

Borderland Phenomenon: Approaches to Interpretation and the Role of Center–Periphery Gradients

K. A. Morachevskaya^{a, b, *}

^a *Institute of Earth Sciences, St. Petersburg State University, St. Petersburg, 190034 Russia*

^b *Institute of Geography, Russian Academy of Sciences, Moscow, 119017 Russia*

*e-mail: k.morachevskaya@spbu.ru

Received September 15, 2022; revised July 13, 2023; accepted July 20, 2023

Abstract—The influence of borders on the spatial organization of the life of society determines the need to take into account the borderland phenomenon: a phenomenon that endows the territory with special properties and functions. A number of authors interpret the borderland phenomenon as a predisposition to interact with a neighbor. It can broach a variety of problems and restrictions associated with a border, from the cultural influence of a neighboring state to issues of mutual trade. Other researchers believe that the borderland phenomenon is defined as a type of geographical location that endows a territory with special functions. Still others suggest talking about the “border effect” and its influence on the adjacent territories. A synthesis of approaches allows us to interpret the borderland phenomenon as territorial manifestations of the immediate proximity of the border, as well as positional properties and functions of a territory, due to the location of the border. Border territories can be central, semiperipheral, and peripheral. The borderland phenomenon potentially provides conditions and resources for the development of territories; however, with deep peripherality, even for open borders, growth zones do not form. In addition, the redistribution of functions between different types of borders and their adaptation to external geopolitical challenges change the significance and correlation of the border and peripheral properties of the territory.

Keywords: borderland phenomenon, peripherality, cross-border cooperation, border effect

DOI: 10.1134/S2079970523701058

INTRODUCTION AND FORMULATION OF THE PROBLEM

In regional sciences and socioeconomic geography, there are many approaches to explaining the unevenness of regional development. Thus, in the neoclassical approach, spatial differentiation is determined by the distribution of the main factors of production. Keynesianism focuses on the differences in the export potential of the territory, in the demand for the goods and services it produces. From the point of view of the evolutionary approach, the reason for spatial inequality lies in the inherited nature of modern socioeconomic processes. In the new economic geography, it is commonly believed that regional development is determined by the ratio of the factors of a first (natural resources, geographical location) and the second (agglomeration effect, institutions, human capital, infrastructure) nature. A border as one of the most dynamic elements of territorial systems (Guzal-Dec et al., 2021), of course, affects regional development, producing the so-called borderland phenomenon.

The specific features of the development of border territories are frequently associated with the relative mobility of political and administrative boundaries

and often correlate with the dynamics of their functions. However, reflection of the change in functions of a border in the development of adjacent areas depends on many factors, among them are the complementarity of economies and the potential for cross-border ties (Ratti, 1993) and the ability of actors to reinterpret the basic functions of national borders in the context of relative openness (Schürmann and Talaat, 2000). An equally significant reason is the position of the border territory with respect to the centers of influence of different ranks, i.e., on the center-periphery axis.

This article aims to generalize the approaches to the interpretation of the borderland phenomenon and to formulate the essence of the relationship between the border and peripheral properties of territories.

RESULTS

The Borderland Phenomenon in Regional Development: Approaches to Defining It

In a first approximation, the borderland factor can be defined as a factor indicating the location of an object near the border and, accordingly, influencing

it. However, understanding of the borderland phenomenon can certainly be broader.

Most studies on assessing the contribution of the position of a border to regional development cover cross-border cooperation and interaction. The borderland phenomenon is associated with the influence of a “neighbor” separated by the border and the need to jointly solve similar and/or common problems. A similar direction in the development of border regions, the use of the potential of cross-border interactions to improve the standard of living, is quite universal. It is used in regional administration and strategizing, regardless of the initial level of socioeconomic development of a territory (Chistobaev and Zakharova, 2005).

