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Fedorov, Gennady M.; Korneevets, Valentin S.

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Gennady Fedorov

Valentin Korneevets

**TRANS-BORDER REGIONS
IN THE SYSTEM
OF THE REGIONAL
HIERARCHY:
THE SYSTEMIC APPROACH**

The article positions trans-border regions that are formed in the course of cooperation between the administrative, territorial and municipal institutions of neighbouring countries or have similar important characteristics, in the hierarchical system of regions. The authors prove trans-border regions to be a type of international regions and consider specific characteristics of these regions using the Baltic region as an example.

Key words: region, hierarchy of regions, international regions, transnational regions, cross-border regions, political regions, economic regions, socio-cultural regions.

The notion of 'region' is used in many fields of science; in different contexts, its meaning differs so much that almost any compact territory can be referred to as a 'region'. A comprehensive research on the 'region' includes a substantial amount of objects and phenomena, diverse connections and relations. Different aspects of mutual connections can be studied by various methods. In the framework of the systemic approach, a region can be nothing but a territorial system.

The notion of a 'territorial system' is one of the crucial notions of geography. It is often considered as an object of research. The most general and complex territorial system is the geosystem. According to E. Alaev, the term 'geosystem' first appeared in Russian language; it was introduced by V. Sochava to physical geography (1963); in 1977, V. Preobrazhensky, A. Uemov, and G. Shvebs suggested using this term in all branches of geography [1].

Economic geography extensively uses the term 'territorial socio-economic systems'. Sometimes, the phrase 'territorial social system' is used to emphasise the fact that it encompasses all social phenomena. In the Soviet times, the most comprehensive territorial socio-economic system was referred to as 'district'. Since 1990s, it has been replaced by the term 'region', which can be considered as a part of global space that has some system properties that allow us to consider the region as an integral whole.

One of the most developed notions in Russian regional studies is that of 'territorial production complex'; for a long time it was a crucial concept of the Soviet economic geography¹. Its analogue in market economy was the Western concept of 'industrial district', which, in our opinion, is nothing but a territorially defined cluster. Business, trade, transport networks, can be also classified as territorial systems when considered in their spatial aspect.

Russian socio-economic geography traditionally distinguishes territorial zoning (identification of homogeneous areas) and regionalisation (identification of integral regions). International researchers distinguish homogeneous and coherent regions. Homogeneous regions are territories similar in certain respect (for instance, ethnic composition, standards of living, similar demographic processes, etc.). The main feature of coherent regions is the internal connections that integrate the region into a coherent whole. The application of the systemic approach is especially relevant in the case of coherent regions.

Coherent regions have a functional structure, i.e. they can be divided into subsystems: industrial, social, ekistic (settlement-related), demographic ones, etc. At the same time, territorial-industrial, territorial-social, settlement-related, geodemographic and other systems are defined as individual territorial socio-economic systems. In terms of the space it occupies, the functional subsystem of the region may differ from the existing territorial system.

Every territorial socio-economic system, starting from the global level, can be represented as an aggregate of four subsystems down to the local level (see Table).

¹ The settlement system, transport system, tourism infrastructure, etc. are objects of different branches of socioeconomic geography.

Regional hierarchy

Hierarchy level	Region's functional type		
	Political	Economic	Sociocultural
Global level	Global political system	Global economic system	Human civilization
Megaregion	NATO, EU, CIS, OAS member states, the African Union, the League of Arab States, etc.	EU, CIS, NAFTA, ASEAN, SELA, etc.	Eight Huntington's major civilizations
International macroregion	The Union State of Russia and Belarus, Benelux, the Baltic States, etc.	The Baltic region, the Alps region, etc., growth triangles	Scandinavian, Eastern Slavic and other regions
Country	Sovereign state		
Intrastate macroregion	Federal districts	Large economic areas	Ethnic and ethnographic communities
Mesoregion	Administrative units	Administrative units	Social-territorial communities
Microregion	Municipalities	Intraregional areas	Societies
Local region	Settlements	Economic entities	Local societies

When considering a territorial economic system, one should take into account the main features of such system:

- the integrity of its elements (which sets the task of spatial separation of the system and the environment) and the internal connections (which requires analysing the system's structure);
- proximity of the elements (the system's compactness);
- relative independence of the system and its elements based on the principle of the indivisibility of both the elements and, at a certain structural level, the system;
- homogeneity of the elements.

