

Ion MAC

"Babes-Bolyai University  
Faculty of Geography, Cluj-Napoca

## *The Concepts of Consequentiality and Sinergetism as Supports of Geographical Approach*

*Извод:* У прилогу се предлаже дебата о улози концепта и парадигми у географском сазнању. У том смислу, разматрају се концепти, њихов општи и географски значај, те њихов парадигматски карактер. Сви наведени проблеми су потом илустровани преко објашњења појма "територија" и њиховог значаја за географију.

У раду се такође инсистира на важности концепата "консеквенцијалности" и "синергетизма" у географском приступу, те о неопходности њихове примене у географском сазнању.

*Кључне речи:* географија, парадигме, географски простор.

*Abstract:* The main objective of this review is to propose a discussion on the role and concepts of paradigm in geographical knowledge. From this point of view, we argued on the matter of concepts, their general and geographical significance, and about their attribute of paradigm. All above mentioned problems are later illustrated through explication of the terms "consequentiality" and "sinergetism", and their significance in geographical knowledge.

Finally, it is argued on the significance of the concepts of "consequentiality" and "sinergetism" in the geographical approach, and on the necessity of their application for better geographical knowledge.

*Key words:* geography, paradigms, geographical space.

The surrounding reality represents a permanent challenge for investigation, research and knowledge.

But, the change of manner of approach of the knowledge seems to be veru difficult, according to the change and the revealing of this surrounding reality. frequently, the ideas and theories may subjugate thinking for a long period of time. In Kuhn's opinion (1970) progress in knowledge appears when new paradigms appear.

In the geographical knowledge, the ways have been quided by numerous paradigms, some of them belonging only to geography and some of them coming from other fields of ivestigation. Two groups of paradigms are significant: *general paradigms* (for e.g.

relational mechanic, thermodynamics, structuralism, the general system) and *paradigms of scientific fields* (for e. g. determinism, evolutionalism, possibilism, voluntarism, funktionalism). A more newer one is *the systemic paradigm*, which follows approximately three directions: the subdivisation of the whole interpretation which focusses on the transported energy.

In the context in which the great majority of the sciences have actioned in an analytic manner, however, geography has not neglected the integrated knowledge, also elaborating studies of synthesis. It is important the fact that these *synthesis* have been of territorial, regional mammer. Describing a region, through analogy with others, is also a matter of analytic knowledge, because the territorial whole is divided into parts, called *regions*.

The geographic knowledge has focussed less on the components' integration and on the mechanism of the cooperation the parts at different *levels of organisation and working of the geographical cover*. Only after the 60's, through the shaping of the concept concerning the organisation of the observable world in a succesion of units, arraged hierrarchical, the tendency was toward a general integralist interpretation.

The basis has been put in Koestler's papers (1967), in which it is considered that "the observable universe" represents a holarchy, which contains separate levels, called *holons*. Each holon represents a system (subsystem), which derives from the structuration and the workin of its parts, and which, in fact, it's integrating into a unity of a superior level. The acceptance of the holarchic organisation concept introduces the demand of focussing the geographers' attention on the manner in which deveop the continuous transformations of the wholes and not of the parts, and on the manner in which the different levels (systems, subsystems) are cooperating. Because, as Huxley (1969) said, the whole terrestrial reality represents a *vast system*, which is in a continuous evaluation and which has the tendency toward the realisation of a *new potentiality* and not toward egalization and homogenization. Therefore, the situation in which is now the contemporary geography, as a science confronted with many dilemas, problems, it is not at random. Geography is now confronted with the following dilemas:

-preserving the reductionist tendency with thoroughgoing of the analitic knowledge of the physical, human and economical components;

- intensification of the synthenis researches, in the traditional regional geography vision;
- ceasing a part of its old preoccupations to the *ecologic investigation* or to the globalist investigation (Megascience of Global Changes);
- grounding the geographic knowledge on new paradigms, such as evolution through controlled sustainment;
- developing integrate geography, both at the conceptual level and at the concrete one, viewing the administration and the management of the surrounding reality, therefore a *geography of command*, of territorial planning and menagement.

The answer at these problems cannot be found without on intensification of the preoccupations belonging to different schools, different organisms, capable to initiate "programmes" of development of the investigation and geographic knowledge.