Many studies a priori place an *equal sign between the borderland phenomenon and cross-border cooperation*. In this case, assessment of the influence of the phenomenon is reduced to analysis of cross-border ties and their intensity. With this approach, the borderland phenomenon implies “the predisposition of a region of a country to cross-border economic interaction with neighboring countries” (Kolesnikov, 2012). There is even a thesis about regions with the “best” and “worst” borderland factor. This at least seems to narrow the concept. It is also necessary to analyze the entire variety of problems and limitations associated with a border.

The predisposition of a territory to cross-border cooperation, as the essence of the borderland phenomenon, is related to the question of the functions of borders. Here it should be borne in mind that the functions of borders, including state borders, have a dual nature. Both contact and barrier functions can be formed naturally and constructed, placed in the institutional field of interstate interactions. A number of researchers believe that the contact function of a border is determined by the “centripetal, integration trend in international relations” (Kotlyar, 2010). At the same time, making a border transparent does not mean giving it a contact function (Boyarsky, 2013). V.A. Kolosov and R.F. Turovsky (1997) singled out primary and secondary factors influencing the relation of the barrier and contact functions of boundaries. Among the primary factors, e.g., the size and compactness of the state territory, the natural features of a border; among the derivatives are the economic and geographical position, the level of economic development, the sectoral structure and complementarity of the economies, etc.

Linking the functions of a border and cross-border cooperation, L.G. Gumenyuk (2017) proposed a typology of border regions that differ in the ratio of barrier and contact functions of a border: isolated (alienated); locally interacting; actively interacting; interdependent (cooperative); open (barrier-free). Gumenyuk also emphasizes the importance of

“receiving benefits” for border regions from interaction with a neighbor.

However, the borderland phenomenon is not limited to issues of cross-border cooperation. The influence of geographical location on regional development is revealed through the functions that a territory carries in accordance with the nature of its *positional status* (Kostyuchenko, 2003). This provision is based on A.A. Mints and V.S. Preobrazhensky’s concept of place functions by (1970): “A place, that is, a certain part of the geographical space, has a certain function in the life of society, and, thus, satisfies a certain need.” The set and order of functions are limited by the possibilities of the place—its positional and physical properties. They, in favorable conditions, contribute to the emergence of new functions in it.

Drawing attention to this in relation to border regions, M.I. Kostyuchenko proposed considering a border position as one of the types of position in areas (along with intra- and interareal positions according to I.M. Maergoiz). In this case, it is a set of geographic relations of a region, arising in connection with the configurational coincidence of its boundaries with the boundaries of the enclosing area. In addition, due to the peculiarities of a border’s position, which endows a region with signs of a “marginal” section of the state, it has certain functions in the intrastate division of labor. Depending on the historical realities and transformation of the economic and geographical position, the composition of these functions changes. As a result, the development trends of a territory undergo changes, and specific socioeconomic processes that take place on it are activated or they weaken (Kostyuchenko, 2003; Ozem, 2004).

The most significant positional properties and related functions of border territories are administrative and communication, transport and transit, geopolitical. The administrative and communication functions of a border region imply a certain role of a buffer in the implementation of contacts with the neighboring state. It depends on the level of devolution and centralization whether there is any specificity in the implementation of such functions by a border regions in comparison with the internal territories of the country. The transport and transit function is associated with a special potential for the development of the transport infrastructure of a border region. The passage through a territory of significant cross-border transport routes frequently determines the prospects for its development, stimulates the emergence of infrastructure near routes (the creation of warehouses, hotels, gas stations, vehicle maintenance facilities, eateries, etc.), and also has social significance (creation of new jobs, higher wages compared to most places of employment in rural areas). Cross-border routes frequently form the axes of population concentration and economic activity in a border region. The geopolitical function of a border territories consists in