In regional studies, elements can be heterogeneous but interrelated. For example, ecosystems include various natural, economic, and social elements that are put together, from the functional point of view, only by their location. Nevertheless, the integrating connections that underlie the system formation can be not only crucial but also have certain patterns. Certain plant species can grow only in certain climate conditions; terrain determines the allocation of economic entities; mineral deposits define the deployment of the extraction industry, etc.

Regional studies have transformed from the consideration of individual aspects of the phenomenon to the justification and identification of systems of different integrity: from disorganised aggregates through inorganic systems with certain connections between their elements to the most developed organic systems with strong internal connections.

Inorganic systems do not always have clear boundaries; border territories can belong, at the same time, to two or more regions. Some elements of a system can belong to another system of the same hierarchical level.

Organic systems have a stricter hierarchy and clearly defined boundaries. A good example is the hierarchical system of Russia's political regions (federal district – constituent of the Federation – municipalities of the second and, then, first levels).

The systemic research that implies distinguishing concrete regions includes the following subsequent stages:

- 1) identification of the elements of the system (on the basis of their homogeneity, common features, etc.);
- 2) identification of the connections between these elements (both integrating and auxiliary connections, and their hierarchy);
- 3) definition of the system boundaries (on the basis of the element integrity, compactness, and systematically important connections);
- 4) the assessment of relations with other same-level systems (system inputs and outputs);
- 5) definition of the position in a higher-rank system;

6) description of the internal structure of the system (detection of the lower-rank functional structure and subsystems).

The classification of the indicators and the application of research-based methods of the analysis of socio-economic phenomena are as important as regarding the research object as a system. The subsequent application of the systemic approach implies that both the object and subject of research are considered to be a system. Such approach takes into account the theoretically justified structural-functional components of the object and focuses on the subordination of external and internal systematically important connections. This approach also takes into account the hierarchy of indicators characterising both the system and factors affecting it.

The development of research into systems means the consideration of a greater number of different – both internal and external – connections and the transition from low-rank territorial systems with a relevantly small number of elements to complex high-rank systems that include a number of lower-level subsystems.

A lot of research works on intrastate regions have been published both in Russia and abroad, especially, in European countries. But there are much fewer works on international (transnational and trans-border) regions; the theory of international region formation has not been developed yet. Although, the research on certain types of regions (euroregions, growth triangles, “large regions”) is abundant. Nevertheless, the theory is still at an infancy stage.

One should distinguish two types of international regions – transnational and trans-border ones. Transnational regions are formed as a result of intergovernmental interaction (political and economic regions) or bring together similar in their crucial characteristic states (socio-cultural regions). Trans-border regions are formed in the course of cooperation between administrative units and municipalities of neighbouring states or, in the case of socio-cultural regions, include neighbouring border regions, having similar key characteristics.

Characteristics of an international region:

- territorial continuity (including water areas), i.e. the possibility of direct transport connection without crossing the region’s border;
- governing bodies (of different forms and performing different functions, ranging from the bodies, the decisions of which are not mandatory, to policy making bodies, the decisions of which are formulated as treaties supreme over the national legislation);
- relatively close economic (trade, investment) relations of regional entities.

At the mega and macrolevel, the connections between trans-border region states are closer than the connections between these states and those beyond the region. However, there is no such regularity at the meso- and microlevel. The connections between the entities of different states that constitute a trans-border region are not closer than those of each entity with other similar entities of the corresponding state. For example, a border municipality usually has closer connections with other neighbouring municipalities of the state than with the municipalities across the border. At the same time, these connections are stronger than those between the municipalities of states that do not belong to the trans-border region. In other words, the consideration of systematically important connections requires taking into account trans-border connections rather than those between the trans-border region entities with similar entities of their country:

- rather close social connections (culture, sports, education, and research);
- often — a shared or harmonised infrastructure (transport, energy);
- often — a conventional name (the Baltic region, the Mediterranean region, the Alps region, the Balkans);
- sometimes — ethnic similarity;
- sometimes — common historical background.

The elements of international regions depend on the type of the region (political, economic or sociocultural).

Socio-cultural regions form at lower levels as societies or social-territorial communities; at the next level, they are represented by ethnographic or ethnic regions; and then, by sub-civilizational and civilizational territorial units. International socio-cultural (both transnational and trans-border) regions emerge astride the border of countries with similar ethnic and (or) religious population composition; these states often have common history (former constituents of one state, or formed as a result of ethnic differentiation, etc.). They are homogeneous regions distinguished on the basis of cultural homogeneity.

