UDC1:316]:327

Yu. V. Kharchenko

INDEPENDENT OBJECTS AND THE SPECIFICS OF THEIR INTERACTIONS: ONTOLOGICAL APPROACH

Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, kharchenkojv@gmail.com

Abstract. *It is described that world shows the diversity in terms of interlacing of multiple integrated systems. The whole universe in its ontical and ontological meaning, and social reality in which the whole public relations are concentrated and spiritual plane, reflecting, beyond possible and conceivable, facets of interaction are introduced. It is shown that we can trace and establish cause-and-effect relationships, analyzing the spatio-temporal characteristics of material objects only to some extent. And it is extremely difficult to find the same independent objects in its pure form or to fix the complete absence of interaction between them. As the result one can talk about some peculiarities of interaction by increases or decreases the level of interaction with the view of strengthening or weakening ties. Objects can be fully or partly independent, but relations between them still remain.*
In this investigation the author carries out the conceptualization of the phenomenon of independent objects and their interactions. It is confirmed that in nature and society principles of formation and deformation of the links are different. In fundamental sciences, which study the world as an infinite Universe, the terms "dependent variable" and "independent variable" are typically used in experimental investigations where we have to manipulate with some variables. In this sense, the "independence" of a variable is defined as independence of reactions, properties, intentions of the objects of the experiment. Some variables are assumed to be "dependent" on the actions of the object of the experiment or the conditions of the experiment. These variables, perhaps in implicit form, contain some information about the behavior or reactions of the object during the experiment. The key tasks are: to identify relationships between independent objects; to fix measure of their independence; to compare them with those mathematical models that represent the connections between the "dependent variable" and "independent variables". Based on ontological and phenomenological approaches, as well as the use of quantitative and probabilistic methods, the author carries out a comparative analysis of the phenomenon of independent objects in mathematical theory and in the social space.

Keywords: independent objects, interactions, links, multiple integrated systems, facets of interaction, dependent variable and independent variables.

Introduction

The modern world is presented in its various images and measurements as a complex organism, which in turn is also structurally multifaceted. It reflects the various combinations of links, relationships and communities. This world shows the diversity in terms of interlacing of multiple integrated systems. It is introduced as the whole universe in its ontical-ontological meaning, and as a social reality in which the whole public relations are concentrated and as a spiritual plane, reflecting, beyond possible and conceivable, facets of interaction.

And if through experiment, experience, observation, the researcher is able to detect the presence of those or other links in the material world, the spiritual sphere precludes such a possibility. Speaking of the spirit, we understand, first of all, the eternal truths that are called "highly abstract ideas".

Proceeding from this, we can assume that we can trace and establish cause-and-effect relationships, analyzing the spatio-temporal characteristics of material objects only to some extent. It is extremely difficult to find the same independent objects in its pure form or to fix the complete absence of interaction between them. We can talk about some peculiarities of interaction by increases or decreases the level of interaction with the view of strengthening or weakening ties.

Aim and tasks

In this investigation the author carries out the conceptualization of the phenomenon of independent objects and their interactions.

The key tasks are: to identify relationships between independent objects; to fix measure of their independence; to compare them with those mathematical models that represent the connections between the "dependent variable" and "independent variables".

Research methods

Based on ontological and phenomenological approaches, as well as the use of quantitative and probabilistic methods, the author carries out a comparative analysis of the phenomenon of independent objects in mathematical theory and in the social space.

Research results

It should be noted that the term "communication" is used in various meanings. It can be understood as: firstly, the attitude of mutual dependence, conditionality, commonality between anything (link of theory and practice); secondly, as close communication between someone or something (friendly link, strengthening of international relations, interpersonal relations, familiarity with someone, that make support, patronage, in influential circles); thirdly, the connection with somebody or something, as well as tools that allow to communicate (space communications, live communication via couriers, air link, Inter City telephone connection); fourthly, as a branch of the national economy, related by means of such communication, as mail, Telegraph, phone, radio, as well as the totality of such funds, concentrated in special institutions, as a communications service, communications workers; fifthly, as the plural (part of the building structure, linking its main elements); sixthly, there are language expressions as "in connection with", "as a result of something", "because of something", "being caused by something" (being late because of something, in connection with exact information need).