Table 1. Approaches to defining of the borderland phenomenon

Approach	Borderland phenomenon as a synonym for cross-border interaction	Borderland phenomenon as a type of position in areas, particular functions of a place	Borderland phenomenon as a synonym for the influence of a border on the adjacent territory
Content of approach	Associated with the influence of a “neighbor,” separated by a border, with the need for interaction to jointly solve common problems	It is equated with analysis of the functions that a border territory has/acquires in accordance with its positional status	It is equated to the influence of a border, its properties, functions, history of formation on a border region
Methods for assessing the influence of borderland factor	Assessing the influence of borderland factor comes down to analyzing cross-border ties and their intensity and the variety of problems and restrictions associated with a border (from the cultural influence of a neighboring state to issues of mutual trade)	Assessment of the influence of the borderland factor includes the indicators of fulfillment by a territory of the transit function, buffer zone function, etc.	Assessment of the influence of the borderland factor is reduced to analyzing of the dependences between the functions of a border and territorial organization of the population and economy, everyday practices and behavioral stereotypes

Compiled by author.

accepting and at the same time projecting outside the geopolitical interests of the state.

In reality, the functions of borders and the functions of the territories they outline are mutually intertwined. As O.E. Brednikova rightly noted (2008), referring to studies by other scientists, functions of a border region are “a kind of ‘narcissism according to Freud,’ when the situation of proximity to a border triggers the search for, formulation, and emphasis of differences from the inhabitants of neighboring states, and ‘a mirror world’ (spillover of patterns, behavior patterns, lifestyles, etc.)”.

The influence of a border on the situation in a border region is one of the traditional areas of cross-border research (Kolosov and Scott, 2013). C. Sohn (2014) distinguishes five types of benefits produced by a border: positional (a border as a gateway), transactional, differential (use of the price difference on both sides of a border), hybridization (opposition of differences leading to innovation) and status (recognition of the international and intercultural significance of a border region). All these benefits are reflected in the territorial structure of the border territory and constitute the “border effect,” its impact on surrounding areas.

The proximity of a border is a factor that affects the nature of the sectoral and territorial structure of a border economy, the location of a border, customs, and transit infrastructure. P.Ya. Baklanov and S.S. Hanzey (2008) single out even the particular potential of the border territory as a separate category.

Borderland factor for a territory frequently means the presence of functionally oriented objects (e.g., checkpoints, places of deployment of border troops), “pronouncedness” in a locality of one of the boundaries of a territorial unit that coincides with the state. Depending on the functions of a particular section of a border and its characteristics in the border territory, there may be a concentration of population centers

near a border or, conversely, a relatively small number of population centers near it. The borderland factor frequently becomes a factor in locating enterprises near a border (to use production, technological, and raw material ties with a neighbor, exchanging labor resources) or the reason for prohibitions on locating enterprises in a border zone. Frequently there are business spillovers, the creation of joint ventures, the specialization of service enterprises near a border (division of labor in the service sector on opposite sides of a border). Lastly, for a territory, the borderland phenomenon almost always means an increase in the hierarchical status of transport hubs and the emergence of transport and logistics complexes.

Synthesis of traditional approaches to the study of border regions with an emphasis on the influence of a border line itself on the surrounding territory, the concept of the function of place and methodological techniques in the work on cross-border cooperation (Table 1) allows us to formulate the following definition: the borderland phenomenon is a territorial manifestation of the immediate proximity of a border and positional properties and functions of a territory due to a location of a border.

Many types of borders—different types of natural, ethnic, geometric, etc, borders— makes it possible to speak about the location of almost any point in space at any border and the influence of the latter on it. However, when talking about the borderland phenomenon, political and administrative borders are frequently meant: as a rule, both the presence of an institutional gradient and a genetically embedded barrier in the territorial organization of the economy, the settlement system, etc.

Political and administrative borders are understood as state and intrastate. Separate studies touch upon the near-border space of neighboring federal subjects within Russia (Chibileva and Rudneva,

2008). However, instead, analysis is oriented not towards the influence of an interregional border, particular location, or neighboring region on the socioeconomic development of the regions, but on the natural and genetic socioeconomic factors that have caused differences in the ongoing processes.

In most cases, a state border separates different institutional systems, which almost always potentially contributes to endowment of border territories with particular functions of place. Intrastate borders are partly the boundaries of influence of centers and sub-centers. The properties of territories located near such borders are included in the category of “periphery,” which will be discussed below.