International economic *regions* often emerge at the transnational level (in the course of economic integration of states on the basis of international agreements) and include two or more countries.

However, the connections between economic entities are also of importance, especially when speaking about transnational corporations. In these cases, trans-border territorial systems emerge (for example, growth triangles).

The actors, forming *political* transnational regions are states. Nevertheless, administrative units and municipalities are vested with certain authority in developing international relations. Their authority covers cross-border cooperation, agreements with the corresponding international administrative units, association, etc. Consequently, they can be also considered as elements of territorial systems, i.e. trans-border regions.

Transnational political regions often form on the basis of common political interests institutionalised by international agreements (first of all, those on military security: NATO, earlier the Warsaw Treaty, etc.) or in order to coordinate and declare common political stands in international relations – the Nordic Countries, the League of Arab States, the Organisation of African Unity). The European Union demonstrates an efficient formation of a transnational region on the basis of common economic space, which strengthens the political unity of the EU and encourages the emergence of elements of socio-cultural integrity.

Trans-border regions are (mostly) coherent regions, since their formation is based on the proximity of territories of different states rather than on their similarity. However, there are numerous examples of neighbouring international regions that are similar in some (sometimes baseline) characteristics. It can be ethnic composition, industrial specialisation or historical and cultural landscape (especially if the territories belonged to one state).

Transnational regions consist of border regions of different states. Alongside the internal socio-economic and political relations, border regions are characterised by four types of external relations:

- a) between border and central regions (as a rule, the closest to the border regions, but less strong in comparison to the connections between central regions);
- b) between border regions (these connections are usually weak);
- c) transit connections – those between international central regions that cross the territory of border regions;
- d) cross-border connections between the border regions themselves.

As a rule, a lower intensity of *c* and *d* type connection in comparison with similar connection within a state determines the often depressed nature of border regions.

At the same time, border regions, due to their geographic position become a “contact area” between Russia and the outer world. The use of this contact potential and the development of cross-border cooperation with the regions of neighbouring countries can and should become the basis for the regions to emerge from the depressed state.

At the same time, an interaction between neighbouring regions can be interpreted in various ways. On the one hand, they often compete, since their similar resources and development conditions result in the production of similar goods for external markets. So, the ports of the Baltic States, North-western Russia and the Kaliningrad region compete for servicing Russia’s external economic activity. The Russian city of Kaliningrad and the Lithuanian city of Klaipeda are competitors in the handling of Belarusian cargoes. Competition in the tourism industry is typical of macro- and microregions of many neighbouring countries (from the long-standing competition between French and Italian Riviera to the development of a new resort area in French Catalonia, which can compete with the Spanish Costa Brava and Costa Dorada). The same type of competition exists between the Polish, Lithuanian and Russian South-eastern Baltic coast. Nevertheless, trans-border regions show a significant potential for cooperation, which can, on the one hand, bring about the cumulative effect in tourism within a limited area and, on the other hand, efficiently use the existing differences in natural, cultural, and economic conditions for the diversification of the service industry.

Let us consider the specific traits of international regions using the Baltic region as an example.

The Baltic region is a specific international territorial system. Its peculiarity lies in the fact that its elements – both countries (that form transnational systems) and their administrative units – are regions (that usually form cross-border systems). Thus, it is a specific transnational-trans-border system that is governed at transnational level (the Council of the Baltic Sea States). However, administrative decisions are implemented, as a rule, at regional level, at the level of administrative units.

The Baltic region is a transnational region, since it is a platform for the cooperation between all states bordering the Baltic Sea. Norway and sometimes Belarus are also included in the region. The cooperation is coordinated by the CBSS, which consists of the Ministers for Foreign Affairs from each state of the

macroregion². Environment protection and development of economic and cultural relations lie within the scope of the Commission's competence. Thus, the territory bordering the Baltic Sea can be considered a political, economic, and sociocultural macroregion, though loosely integrated.

Moreover, regional integration is promoted by the cooperation of administrative-territorial and municipal entities, i.e. by cross-border cooperation. Cross-border cooperation is at a significant level in the region, which contributes to the formation of the Baltic region as a natural system that developed strong internal connections.

