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# PARADOX OF IGNORAMUS: BIOETHICS' SYMBOLISM IN PLANNING URBAN SPACE

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## *Abstract*

Correspondence between actions of three social technologies is discovered – bioethics, urban planning and knowledge management. The correspondence is discovered on basis of the "paradox of ignoramus". The essence of paradox is the fate of ignoramus guaranteed to everyone in the society of knowledge. The paradox manifests the situation in which each professional becomes an expert in a single area of knowledge while staying helpless as an ignoramus in all the rest areas, but living in modern society requires a special awareness to navigate in a complex reality. These three technologies protect an ignoramus: knowledge management protects the intellectual freedom of specialist; urban planning – the rights of urban communities; bioethics – individuality. On basis of information models, the task of knowledge management in urban planning is specified and a role of verbal symbolism of bioethics in finding the "semiotic attractor" of urban planning was established. This symbolism serves as the fostering of needs and recodes the pragmatics of social egoism into the pragmatist of social altruism. Such change in symbolism's pragmatics causes the positive self-organization of urban community, which is the object of urbanistic theories. The structure of urban space is interpreted as localization of the spectrum of processes each if which is examined in separate trends of urbanism. These processes are interpreted as information processes that allowed one to uncover invariants in urban space, under which conditions of the unacceptable effects of urban planning (equifinality and heterotopy) and the limits of concepts' applicability are manifested.



**Keywords:** Bioethics' symbolism, urban planning, semiotic attractor, equifinality, heterotopy, paradox of ignoramus.

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## 1. Introduction

So far, in the research, no correspondence between bioethics and urban planning has been revealed. These two young disciplines have some points in common. Until the 20 the century, their object was shaped spontaneously as ethical regulation of healing and similarity of settlement processes. Subsequently they turned into interdisciplinary fields of knowledge unifying the sciences far from each other – medicine and ethics, architecture and urban economics. Then these sciences acquired a value of social institutions: organizing ethical committees and advocacy planning (Davidoff, Davidoff & Gold, 1970) which protect the rights of those who are not aware they have rights to live in accordance with their ideas about everyday life they want. Herewith, this protection is originated not in modification of legislation, but initiate its modification by the very fact of its existence. And in this case, a phenomenon that one would call the paradox of ignoramus emerges. The paradox consists in the fact that the modern interdisciplinary integration and distribution of knowledge in the era of convergent technologies force each professional to be ignoramus within the entire integrated field of knowledge. Besides the enforcement of the integration results in growing profanation of professionals. In other words, the more researching and practical experience each professional gets, the more ignoramus one becomes within other limits of interdisciplinary field because all of its other loci are developed with increasing speed (Ardashkin, 2015; Ardashkin, Martyushev & Bezborodov, 2015; Ardashkin, Bykov & Kirsanova, 2016). This paradox makes clearer the state of a human being who becomes an ignoramus, and probably because of this, bioethics took the special place in a modern science and transformed into a mean of protecting the right of any individuality to be oneself, not obeying the dictates of traditions, stereotypes and images of social dream. That is all that in all times was embodied by architecture and in its changeability left traces in the urban space. Planning of urban space is based on urbanist theory that is interdisciplinary and affects the interests of knowledge areas that are far from each other: architecture, culturology and ecology; economics, sociology and jurisprudence; a range of technical sciences (Abu-Lughod, Castells & Rondinelli, 1984; Adams, 2017; Harvey, 2012; Harvey, 2006; Harvey, 2008; Mulligan, 2014 Sharp, 2013; Sennett, 2012; Soja, 2000). Besides, an architect and an ecologist see the goal of planning in forming the future space of city, an economist and a sociologist – in the short term, while a culturologist – in preserving the past. The situation is featured with the circumstance economists hardly understand how planning itself may be a negative factor in the cost of environment, and architects (as well as other professionals) do not pay particular attention to the economic consequences of their projects. This generates the most evident difficulty – the problem of equivocation because synonymous terms have different meanings in the listed fields of knowledge. Solutions of interdisciplinary problems may be found at the base of searching the points of unification applied to all the professionals. They all understand that city is a self-organizing system, their vocational training suppose their awareness in the field of informatics and proficiency in building conceptual models. These unifying foundations are the key ones in the information-synergetic approach developed by the authors and designed to conduct interdisciplinary research using a conceptual model (Fig. 01) and its variations. Looking ahead, the authors will explain that one of the results of the work will be its other variation yet. The model was tested in the research of the place and the role that bioethics plays in knowledge management (Melik-Gaykazyan et al., 2017). The model represents the structure of information streams (Fig. 01) and the