Differences in the concepts of near-borderland, borderland, and cross-borderland functions are dialectical. V.E. Shuvalov (1980, 1983) defined the concept of borderland functions. It can be assumed that the borderland function of a territory means the transitivity of properties and phenomena characteristic of its internal structure, associated with its location near a border, while the near-borderland function of a territory indicates a set of properties that it may possess, taking into account the special positional status and influence of a border. The cross-borderland function exists in conjunction with flows across a border (Shuvalov, 2023).

Is the borderland phenomenon in the above understanding a property and a factor in the development of only territories directly adjacent to borders? It is difficult to answer this question unambiguously. The boundaries of influence of a phenomenon are distinguished by its presence and/or intensity. For example, the boundaries of the influence of the factor of the portside coastal position can be drawn covering the entire hinterland of the port. However, a port immediately adjacent to a territory will exert the most intensive and multifaceted influence on it (expressed as the influence on specialization of the economy, employment, environmental conditions, etc.). The boundaries of influence of capital function or near-capital function can be drawn along commuter boundaries (narrowly), the occurrence of “outsourced” economic functions, or even the distribution of dachas (widely), etc. All these factors, including the borderland factor, *are not characterized by a linear dependence of a decrease in influence with distance* from a port/city/border. Therefore, it is quite difficult to delineate a territory within which the borderland factor is a factor of regional development.

Is Peripherality a Property of Border Regions?

Border regions frequently suffer from poor infrastructure development and generally low economic activity. In such cases, even when transnational flows pass through such territories, the immediate border regions do not gain any advantages from this. With

strong peripherality and open borders, a region can only gain the role of a “passive corridor” (Gaining ..., 2001).

Peripherality has many interpretations in studies by regional economists, geographers, political scientists, sociologists, and philosophers. There are two main definitions of peripherality: poor accessibility of large markets (experienced by a structurally weak economy) and poor accessibility of various benefits for the population (expressed as low population density in a territory and poor transport links to the center) (Davies and Michie, 2011). “Physical” peripherality, associated with poor accessibility, is usually reinforced by peripheral socioeconomic position and/or political status.

The peripherality that has developed as a result of the formation of states, according to S. Rokkan (1983), have four types: buffer, external, enclave, and failed-center peripheries.

A periphery is frequently understood as a territory “remote from urban agglomerations” (Davies and Michie, 2011; Schürmann and Talaat, 2000), “on the outskirts of the influence of regional centers or in economically weak areas along regional borders” (Malikova et al., 2016). One contemporary Russian researcher of peripherality, T.E. Dmitrieva, gives the following definition: “The periphery is exclusion of a certain territory from normal life conditions, its loss due to lack of territorial capital from socioeconomic ties and the process of regional development” (2009). The specifics of such “extreme” assessments is due to the peculiarities of the northern regions, which constitute the main object of the author’s research and in some cases do indeed represent “spatial exclusion” (Dmitrieva, 2009) of the Russian space. R.F. Turovsky (2006) rightly notes that the periphery should not be perceived as a backward territory with an exclusively negative connotation, since it is frequently a center of traditions and conservatism.

An indicator of the potential influence of the peripherality factor on regional development is usually the physical distance from some center, which is distorted by the genetic polarization of space, according to T.G. Nefedova, and contrasts in the directions and degree of socioeconomic development (Gorod ..., 2001). Peripherality, as a rule, is associated with population concentration, large distances between major economic centers, and spatial fragmentation (high barriers at the borders of regions) (Leizerovich, 2012; Pavlov, 2005; Rodoman, 2021).

Peripherality in sometimes is defined as a strong dependence of the regional economy on external decision-making centers and specialization in secondary, subordinate functions, as a result of which a special type of economy is formed with underdevelopment of the upper levels of production and the nonproductive sector (Gritsay et al., 1991). This definition is rather

narrow, since the subject here is primarily peripherality in economic development.

