in question. Contributing to the achievement of the expected results of individual actors, routines have developed themselves, have evolved spontaneously, and have not needed external enforcement to persist (Vanberg, 2006, p. 548).

Using well-developed and highly effective tools for economic analysis, the advocates of constructivist rationalism found certain consistent results concerning the productive use of human reason. Thus, it has been proven that the smooth running of routine activities sometimes requires the knowledge of an individual in how to approach a specific task and to carefully analyse the results of the chosen approach. On the other hand, the smooth operation of routine activities implies that individuals know how to approach a particular task and to carefully analyse the results of the chosen approach. The craft of adequately accessing a particular task and successfully analysing the results of the chosen approach is provided by special skills that can be explained as competencies or abilities to do something. According to apprehension of skills as competencies, skills which are part of the rules of conduct and consciously deliberated actions are similar to each other. It seems that in his interesting attempt to replace the theory of rational choice with the theory of “programmed behaviour”, Vanberg searched for a programme that would be part of rule-following behaviour and consciously deliberated action (Vanberg, 2006, p. 552).

The original form of the programme, which Vanberg initially proposed, is the “if ... then ...” rule. These programmes are simple and they are conducted on an unconscious or subconscious level. But what about the consciously deliberated actions? Vanberg suggests that the solution to this puzzle is that the “if ... then ...” rule, which we use unconsciously in rule-following behaviour, is also applied in the consciously deliberated actions. In conscious decision-making, sometimes the “if X, then do Y” rule is applied intentionally. If a person remembers that in previous situation X, he/she did Y unconsciously, which gave good results, he/she might apply the rule “if the situation is of type X then do Y” deliberately in new situations of type X. However, conscious decision-making does not always include the application of this rule (programme). Sometimes individuals are quite determined to solve a problem by concentrating only on the problem without consciously or deliberately implementing the rules (or programmes) which they know gave very good results in previous, similar situations. People behave according to what Vanberg called “case-by-case maximisation” (Vanberg, 2006, p. 553). They do not rely on the previously learned rule. Instead, they use a deliberate search for information in order to determine the outcome of every single action.

Unlike Vanberg, Hayek indicates that an individual has limited knowledge and reduced cognitive abilities, so he/she uses the rules in order to create a model of rational decision-making which considers the role of indefiniteness and uneven distribution of information in numerous situations of choice. Hayek believes

that universal rules are a very reliable analytical instrument that people have discovered in the absence of reliable information. Due to bounded rationality, individuals constitute general rules that will be followed without questioning the decision whether to apply this or that rule in every situation of choice, which contributes to controlling irrational impulses, balances temporary desires, and forces the actors to reach lasting and best-possible solutions (Wohlgemuth, 2011, p. 14). In a similar way, Heiner explains why imperfect actors with limited knowledge and cognitive abilities can benefit by applying this or that rule, instead of trying to achieve the maximum efficiency level from any action (Vanberg, 2006, p. 12).

Hayek's and Heiner's model of rule-following behaviour includes three different levels: the level of biological evolution, the level of cultural evolution, and the level of knowledge accumulation. At all three levels the learning process is based on the principle of variation and selective retention. The learning process lasts the whole lifetime of an individual. It is a process in which an individual, on the basis of genetic heritage, forms different patterns of behaviour. The process of biological evolution shapes the genetically encoded predispositions and thus determines the nature of human beings. The process of cultural evolution involves transfer of tradition and culture through education and learning, which, finally, contributes to the spontaneous development of the economic system (Vanberg, 2006, p. 13).

When he criticizes the claim of constructivist rationalism that the development of the economic system is directed by the orders and constraints of a central authority, Hayek obviously rejects comprehensive planning and promotes spontaneous regulation of the economic system by means of rules. However, when he denies the hypothesis of constructivist rationalism advocates that it is possible and desirable to reconstruct all the "mature" social institutions in accordance with a pre-designed plan, it is not clear which alternative forms of institutional reform he proposes. Then how to explain what Hayek does reject and what he does accept in the planning of economic systems?