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distribution of information characteristics by the stages of the information process. Visually in this model, the stage of information encoding (block 3) and the stage of creating operator for making targeted actions (block 7) coincide with the "ramifications" in the stream itself. It indicates that these stages coincide with the stages of self-organization at which bifurcations occur, or, which is the same, there are changes in the system structure. The section of the model between these blocks corresponds to arrangement of the information broadcasting channel. The figure shows one channel, although it is clear that in reality there are more of them, but they all have an isomorphic structure. Broadcasting information is represented in two "lines" in the model. They correspond to two modes of broadcasting: synchronic (blocks are numbered with Arabic digits) and diachronic (blocks are numbered with Roman digits). Initially the model was developed for figuring out the correspondences between the stages of the information process and the whole set of information properties. In the whole set of these properties, there is a polypotentiality property, manifesting the ability to use the same information to reach different goals and the ability to reach a definite goal on the ground of reception of different methods of reaching the goal. This property corresponds to the process of information storage while selecting an algorithm (block 6) for building an operator (block 7). The authors stress that this property belongs to what is happening in synchrony, that is, without addressing to "memory" or to the previous experience of selecting an algorithm. The authors emphasize this circumstance since it is polypotency that determines the existence of equifinality (property of the system to come to the same final from any initial states and using different methods). From this, one can conclude that without addressing its thesaurus (or if it is not available), the system will choose the same operators in different situations. As for a heterotopy effect, it exists due to reception of information (block VI and variability property) occurring exclusively in the diachronic mode while there are "errors" during storage of information. In biology, medicine, and ecology, "errors" in the growth of embryo are called heterotopies, when a certain organ or tissue is localized in the "unusual" place of the body. This biomedical concept is used here under the impression of the content of the footnote in the article of a leading urbanist: “from neighborhood to building, to the body … from the body to the planet” (Soja, 2015, p. 379). Such scaling justifies the consideration of urban space from the bioethical point of view. The authors proceed from the fact that a city embodied those innovations that were specific to the cultural epoch in changes of its appearance and become the place of living not only for “Rebels and Rulers” (Sharp, 2013) but for those people who were unable to exist in other spaces.

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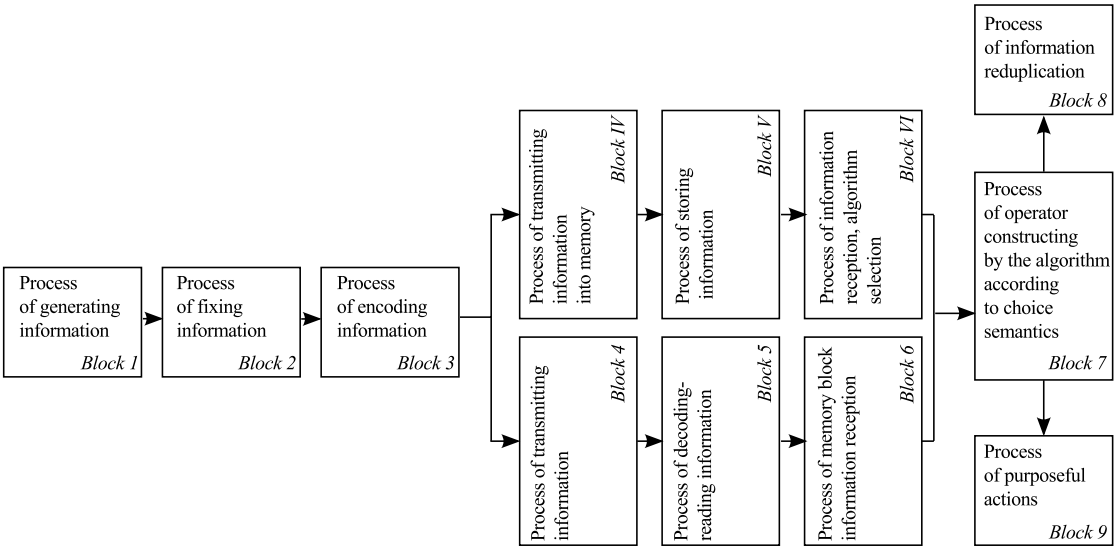


**Figure 01.** The model of an information stream

## 2. Problem Statement

The primary problem is the lack of unity regarding the understanding of role of the invariant and the variable in transformations of a city in the urban theory, vector or scalar nature of city's dynamics, relationship between the objectives of urban planning and urban justice, or “the Right to the City” (Harvey, 2012; Sharp, 2013). This actualizes the development of the method of juxtaposing concepts that are in methodological opposition to each other. This method is necessary to overcome the situation, which the authors called the "paradox of ignoramus".