As the main indicators of socioeconomic periphery, it is customary to consider low GRP per capita, high unemployment, low household disposable income, a narrow sectoral structure, a shrinking or aging population, and poor provision of public and private services. Other features of the periphery include a small population, leading to a limited domestic market, and remoteness, especially from wealthier consumers, which hinders the development of the external market (Davies and Michie, 2011; Perrons, 2006). The authors of (Gritsay et al., 1991) cite the general level of economic development, the degree of participation in the territorial division of labor, and the attitude to the innovation process as the three main criteria.

The “peripherality index,” developed at the Institute of Economics of the Karelian Research Center of the Russian Academy of Sciences takes into account the volumes of regional markets and their correlation with the countrywide volumes and distance from the center (Moroshkina, 2008). It is sometimes proposed to use the value of the development index of the service sector and index of volumes and directions of goods flows as the peripherality criterion. Whereas the first criterion is quite indicative, the second one has limited applicability, e.g., in regions with resource-extracting economies.

Some authors distinguish three groups of peripheral characteristics: causal (transport costs due to remoteness), dependent (high cost of services, low level of entrepreneurship) and concomitant (low population, dependence on primary industries, underdevelopment of local and interregional infrastructure, etc.) (Copus, 2001). It is also sometimes proposed to assess peripherality based on the time to the nearest regional center/subcenter (Sohn, 2014), since the potential for economic activity at any point is a function of proximity to other economic centers and its economic size (Rokkan, 1983). Some authors even propose to determine the level of peripherality using mental maps (Malikova et al., 2016).

Thus, peripherality can be considered from two perspectives. Firstly, the peripherality of a territory is its specific location far from a center/centers. This is peripherality as a condition. Second, the peripherality of a territory is its particular properties due to its location. We understand the particular properties of the peripheral region and its population as follows:

- in the political sense: increased dependence on the administrative decisions of the center, loyalty of local elites to the center, or, conversely, exclusivity, which confers the right to autonomy of development (according to R.F. Turovsky);
- in the demographic sense: low population density, a sparse, frequently deformed settlement system, relatively high demographic burden, zero or negative

migration balance (including, under certain conditions, an outflow of the population of working age);

- in the socioeconomic sense: a reduced level of economic development of a territory, a relatively high share of primary industries in the economy, a low income level (this does not apply to the resource-producing regions in the Russian Federation), and, consequently, household consumption, technological dependence on the enterprises of a center, and narrow specialization of the economic base.

Some scholars emphasize that cross-country and cross-regional integration can reduce spatial concentration and offset the disadvantages of peripherality, especially if peripheral territories retain “price advantages” (Davies and Michie, 2011; Perrons, 2006; Rokkan, 1983). At the same time, individual studies have shown that integration contributes to the concentration of business activity in only a small number of cities, while competition between other population centers only intensifies and negative trends in their development are exacerbated (Kolosov and Morachevskaya, 2022; Pfoser, 2017). This contradiction means that peripherality is frequently a property of border territories.

Role of Center—Periphery Gradients in the Borderland Phenomenon

The relationship of a *border* and *periphery* depends on the understanding of border. If a border in terms of spatial coverage is considered as an areal object, then in this case border and periphery can denote the same territory. Peripherality is a factor in the development of territories located “near the edge” and remote from the center.

Both borderland and peripheral positions can be called a types of economic and geographical position: position in areas (according to I.M. Maergoiz). In this context, it is noteworthy that both the borderland phenomenon and peripherality have potential (probabilistic) nature. Borderland factor is a property associated with location (it may or may not manifest itself depending on the borders functions and nature of border interactions); peripherality is the result of this. Borderland factor means location near a border that has an influence (this influence was discussed in more detail above).