Therefore, the lack of communication is the lack of a relationship of mutual dependence, conditionality on some level of being. In this case, the weakening of links reduces the level of interaction between objects. This happens if we consider the problem purely technically, if we are not talking about man as a subject. In this case concepts "rambling", "obscure", "goofy" are applicable.

The term "rambling" in literal meaning is represented as "lacking connection", it indicates on "the lack of communication between the parts of a whole. From the point of view of logic, if we are talking about the statement of anything, it is treated as "discordant," "inconsistent", "promiscuous". As a result objects can be fully or partly independent, but relations between them still remain.

In nature and society principles of formation and deformation of the links are different. In fundamental sciences, which study the world as an infinite Universe, the terms "dependent variable" and "independent variable" are typically used in experimental investigations where we have to manipulate with some variables. In this sense, the "independence" of a variable is defined as independence of reactions, properties, intentions of the objects of the experiment. Some variables are assumed to be "dependent" on the actions of the object of the experiment or the conditions of the experiment. These variables, perhaps in implicit form, contain some information about the behavior or reactions of the object during the experiment.

Discussion

"Independent variables" are variables, which values we can use to manage and "dependent variables" are only the variables that can be measured or recorded. These terms get some opposite sense in case of making research in which we can't directly modify the independent variables, but can only attribute objects to a certain "experimental group" based on some existing in advance properties of objects. For example, if an experiment compares the number of leukocytes (WCC) in the blood of men and women, the floor can be called the independent variable and WCC the dependent variable (Johnson, 1970).

That is, the values of the "dependent" and "independent" are conditional, they relate to the principles of formalization, idealization, abstracting of the fundamental knowledge.

N. Kiseleva rightly contends that the process of idealization is the distraction from inability or build (under any circumstances or by any means) idealized objects in the real world (Киселева, !967). That is, the notions of "absurd" and "unfounded", "promiscuous" "haphazard", "counter-intuitive", "irrational", "asymmetrical" describe rather the level of understanding of the subject of cognition the status of various systems, principles of their existence, characteristics of their space, their properties as material entities and mathematical abstractions can be considered without taking into account the availability of real objects in nature, reflecting where they would be. The difficulty is that there are many such of systems.

N. Kharin showed that set theory has their source defining concepts-set (finite and infinite) and the inter one-to-one correspondence. Without a clear understanding of these concepts conscious and deep learning of contents of this theory cannot take place. With the development of the set theory it is substantially to take into account that these concepts cannot be logically defined through other: they are the simplest concepts. Set theory explains a lot in practical life, tries to correlate the abstract and concrete, infinite and finite, whole and part.

N. Kharin stressed that the basis for these concepts is the material validity, its specific diversity; the source of their formation is the practice of repeating the experience of billions, in which elements of the sets contained in inter a one-to-one correspondence with each other. Significantly to assimilate that introduction to the mathematics of such an abstraction, like the sets, means not only the rise of mathematics to a higher level of abstraction, but also further concretization of mathematical knowledge.6 However, at the same time, this theory captures ambivalent character of interaction between abstract ideas and reality, and also fixes dichotomy that expressed by valid alternative values "abstract" and "concrete", "endless" and "the final", "whole" and "parts".

R. Johnson, F. Kast, J. Rosenzweig notice that the whole is constantly updated as edit, and retains its identity and unity, but change its parts. This process can last indefinitely, sometimes it is planed, sometimes it is controlled, and sometimes no one pay attention to it. Often it is supported, but it happens that it is counteracted (Харин, 1963). This means that a continuous adjustment of the parts of the whole mechanism, which is constantly moving into the State of independence of the whole, is carried out.

In being of society, in different life environments, individuals perform a number of actions differently in each situation. In this case, they are subjects or actors and not objects because they are free in their decisions and not always predictable. The variety of factors that can be used as independent variables is limited only by the outside of the fantasy of the subject. The subjects are then considered independent when they affect the outside world and manage their lives.

On the level of interpersonal relationships, they cannot interact and completely tear the existing relationships and connections between them, but they still remain within a coherent system (in society) as participants in social life, although they can never to engage in communication.

In psychoanalysis all independent variables that are managed in a research can be divided into three overlapping categories: situational, operational and instructional variables. "Situational variables" are the various features of the environment created for the participants of the experiment. For example, if a scientist, who is conducting research of willingness of people to help, wants to identify the effect of the number of observers on the likelihood of helping, he can create a situation in which the members meet with the person who needs help. In some cases one participant meets a man in need of assistance and in the other cases participant and the victim may be surrounded by a group of three or six observers. In this case, the situational independent variable, not counting participant experiment, can be the number of people capable of providing assistance, and its values are zero, three and six (number of observers). However, such experiments show different patterns of communicative interaction quite narrow.