## 3. Research Questions

These problems cause two questions, the answers to which contribute to searching for solutions in this cognitive situation. The authors give them in concise formulations, the explanations to which will be given below: (1) Is the invariant structure of urban space a property of equifinality or is this structure an attractor of self-organization of those artificial habitats that people created in contrast with the natural environment? (2) Are the changes in a city an effect of heterotopy?

The authors intentionally do not use the terminology of urban theory to pose the questions, but address general scientific concepts, which eliminates the problem of the multivalued lexicon used in this interdisciplinary field. The questions concern the understanding of a role of the invariant and the variable in city's transformations. It is believed that a city retained the main features of its structure, constantly changing its appearance. The structure is formed by zones of urban space, which invariability is demonstrated by its reproduction in the “global city” called the Internet that was repeatedly emphasized by leading researchers of city and modern communication space. At the same time, the first question is also related to uncovering the mechanism ensuring the stability of urban space structure, in order to demarcate the vector and scalar parameters of city dynamics. One would explain that the interpretation of goal as an attractor implies the vector nature of dynamics, and equifinality corresponds to description of

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dynamics in the scalar values. In other words, the first question is whether the structure of city is invariant forever or is it an intermediate stage in the dynamics of this artificial system. If the first question is related to the invariable characteristics of urban space, then the second question regards the nature of changes.

## 4. Purpose of the Study

The stated problems and raised questions define the goal of this research, which is searching for their methodological solution for knowledge management and structuring the substance of education in the field of urban planning. Reaching the goal supposes the development of such methodology of juxtaposing the different schools, research trends and concepts that will be based on the principle "all are right", but at the same time it will allow one to determine their limits of applicability.

## 5. Research Methods

The information-synergetic approach (Melik-Gaykazyan et al, 2017) contains a range of procedures handling the modeling of socio-cultural dynamics, allows one to join the spectrum of established methods of humanitarian research (hermeneutic, semiotic, system, phenomenological). It is based at relationship of several theses among which four are important for the given research and are not trivial: 1) socio-cultural systems are self-organizing systems and that is why their research should be based at the methods of nonlinear dynamics; 2) information processes are the mechanisms of self-organization of socio-cultural systems; 3) information processes consist of independent stages-processes, and the initial conditions of each stage are created by result of the previous stage; 4) the creation of a semiotic form is the result of each stage. Within the framework of this approach, the models of information processes have been developed, which become research procedures for finding solutions in interdisciplinary fields of science. The essence of these procedures is to present a set of phases of the functioning of the studied system in a visualized model. At that, each phase is an object of research of a separate discipline, and, therefore, these procedures are to indicate the limits of applicability of results of scientific directions and concepts included in the interdisciplinary association. Addressing to schemes of information processes justifies the fact the urban planning differs from urban building drastically. The object of this science is not houses but neighborhood, not a layout of streets, but a configuration of urban communities, that is, communication of people. And any communications are a particular case of information processes.

## 6. Findings

The information-synergetic approach allows one to see the urban space as a localization of the semiotic results of multiple processes. These processes have the information essence, and the irreversible change of information stages allows one to understand what is happening in the structure of urban communities in both kinetics and spatial dynamics.

**1.** The raised research questions have forced to pay attention to the result that can be produced by the action of an operator, which embodies administrative decisions. These results determine the beginning of two processes: reduplication (block 8 at Fig. 01) and purposeful actions or, more precisely, striving for

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a goal which was formed after the operator was constructed (block 9 at Fig. 01). Reduplication is identical to achievement of an equifinal state and striving for a goal – to formation of an attractor. Reduplication always pursues immediate goals while its alternative (block 9 at Fig. 01) – asymptotic goals. At the same time, the achievement of an equifinal state is guaranteed when the methods of action (i.e. operators created within isolated operation of the synchronous broadcast mode) are implemented. As for isolation of diachronic translation, it will lead to heterotopy. The both results are not desirable in planning processes, for an equifinal state turns action taken into meaningless ones, and heterotopy induces deformations into a managed object. An example of heterotopy is towns of Seaside and Celebration (Florida) that were built based on the assumption that their inhabitants would be communities of middle-class people with the same needs as people who lived at the time when the projects of these cities were conceived. But over a short period of time, people's needs changed. Instead of people having cars, people that work in the city and live in suburbia, people spending their leisure on the terrace, chatting with neighbors, other people have emerged - with computers, the people for whom a virtual space became their working place, leisure and communication. These towns remained without a planned number of permanent residents, because they were planned in stereotype of diachrony, which was a "mistake" in isolation from the changing synchrony. Another example of heterotopy can be a gated community (Woo & Webster, 2014) that turns into a ghetto for rich people (Galonnier, 2015; Okulicz-Kozaryn & Mazeli, 2016) in cities where equality of rights to the city is not implemented. But if one focuses exclusively on vital problems, without addressing experience of theoretical research, then the result will be equifinality. This result can be avoided only with a help of knowledge management in the planning area. The desired result of planning is creation of a "semiotic attractor" that will determine the vector of urban communities' strivings and will become the asymptotic goal of city's development. This requires committing a "revolution" in the pragmatic content of an operator.