In terms of economic distances and interactions, peripherality is not always a property of the most “geometrically” remote places. The impact of both borderland location and peripherality is temporally variable. Borderland phenomenon in this context is more “mobile,” since it is associated with an institutional set of factors more subjected to the political and economic conditions than conservative territorial structures. However, it should be mentioned that peripherality is also partly associated with the endowment of territories with the functions of a center. The

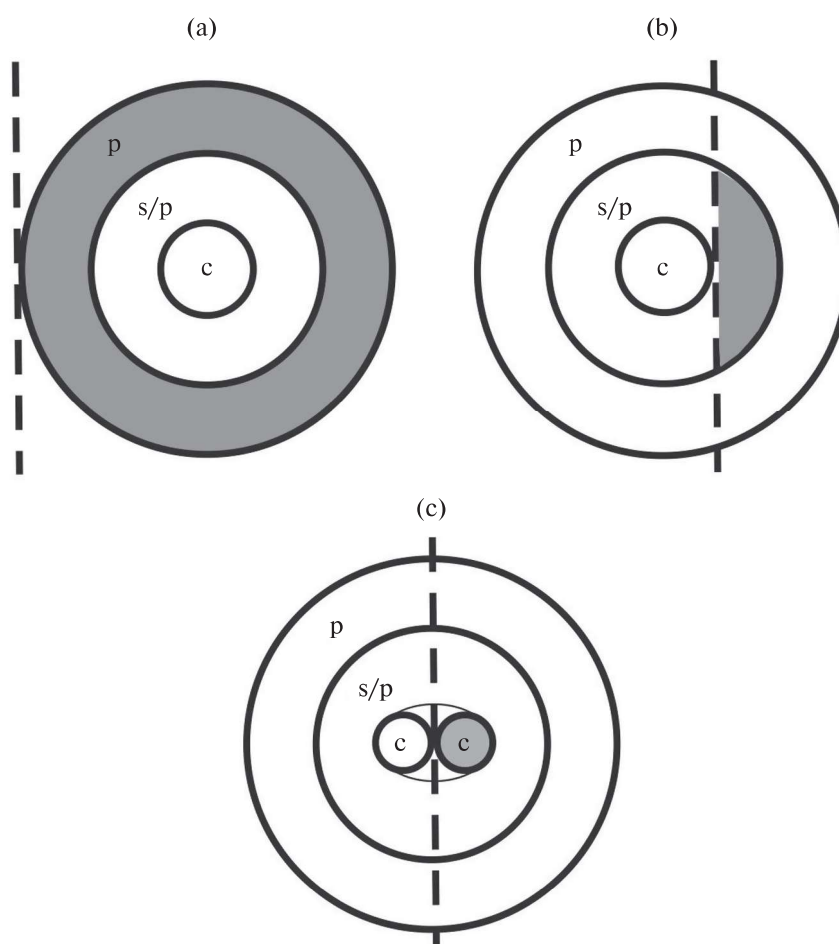


Fig. 1. Place of border territory in center–periphery system. c, center; s/p, semiperiphery; p, periphery; dotted line, borderline; border territory is shaded.

Compiled by author.

spatial nature of the borderland phenomenon and peripherality differs. The intensity of the influence of peripherality is diffuse, while the intensity of the influence of the borderland factor less frequently depends purely on the spatial distance from a borderline. In general, the distribution of both phenomena is associated with the transport and communication properties of a territory.

Border territories can be *central, semiperipheral, and peripheral* (Fig. 1).

In Fig. 1a, the border territory is shaded. In this case, it is peripheral. The center of the regional system of the economy and settlement pattern is remote from a border. On the other side of the border there are also peripheral sections of a territory that have no mobilizing influence on the neighboring region.

In Fig. 1b, a border semiperipheral territory is shaded. It either falls into the zone of influence of a regional center in close proximity to it, or a neighboring center that extends its influence to cross-border territories.

Figure 1c schematically depicts the situation when the center is located either in a border territory or occupies a cross-border territory.

Typologies constructed from a conjugate analysis of the phenomena of borderland and peripherality, however, are not limited to this. Thus, the functional typology of border territories in terms of the influence of borderland factor and peripherality may include the isolation of outpost territories, buffer territories, territories with stagnant functions, etc.