The transnational Baltic macroregion has an internal hierarchy that encompasses two levels of trans-border regions: the meso- and the micro level.

A mesoregion includes two or more administrative units of a state (for instance, South-eastern Baltic region). In some cases, the elements of a mesoregion can be represented by small countries (the Baltic States).

A microregion develops in the cooperation of municipalities: the Lyna-Lawa, Saule, Neman and other euroregions.

The region formation process is rather complex; same-level regions can overlap, which means that the same country can sometimes be included into several mega- and macroregions, as administrative units and municipalities can be parts of several macro-, meso- or microregions.

International regions, being territorial systems, have the property of the input and output of the system. Common resources (for instance, the Baltic Sea in the case of the Baltic region, tourism resources, labour force, etc.) can be considered as the input. The output is the common objective: the rational exploitation of common natural, tourism and other resources (sometimes, labour force); the formation of an integrated production system, the growing international competitiveness of the cooperating states and the region in general, the increase in standards of living and quality of life.

A characteristic example is the formation of the Saule euroregion on the initiative of the Lithuanian party aimed to support the construction of the Via Hanseatica transport corridor. It should become a common resource for the Latvian, Lithuanian, Russian, and Polish parties.

International, including trans-border, regions, as well as other regions, can be classified according to the stage of development into potential, emerging, developing, developed and integrated (sometimes also disintegrating) regions. In our opinion, the Baltic region can be classed as developing, since its formation dates back to the Middle Ages, while to be considered a developed region it requires stronger connection between its elements.

Although Russian regions bordering the Baltic Sea participate in different forms of cross-border cooperation, including such spatial forms as euroregions, their participation is not sufficient. Cross-border cooperation with EU countries is of greatest importance for the Kaliningrad region of the Russian Federation. The region and its municipalities take part in various form of cross-border cooperation, including five euroregions. Numerous projects of the Baltic Sea Region Interreg and the Lithuania-Poland-Kaliningrad region neighbourhood programme are implemented at the level of the Baltic region. At the municipal level of the Baltic region, Kaliningrad is a member of the Union of the Baltic Cities. Cross-border connections also develop at the level of economic entities, including universities, for instance, in the framework of the Baltic University Rectors' conference.

Numerous connections that emerge and develop in the course of implementing international projects mainly concern the cooperation in the social sphere (education, healthcare, culture, connections between non-governmental, mostly, youth organisations, migration policy), environment protection, common transport infrastructure, tourism infrastructure, and developing contacts in the field of research. However, they indirectly facilitate economic relations – cross-border trade and international tourism – and create general favourable conditions for the establishment of joint ventures and the cooperation of economic entities of neighbouring states' regions in the production of goods. The Kaliningrad region is a platform for the development of joint Russian-Polish and Russian-Lithuanian ventures; Russian capital is invested in Polish and Lithuanian border regions. Significant amounts of Polish raw and semi-processed materials are imported by Kaliningrad enterprises manufacturing finished products (furniture, food, etc). Kaliningrad amber is processed in Poland and Lithuania (according to some estimations, this industry employs up to 100,000 people). Various mutual connections contribute to the formation of the South-eastern Baltic mesoregion that includes the Kaliningrad region of the Russian Federation, the Pomeranian and Warmian-Masurian Voivodeships of Poland and the Klaipėda County of Lithuania.

Other Russian regions – Saint Petersburg and the Leningrad region, the Pskov region, the Republic of Karelia – participate in different forms of cross-border cooperation in the Baltic region.

² The CBSS consists of 9 countries bordering the Baltic Sea, Norway, and Iceland.

To justify the objectives and promising forms of cooperation, it is necessary to develop the theory of trans-border regions paying attention to the new spatial forms of international economic integration aimed at the perfection of regional policy and introduction of propitious forms of international economic integration. This theory should be based on the achievements of Russian and international regional studies, take into account the mutual strategies of the Russian Federation and the European Union, the integration potential of Russian regions, correspond to Russian interests, and provide for the development of international cooperation and integration economically favourable for the country. It is necessary to outline the ways of increasing the role of Russian regions that should be not only partners but also initiators of establishing mutually beneficial connections. Due to cooperation development, trans-border regions can compensate for the disadvantages of the peripheral position in their countries and become centres of the economic development of cooperating countries by means of mutual complementation of the different economies of regions situated astride the border.

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