We consider to be of a great importance and utility a few ideas:

1. If we restrict our understanding on the world only at the narrow sphere we can perceive through our senses, we shall have only a superficial and deceptive idea upon the structures and processes which exist in the world. What is really fundamental are the interactions and not the separated components. That is the reason why, for geography, it is absolutely necessary to surpass *the empirism of observable units*.

2. None of the geographical unit, none of the terrestrial spheres cannot have a basis in itself; the roots of their ecistence are both in the "elementary" structures which they include, and in their interaction with the environment, with the structures they are surrounded by. Therefore, geography is obliged to construct its own theory of integration and functioning of the respective entities.

3. If we agree with the fact that "each system is the result of its antagonist actualisations and potentialisation" the result of a dialectic becoming, then, the necessity of *searching the controll*, which lead the development, becomes obvious. In the geographical cover, where the antagonism does not affect only the antagonism of a category of elements, but whole assemble of components, the potentiality of the whole is actualising permanently, through different conewions. That means that, there is a reciprocal controlled development, therefore a *coevolution through cosequentiality*.

4. The geographical systems as synergetic systems, with a nonlinear behaviour, suppose correlations at distance. This correlations at distance (e.g. atmosphere - sediments, according to GAIA hypothesis - Lovelock, 1988) appeal to *phase transitions*. So are the passings from the solid phase to the liquid phase (thaw) toward the gaseous phase (evaporation) and the way round. The system may pass from a less arranged phase to an arranged phase, owing to the fluctuations. That means *order by fluctuation*. Therefore, it becomes obviously another demand for the contemporary geographical knowledge and that is the study of the selforganisation and selfdevelopment processes of the geographical system, based on the principle of cooperation between the subsystems of the whole.

For us, it is significant the fact that, geographical systems are of a cooperative type, assuring an evolution through the cooperation of the parts with the whole, under the shape of reciprocal sustainment, based on the transfer of substance, energy and information.

Maybe the application of the cosequentiality and synergetism concepts, at the manner in which were formed the structure and the functionality and in the manner in which the territories had a temporo-spatial evolution, will illustrate some of the above mentioned problems.

On course, the term *territory* has frequent and multiple utilisations in the field of geography. It is not the moment to analyse all the possible alternatives. We shall stop at the most significant one and at the most profound one for geography. We start from two axiomatic expressions: nature has organized man (mankind); the population (the inhabitants) have given the territory's significance through its utilisation and management. This, we have to call both on the historical dimension of the fact and at the geostructuralist one (spatial, regional).

The population had and continues to have special relationships with the *land* (territory) he lived on and he continues to live on. For the moment, the relief (the land) represents the physical support and the source (with other elements) of man's existence on the Earth. Primitive people, following their biologic instinct, have acted for delimiting and the defence of the areas in which they lived and operated, searching for food and for finding a shelter. The

later societies have followed the same ways and practis of the tribal groups, fighting with their rivals (naighbours) for the lands they needed for their existence. It seems that mankind's technological advance hasn't changed that attitude. But, the interest for "the place", for "the territory" has surpassed the borders, springing from the biological instinct. The problem of the territorial controll, has gained unthinkable dimension in importance and in spatial area. Since then, and for that reason, have risen conflicts for the *territory's defence*. Thus, the territory has become a part of the historical facts. Even nowadays, ideological struggle between countries (and groups of states) or, on the contrary "the struggle" for creating a new community (European Community), are frequently defined in geopolitical terms. Major evnents have proved the fact that there is a very close conexion between the territory and the national power. Generally, the power is associated with demographic dimension and with economic resources (therefore with the territory), the last ones being close related with the territory's dimension and complexity. From this has derived, then, the value of the territory. It is about a larger value, an intrinsec/inner one (with material content) and an extrinsec/outer one (position, strategic signification).

We believe that from the above mentioned problems, the significance of the territory becomes obvious: the geographical space inhabited and transformed by a human group, in its attempts to get the necessary reskources for continuing life or motivations for joy and recreation. The territory appears, nowadays, as an organic and unitar complex composed by physiical elements, population and elements of human activity, which have a sinergetic interaction. That means that the study of a categoru of phenomena cannot be really realized, without taking into consideration the active participation of others. That means to think facts and to interpretate phenomena nad facts, as deriving from the selfgenerated energetic and material flux.