CONCLUSIONS

Whereas globalization frequently provokes debordering processes, consolidation of cross-border social ties, and intensification of cross-border flows, identity and many social processes remain fixed in the national space (Kolosov and Scott, 2013). The experience of studying the influence of European and Eurasian integration on border regions also proves that national policies frequently dominate common interests (Mor-

achevskaya et al., 2022). Nevertheless, border territories are characterized by a particular borderland phenomenon, including traces of proximity of a border in the territorial organization of the population and economy, as well as the presence of particular positional functions of a territory.

The economic strength of a neighbor is one of the determinants of whether the borderland factor confers any advantages. The institutional, socioeconomic, and demographic properties of territories on the other side of a border, as well as the functions of the border itself, determine the features and intensity of manifestation of the borderland phenomenon.

The frequency of cross-border ties is frequently directly dependent not on the proximity to a border, but on the position of a particular territorial unit in the regional center—periphery system. Linear-nodal territorial structures formed in a borderland (centers, sub-centers, main cross-border transport routes) can serve as “corridors” and “poles” for the development of cross-border ties.

The redistribution of functions between different types of borders, their adaptation to external shock challenges (the COVID-19 pandemic, poorly predictable complication of the geopolitical situation in the world) change the significance and correlation of the borderland and peripheral properties of a territory. In a flash, the zone of active cross-border interactions can become a remote periphery, causing an instant change in the daily practices of the population and a much more gradual transformation of linear-nodal structures in the economy and settlement pattern.

FUNDING

The article was prepared with the support of the Russian Science Foundation (project no. 22-17-00263 “Effects and Functions of Borders in the Spatial Organization of Russian Society: Country, Region, Municipality”).

CONFLICT OF INTEREST

The author declares that she has no conflicts of interest.