Hayek makes a distinction between planning in the sense of organizing social activities with the help of a system of specific orders and restraints, and planning in order to spontaneously establish a rational economic system in which people are free to follow their interests. His disagreement with modern planning does not refer to the question of whether foresight and systematic thinking should be applied in planning common actions, but to the position of constructivist rationalism that modern planning is the best way to coordinate human activity. As he stated, the question is whether one's ambitions should be limited by creating

conditions under which knowledge and individual initiative are manifested to the highest degree possible so that individuals can plan successfully, or whether the rational use of resources implies central planning and organizing of all human activities according to some consciously constructed plan. While central planning requires a centralized coordination of economic activities according to a unique plan, liberal planning requires designing the legal framework in which various activities are conducted by a rational person according to their individual plans. The framework for fair behaviour, as Hayek emphasized, is not the result of the passive acceptance of institutions, but of efforts to create the conditions in which competition will operate in the best possible way.

The idea that people can adapt to the conditions of market competition, reacting to the results of evolutionary research and thus stabilizing the economy, has its place in liberal institutionalism. Thus, Commons stated the necessity of separating the rational from the non-purposeful selection of institutional elements of the human population. Unlike natural selection, in which there are no forces that approve or disapprove of what an individual has really done, rational selection brings cultural values as normative criteria of conduct in order to reduce the instability of the market. "Natural selection is just as purposeless when it lets wolves and liars survive as when it lets gazelles and George Washington survive" (Commons, 1950, p. 91). Success is the only measure of appropriateness. Artificial or purposeful selection prescribes ethical ideals of appropriateness of behaviour of the actors in the market, which is, according to Commons, the main source of instability of aggregate demand. Economists must bear in mind that what they call "free competition" is not a natural struggle for survival, but the ideal of public appropriateness attainable only by abstinence from the harsh (natural) struggle for existence (Commons, 1934, p. 713). Commons' concept of conscious selection shows how human purpose-seeking and open-ended evolution can be reconciled by instruments of institutional constraint that put evolutionary exploration in the service of personal and collective benefits. However, the virtue of individuals to improve and revise their moral principles, according to Hayek, depends on how an individual understands the role of "mature" institutions. In this sense, it should be noted that Hayek has considered the school of property rights as the sub-economic scientific discipline that studies how the improvement of the traditional institutions of property accelerates the process of trade and increases the wealth of nations.

The difference between planning in the sense of organizing social activities by means of a system of specific orders and restraint, and planning in order to provide conditions for establishing a rational economic system that promotes the

values of individual liberty and the benefits of market system, points not only to the necessity of distinguishing between the sub-constitutional and constitutional levels of evolutionary analysis, but also to the need to embed human rationality and deliberation in evolutionary research. Evolutionary research at the sub-constitutional level, i.e., within a given but variable framework of fair behaviour refers to the problem of defining solutions within the constraints defined by the current constitutional regime. Evolutionary research at the constitutional level or in the phase of the examination of various frameworks of fair behaviour provides the ability to choose the set of social institutions in order to achieve justice, and prevents narrowing the horizon value, which would only serve the interests of local groups. At the sub-constitutional level, community planning, understood as the central direction of economic activities according to a single plan, differs from the results of evolutionary research that operate on the principle of variation and selective retention. This, however, is not the case with deliberate institutional planning. It does not prevent evolutionary research, but it aims at providing the conditions for the spontaneous development of the current framework of fair behaviour. On the other hand, the concept of deliberate institutional planning, at the constitutional level, rejects the idea of social engineering by which people consciously choose economic systems.

## **5. INSTITUTIONAL DESIGN AND META COMPETITION**

Hayek gives the entrepreneur an important role in shaping the economic system in which individuals freely follow their interests. From the perspective of Hayek's evolutionary epistemology, the function of the entrepreneur (innovator) is analysed in the context of meta competition. The term "meta competition" refers to relationships between unbounded entrepreneurs that are achieved through rules and institutions. A competitive victory of this or that institution means that an entrepreneur has invented an institution for minimizing transaction costs, which has become a dominant factor in economic behaviour. The competitive victory of a rule indicates that it is systematically used in similar economic situations in which the majority of subjects are engaged. The loss in this competitive struggle means that a given rule expires, or that it is valid only occasionally. Further analysis of meta competition indicates that the fact that an entrepreneur follows a rule is caused not only by current profits but also by a wide circle of factors, including traditional, religious, and ideological constraints, social sanctions for their violation, the expected gains due to the application of other norms, and so on. Thus, the relative gains of institutional entrepreneurship have not only an

economic but also a social and psychological character (Tambovcev, 1998, pp. 32-33).