**2.** Examples of construction of an operator actualize the consideration of impact of diachrony on synchrony. Modification of an information stream model serves this purpose (Fig. 02). Depiction of the model (Fig. 02), which is the result of modification, needs some explanations. Numbering of blocks corresponds to numbering of the first model (Fig. 01). That form of culture that becomes the semiotic result of the corresponding stages of information processes unfolding in social systems is inscribed in each of its blocks. The impacts of these forms on the human recipient are depicted in dotted lines. These impacts create a spectrum of functions whose names are italicized in the corresponding blocks. People who adopt a passive form of existence will be wholly subordinated to them, that is, they will adopt ideology; will understand the innovations of its language; will follow a scenario proposed in the communicative space; will adopt symbols and styles that are operators for shaping models of behavior, as a role model; will replace history and tradition with myths and rituals.

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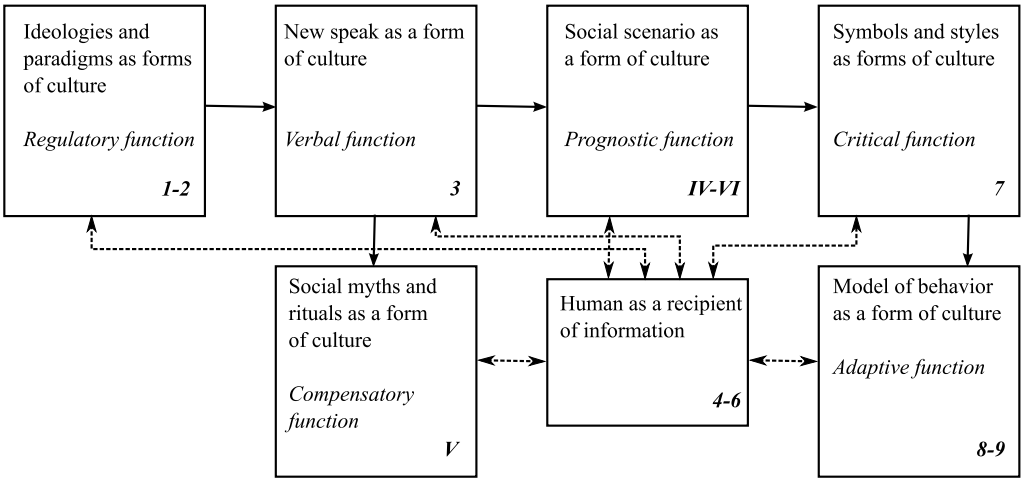


**Figure 02.** Model of development of culture's forms and functions as results of information processes in social systems