Sometimes experimenters are changing types of jobs. One of the ways to control "the working variables" is based on the formulation of variant jobs to run groups of participants. For example, in cognitive

psychology studies in order to determine the most common types of errors, participants may be asked to solve different multiple logical tasks. Similar labyrinths may vary according to the level of complexity in the study of perception can be used by different types of illusions. Similar labyrinths may vary according to the level of complexity, and in the study

For example, in the study of memory the experimenter show the participants the same list of words and give different instructions according to the method of memorization. One may be asked to create visual images for words, others may establish association between their adjacent pairs, and third may simply repeat each word three times. In one study it is also possible to combine different types of independent variables. In the study of the influence of the number of people, their motivation and tasks complexity on the ability to its decision some users can be placed in large and others in small rooms, thereby influencing on the factor of crowds using situational variable of size of rooms. Next, one group of participants in each room it is possible to issue complex crosswords, and the other is lighter. In addition, by using the instructional variable we can affect on motivation. It follows from this that in practical life it is only one of the models of research that demonstrates the diversity of actions of a limited number of recipients participating in the experiment. However, each of them in the communication process behaves as an independent object. Out of this model in real life there are many associations of people who do not always interact. In addition, all these systems are extremely dynamic.

Probability theory also operates the concepts of "dependent events" and "independent random events." Various theorems reflect the essence of the principle of independent objects. So, firstly, *the probability of a finite number of amounts of inconsistency events is equal to the sum of their probabilities*. Secondly, *the addition of probabilities is fair just only for inconsistency events*. Its use to find the probability of joint events can lead to incorrect and sometimes absurd conclusions. Thirdly, *the probability of the sum of two joint events is equal to the sum of the probabilities of these two events without the probability of their joint appearance.*

Also in mathematical terminology the following combination as "conditional probability" is presented.

Fourthly, *the probability of the joint appearance of the two dependent events equals to the product of the probability of one of them on the conditional probability of another, calculated under the assumption that the first event has already come.* Dependent and independent events are distinguished. Two events are called independent if the occurrence of one of them does not change the probability of another. For example, if in the factory there are two automatic lines, and according to the conditions of production they are not interconnected, then the stop of these lines are independent events. Several events are called *independent together*, if any of them does not depend on any other event and from any combination of the others. Events are called dependent, if one of them affects the probability of another. For example, two production plants are connected by a single technological cycle. Then the probability of failure of one of them depends on the condition of the other.

Conclusion

In philosophy the notion "object" is relatively independent from the notion of "subject". These constructions are related to the theory of cognition and cognitive activity as such. Object and subject are confronting each other purely dialectically. Object finds its embodiment in the nature of things, regardless of the subject of cognition. Sets of things give rise to many variables.

The terms "dependent and independent variable" are typically used in special experimental studies. The "independence" of a variable is defined as independence from specific properties of objects of the experiment. Dependence and independence in society is determined by spiritual constructs which people or subjects are producing constantly.

A number of variables can be regarded as a "dependent" from the action of the object of the experiment or from the conditions of the experiment. These variables, showing hidden relationships, in a veiled form, contain some implicit information about the behavior or reactions of an object during the experiment. They can be only partly fixed. "Independent variables" are those objects whose values we can be control. In the social space we can't manage the independent variables (people or subjects), it is possible to influence only to dependent objects.

The most difficult is to install the connections between dependent and independent objects (variables). Modern social theories borrowed the term "variable" in mathematics, logic, Cybernetics. In philosophy it is used in other value – as a property or a relation of the studied social phenomena which may have a greater or lesser degree of intensity and can be further reduced to a number or a specific number. In mathematics, under variable we understand the notions "symbol", "sign".

The concept of a variable is relative, because it depends on the nature of the investigated properties, specific metrics, and space-time characteristics. Dialectical relationship of subject and object provides for objectives, behavioral models, and spiritual orientation.

The above classifications of variables make much easier to align the conditions of functioning of the experiment. The subject-object relationship in ontological sense provides for the existence of various models of interaction in their deepest value and semantic context.