Binding the traditional, religious, and ideological institutions to the outcome of purposeful activities has led the institution in Hayek's evolutionary epistemology to become a factor of significant economic relevance. Hayek's attitude is that the individual, in achieving self-interest, respects certain rules of conduct. "His categorization of the rules is very similar to North's classification of institutions. In the rules, he includes: 1) the rules the implementation of which can be monitored, and which are not given in a formal or informal form, 2) the rules in a formal form, but without official support or control, 3) passive rules, which are consciously created and embedded in the economic system" (Kitanović and Petrović, 2007, p. 5).

Hayek also divided the rules into positive and negative. Negative rules prevent injustice and suggest to people what not to do. People invented positive rules in order to provide "a better game" for themselves than the one imposed on them by natural selection. Take, for example, the collective behaviour of groups. Collective behaviour based on constitutional norms helps the members of the groups to be, as a whole, more effective in realizing aims than the groups whose members are not ready to engage in collective relations. However, the well-known argument against the appropriateness of collective behaviour is that the individuals involved in this practice would provide a collective good for the group and that they would, in the absence of compensatory effects, be at a disadvantage compared to the "free riders" in the group who are free riders at their own risk and who do not have to pay the costs of producing the collective good. The fact that groups in which there are rules of group benefits provide a more attractive environment per se does not explain why individuals are willing to respect the rules and how much it costs them. In order for this cooperation to be individually advantageous there must be some mechanism that sufficiently compensates for the individual sacrifice and the task of scientists is to determine which mechanism is in question. In other words, it is necessary to answer the question: how do the benefits of the group convert into individuals' incentive to make decisions that correspond to what society considers fair? The main institution that converts the benefits of a group into the incentive of individuals to behave prudently and responsibly, in Hayek's opinion, is the judge. The judge has the role of an entrepreneur who seeks to modify existing or develop new institutions. If the judge finds that the rule on which the "free rider" relies in forming his/her expectations is wrong, it will happen because the idea of justice or injustice of a specific rule depends on the need of the existing order. Order, in the circumstances of acting in the interest of

all members of a group, can be preserved only if the old rule is modified or a new rule added (Hayek, 2002, pp. 108-9).

## **6. CONCLUSION**

The history of economic thought can be formulated, modelled on Blaug, as the history of attempts to understand the effect of the economy based on market operations. The structure of the market system changes considerably over time, and each generation of scientists, in explaining these changes, has applied different concepts and methods of analysis. Hence, the transformation of theories preserves the transformation of economic systems. The subject of economic theory is the historically determined economic system which is connected by three components: general human, ethnic, and global-phase.

The general human component reflects the genetic basis of behaviour on which the instincts emerged over evolution have effect. Instincts of self-preservation and extension of the species, of aggression and freedom, of understanding and creativity, mutually acting in different areas, cause the same models: exchange, appropriation, oppression, social control, rationalization, and renewal. The second component consists of the tradition and culture specific to that ethnic group, which was formed with the development of language and theoretical knowledge. Passed on by education and learning, the tradition and culture of a particular ethos govern the action of natural instinct and become a source of economic progress. The global-phase component reflects the unequal progress and spreading of achievements of the global material culture.

Since the structure of the economic system determines the content of economic theory, economic theory actually has three components: general human (micro and macroeconomic theory of the market, which is, as Coase noted, the essence of the general biological theory of choice), ethnic (national economy which, in particular, examines market principles through national institutions); historical-progressive (for example, Marx's five formations, the "trinomial" concept of theorists of industrialism, and the six stages of growth by Rostou). None of the components of these theories can explain separately either the functioning or evolution of the real economic system. Nevertheless, there is no integrated theory, and its essential components are developing independently of each other and with the aim of obtaining an universal meaning.

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