All the mentioned-above is depicted by arrows on dashed lines directed towards a "Human being as a recipient of information". Arrows, pointing the opposite direction, depict ways of impacts on the fragments of social reality. The first target for "rulers and rebels" (Harvey, 2012) will be ideology, its slogans and myths, because namely their transformation dictates the further transformation of the whole reality. The model allows one to see that the weapon for defeating these targets is symbolism (block 7) since it is precisely the thing which initiates the operation of a critical function. However, the modification of symbols and styles is the result of social scenarios. An example of these scenarios is a lifestyle. For example, the emergence of a significant portion of people with a free work schedule, i.e. not participating in work-house pendulum migrations, can make the existing system of transport communications inefficient. Increase in a number of rentiers leads to the same effect. The critical function at work is expressed in emerging volunteer movements not including "rulers and rebels", but changing the lifestyle of "city streets". Initiatives of volunteers bring innovations (Gorbuleva, Melik-Gaykazyan & Melik-Gaykazyan, 2016) to "the right to the city" without addressing transformation of the normative function but prompting the need to make adjustments to ideological foundations in society. The Hansa serves as a historical example of medieval cities' coalition for trading purposes, which obtained special legal preferences from kings of different states that existed for more than a century. The emergence and flourishing of Hansa occurred in times of stable ideology while merchants were treated as a very suspicious stratum. Trade flows and strongholds of Hansa are the prototype of a "global city" in the days of the Internet and internet communities still have not lose their marginal status. In other words, the emergence of new community (for example, volunteers or merchants) can create a virtual urban space, which is able to take its place in the strata of actual urban space eventually. The power of the symbol is illustrated by another example. Zones of the city (acropolis, agora, theater, etc.) dictated the manner of behavior within their borders in the ancient city. It can be said that the semantics of place and the clarity of syntactics dictated the pragmatics. Physically, much of this stay intact so far, but the transformation of pragmatics occurs, and it is not a place that dictates the manner of behavior but gustatory preferences determine the life of these places (Hutchby, 2014). So, the symbol becomes the operator of social action, when it changes its pragmatics. This is demonstrated by innovations, which have become noticeable and

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habitual in the most cities of the world in recent years. These innovations are ramps, elevators, etc., which are designed for people who were first called invalids, and then – disabled people. Recently, these people are treated in a different way. From disabled people they became people with additional needs. This change is the result of bioethics' efforts, whose initiatives are aimed at protecting the right of individuality to be any. This manifests the symbolism of bioethics at the verbal level, creating the conditions for transforming of pragmatic component of that operator, which can find a way to a "semiotic attractor". The authors emphasize that this manifesting of bioethics' symbolism corresponds to block 3 (Fig. 02), which corresponds to the concept of advocacy planning. Based on the model (Fig. 02), it is possible to establish the limits of applicability of other concepts of urban theory. The concept of H. Lefebvre (Kipfer, Saberi & Wieditz, 2013) emphasized the ideological specifics of the process of urban space's production, and the result of this process was fragmentation of a city into decision-making centers, created and occupied by the capital and power, and a sprawling periphery – subordinate but uncontrollable which is illustrated with the position of the blocks (1-2) and (*IV-VI*). The concept of D. Harvey focuses on the process of stratification of historical layers in urban space and its result – the form of urban relations. It is true for the blocks (*V)* and (*IV-VI*). In spectrum of M. Castells' concepts, economic specifics of processes within information society are fixed that revive Hanseatic times and the results of these processes are manifested in virtual roles of a city, which is indicated by positions of the blocks (*IV-VI*) and (7). In the concept of R. Sennett and her followers (McKenna, 2016; Fine, 2014; Phillips, Evans & Muirhead, 2015), the process of embodiment of the mental ground of certain culture in the space of an ordered "stone" is accentuated and its result – the manner to perceive the reality and the experience of corporeality. In the model, it corresponds to blocks (1-2) and (8-9). The concept of E.W. Soja provides an explanation for the process of combination of traces of many transformations (experienced in this place by city's communities) in urban space and the result is a specific for this place organization of social relations (Brenner & Schmid, 2014). It corresponds to the relation between blocks (*IV-VI*) and blocks (*4-6*). Thus, the authors managed to juxtapose the concepts, which are in methodological opposition to each other, and to form an idea of coherent action involving various processes that create the urban space.

## 7. Conclusion

An invariant structure is detected in urban space. It is a result of action of information processes, which are the mechanism of self-organization of sociocultural systems in all their diversity. This conceptual position ensured uncovering the conditions that cause undesirable consequences of urban planning that can be reduced to effects of equifinality and heterotopy, and allowed one to combine the opposing concepts of urbanism by the limits of their applicability. The result is relevant for development of a knowledge management strategy that is able to overcome the "paradox of ignoramus". This paradox creates difficulties for all interdisciplinary areas of knowledge, which are social technologies and are based on developing theories. The tasks of this management are specified: to carry out such communication between specialists, in which they do not have to leave the "native" conceptual limits; in organization of permanent education to update the content of training for specialists in dynamic areas of social technology; to construct a communication goal that is capable to a point at a "semiotic attractor", i.e. a strategy capable to invoke (or not suppressing) striving of a self-organizing system for an

asymptotic goal. This goal is given by bioethics, for example, in replacing “disable people” with “people with additional needs”. The verbal symbolism of bioethics serves the fostering of needs meeting the ideals of social altruism, which is in high demand in consumer society and serves the fostering of individual responsibility for the consequences of choice, because bioethics addresses its initiatives not to communities, like urban planning does, but to individuals.

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