Therefore, it must be understood that in society not isolated variables but integral system of variables are interacted, that must be considered in the context of coexistence governing subjects who control these systems and physical objects that are controlled.

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Ю. В. Харченко

НЕЗАВИСИМЫЕ ОБЪЕКТЫ И ОСОБЕННОСТИ ИХ ВЗАИМОДЕЙСТВИЯ: ОНТОЛОГИЧЕСКИЙ ПОДХОД

В данном исследовании автор осуществляет концептуализацию феномена независимых объектов и особенностей их взаимодействия. Ключевой *задачей* в статье является выявление связей между независимыми объектами, установление меры их независимости, а также их сравнение с математическими моделями, репрезентирующими соотношения между «зависимыми переменными» и «независимыми переменными». На основании онтологического и феноменологического подходов, а также использования количественных и вероятностных методов автор осуществляет сравнительный анализ феномена независимых объектов в математической теории и в социально-философских исследованиях. В статье показано, что в природе и в социуме принципы формирования и деформации связей различны. В естественных науках, изучающих мир как бесконечную Вселенную термины «зависимая переменная» и «независимая переменная» обычно применяются в экспериментальных исследованиях, где приходится манипулировать некоторыми переменными. В этом смысле «независимость» переменной определяется как независимость от реакции, свойств и намерений объектов эксперимента. Некоторые переменные предполагаются «зависимыми» от действий объекта эксперимента или условий эксперимента. Эти переменные, возможно в неявной форме, содержат некоторую информацию о поведении или реакции объекта в ходе эксперимента. Делается вывод, что невозможно проследить и установить причинно-следственные отношения, анализируя пространственно-временные характеристики материальных объектов лишь в какой-то мере. Изыскать же независимые объекты в чистом виде или зафиксировать полное отсутствие взаимодействия между ними исключительно сложно. Можно говорить о некоторых особенностях взаимодействия, установив, повышается или понижается уровень взаимодействия с учетом усиления или ослабления связей.

Ключевые слова: независимые объекты, взаимодействия, связи, поливариативная интегрированная система, многоаспектные взаимодействия, зависимая переменная, независимая переменная.

Ю. В. Харченко

НЕЗАЛЕЖНІ ОБ’ЄКТИ ТА ОСОБЛИВОСТІ ЇХНЬОЇ ВЗАЄМОДІЇ: ОНТОЛОГІЧНИЙ ПІДХІД

Вступ. У даному дослідженні автор здійснює концептуалізацію феномену незалежних об’єктів, а також особливостей їхньої взаємодії. Ключовими **завданнями** є: виявлення зв’язків між незалежними об’єктами; встановлення межі їхньої незалежності; порівняння з математичними моделями, що репрезентують взаємодію «залежної змінної» і «незалежної змінної». **Методологія дослідження.** На основі феноменологічного та онтологічного підходів, а також використовуючи кількісний та ймовірнісний методи, автор здійснює порівняльний аналіз феномену незалежних об’єктів в математичної теорії і в соціально-філософських дослідженнях. **Результати дослідження.** Показано, що в природі та в суспільстві принципи формування та деформації зв’язків різняться. В природничих науках, що вивчають світ як нескінченний Всесвіт, терміни «залежна змінна» та «незалежна змінна» зазвичай використовуються в експериментальних дослідженнях, де необхідно маніпулювати деякими змінними. У цьому сенсі «незалежність змінної» визначається як незалежність від реакції, властивостей і намірів об’єкта експерименту. **Обговорення.** Деякі змінні залежать від дії об’єкта експерименту або умов експерименту. Ці змінні, можливо у неявній формі, містять деяку інформацію про поведінку або реакції об’єкта під час експерименту. У **висновках** обґрунтовується думка, що неможливо відстежити причинно-наслідкові зв’язки, аналізуючи часово-просторові характеристики матеріальних об’єктів лише частково. Знайти ж незалежні об’єкти в чистому вигляді або встановити повну відсутність взаємодії між ними вкрай складно. Можна говорити про деякі особливості взаємодії, встановивши збільшується або зменшується рівень взаємодії з урахуванням зміцнення або ослаблення зв’язків.

Ключові слова: взаємодії, незалежні об’єкти, зв’язки, поліваріативна інтегрована система, багатоаспектна взаємодія, залежна змінна, незалежна змінна.