Sinergetics and sinergetism help to the understanding of the man-territory complex relationship, in its double meaning. That means that, people mark the territory according to their capacity and the level of undrstanding to the technological facilities they

reached at. This mark may be good or bad; in this mark is the change "of reading" the wisdom mankind have toward the natural offer. In the same time, territory (the places) with its attributes (discovered or hidden), leaves a mark upon the people who lived on it, printing to people habits and skills, attitudes and manners of behaviour. The problem of environmental behaviour is an open one, of necessity in geography; the subject has been ignored and almost forgotten and the consequences were obvious in the geographical circumstances of many countries.

A problem which has many geopolitical resonances, in the sense of attitude, is that of the mentality, as an owner of certain components of the geographical space, for example: the land (territory in its real complex meaning). This one, the land, or the territory - used and inhabited, "fused" with the people who worked it (man or group of men). The traditional societies had deep temporal roots of fusion. More than that, on the basis and in the context of the territorial fusion relationships, these societies have built specific cultures. All the goods were viewed as being incorporated in the private territorial areas. The possession of these territories was, therefore, a matter of necessity, which became, in time, a matter of faith. That is why the spreading of some culture elements from generation to generation proves and demonstrates the continuous living in that territory or geographical area. The examples which could be given from Romania are infinitely. We think at wood civilization from the Oas Mountains or at the rural civilization from the Transylvanian Tableland, etc. Such territorial areas have constituted, in time, as real oicumenic areas and centres of territorial irradiation, as was postroman Transylvania for the Romanian geographic space.

Unlike other elements (air), the has become an individual private good or even a group private good-through a natural heritage and an ancestral temporo-spatial association. In these manners were constituted the well-known "countries" during the medieval period.

The shaping of the concept of property and the delimitation of the territory with all its contents, comes as a natural consequence of mastering and of cosequentiality between territorial processes and human processes.

Once they have been shaped, people's perceptions about the territory have led to profound social, economic and politic changes. Gradually, *the concepts of sovereignty of people on territory, national sovereignty and statal sovereignty* have been built. Thus, the private and the group territories are linked at the superiur structural levels into the *national territory*. From this point derives the eternal struggle, for preserving and defence of the territory toward the people who wanted ti.

Anthropology reveals very clearly the existnce of anthropological tuppas as *spatial matrix*. For example, geography describes and explains, on the map of Europe, the existence of some stable geographic units, crossing centuries, in which life has a great regularity, with defferent events and structures - economic, religious, ideologic. These spaces we called *sinergetic and cosequential sinergetic anthropologic territories* have had important roles during history and determined even the fate of European communities.

Such geographical forms, of a great stability, are the visible effect of the "underground" stability forces, strongly associated in the frame of the space, well-rooted in their places and relative indiffererent toward time. It seems that, these forms are the familial structures, which played a significant role in Europe's fate.

Therefore, it becomes compulsory to consider the territory as a coevolutive and cosequential sinergetic structure, especially when the geographical analyse focusses on some concrete spaces and whe the scientific research follows an applicative target, such as the elaboration of the plans of geoeconomic development.

As a conclusion, the concepts of sinergetism and cosequentiality may enable the understanding of the geographic whole and may keep us aside from unilateral interpretations.

#### R e f e r e n c e s

1. Henke, H. : - *Sunergetics, an introduction*. - Springer, 1977. - (Ser. Synergetics).
2. Hurgett, R. : - *Systems Analysis in Geography*. - Oxford, Clarmdon, 1980.
3. Kostler, A. : - *The ghost in the Machine*, London; - Hutchinson, 1967.
4. Kuhn, S. T. : - *The Structure of Scientific Revolutions*. - Chicago: The University Press., 1970.

5. **Laszlo, E.** : - *System Science and World Order.* - Oxford: Pergamon, 1983.
6. **Levallock, J. E.** : - *The Ages of Gaia,* New-York: W. W. Norton, 1988.
7. **Lupasco, St.** : - *Logica dinamica a contradictoriului.* - Bucuresti: Ed. Politica, 1982.
8. **Rosu, Al.** : - *Terra - Geosistemul vietii.* - Bucuresti, 1987. - (Edit. Stiintifi si Enciclopedica).