REFERENCES

- Baklanov, P.Ya. and Ganzei, S.S., *Transgranichnye territorii: problemy ustoichivogo prirodopol'zovaniya* (Cross-border Territories: Problems of Sustainable Nature Management), Vladivostok: Dal'nauka, 2008.
- Boyarskii, V.I., The science of the regulatory function of the state border: The main theoretical and practical conclusions arising from the analysis of border thought, *Al'manakh Prostranstvo i Vremya*, 2013, vol. 3, no. 1. <http://e-almanac.space-time.ru/assets/files/rubr1-teoriya-i-metodologiya-st1-boyarskijvi-2013.pdf>. Cited July 15, 2021.
- Brednikova, O.E., Borderlands as a social phenomenon (directions of sociological conceptualization), *Vestn. S.-Peterb. Univ., Ser. 12*, 2008, no. 4, pp. 492–497.
- Chibileva, V.P. and Rudneva, O.S., Socioeconomic analysis of the development of the border regions of Orenburg oblast and the Republic of Bashkortostan, *Izv. Orenburg. Gos. Agrar. Univ.* 2008, vol. 19, no. 3, pp. 192–196.
- Chistobaev, A.I. and Zakharova, T.P., Border position of the territory as a factor of regional policy, in *Teoriya i praktika ekologo-geograficheskikh issledovaniy* (Theory and Practice of Ecological and Geographical Research), St. Petersburg: TIN, 2005, pp. 403–412.
- Copus, A., From core-periphery to polycentric development: concepts of spatial and aspatial peripherality, *Eur. Plann. Stud.*, 2001, vol. 9, no. 4, pp. 539–552. <https://doi.org/10.1080/09654310120049899>
- Davies, S. and Michie, R., Peripheral Regions: a Marginal Concern?, European Regional Policy Research Consortium, Scotland, UK, 2011. http://www.eprc.strath.ac.uk/eorpa/Documents/EoRPA_11_Public/EoRPA%20Paper%2011-6.pdf.
- Decoville, A., Durand, F., Sohn, C., and Walther, O., Comparing cross-border metropolitan integration in Europe: Towards a functional typology, *J. Borderlands Stud.*, 2013, vol. 28, no. 2, pp. 221–237. <https://doi.org/10.1080/08865655.2013.854654>
- Dmitrieva, T.E., Methodological context of the spatial development of the northern region, *Ekon. Sev.-Zapada: Probl. Perspekt. Razvit.*, 2009, vol. 38, no. 1, pp. 22–29.
- Gaining Advantage from Open Borders: An Active Space Approach to Regional Development*, van Geenhuizen, M. and Ratti, R., Eds., London: Routledge, 2001.
- Gorod i derevnya v Evropeiskoi Rossii: sto let peremen* (City and Village in European Russia: One Hundred Years of Changes), Moscow: OGI, 2001.
- Gritsai, O.V., Ioffe, G.V., and Treivish, A.I., *Tsentr i periferiya v regional'nom razvitiy* (Center and Periphery in Regional Development), Moscow: Nauka, 1991.
- Gumenyuk, L.G., Geographic features of cross-border cooperation of border regions of Russia, *Extended Abstract of Cand. Sci. (Geogr.) Dissertation*, Kaliningrad: Immanuel Kant Baltic Fed. Univ., 2017.
- Guzal-Dec, D., Bartniczuk, K., and Zwolińska-Ligaj, M., Borderland location as a factor of the development of the Terespol commune, *Econ. Reg. Stud.*, 2021, vol. 14, no. 3, pp. 320–345. <https://doi.org/10.2478/ers-2021-0023>
- Kolesnikov, N.G., Near-border location as a factor in the economic development of the region, *Tr. Karel'. Nauchn. Tsentra Ross. Akad. Nauk*, 2012, no. 6, pp. 115–122.
- Kolosov, V.A. and Turovsky, R.F., Modern state borders: New functions in terms of integration and cross-border cooperation, *Izv. Ross. Akad. Nauk, Ser. Geogr.*, 1997, no. 5, pp. 106–113.
- Kolosov, V. and Scott, J., Selected conceptual issues in border studies, *Belgeo*, 2013, vol. 1, pp. 9–21. <https://doi.org/10.4000/belgeo.105324>
- Kolosov, V. and Morachevskaya, K., The role of an open border in the development of peripheral border regions:

- The case of Russian-Belarusian borderland, *J. Borderlands Stud.*, 2022, vol. 37, pp. 533–550.
- Kostyuchenko, M.I., Border position as a factor in the regional development of Smolensk oblast, *Cand. Sci. (Geogr.) Dissertation*, Moscow: Moscow State Univ., 2003.
- Kotlyar, N.V., Communication and geographical laws of modern international relations: Unlimited possibilities of the Russian border, *Polit. Nauka*, 2010, no. 3, pp. 153–169.
- Leizerovich, E.E., Province as a typological part of the Russian space, in *Rossiiskaya glubinka – modeli i metody izucheniya* (Russian Province—Models and Methods of Study) Moscow: Eslan, 2012, pp. 62–70.
- Máliková, L., Farrell, M., and McDonagh, J., Perception of marginality and peripherality in an Irish rural context, *Quaest. Geogr.*, 2016, vol. 35, no. 4, pp. 93–105. <https://doi.org/10.1515/quageo-2016-0037>
- Mints, A.A. and Preobrazhenskii, V.S., Place function and its change, *Izv. Akad. Nauk SSSR, Ser. Geogr.*, 1970, no. 6, pp. 118–131.
- Morachevskaya, K., Karpenko, M., and Sebentsov, A., Border divergence or convergence in the context of integration: A case study of the Russian-Belarusian and Russian-Kazakhstan borderlands, *Hung. Geogr. Bull.*, 2022, vol. 71, no. 1, pp. 39–53.
- Moroshkina, M.V., Study of regional differences in the pace of socioeconomic development, *Reg. Ekon.: Teor. Prakt.*, 2008, no. 6, pp. 29–34.
- Ozem, G.Z., Border position as a factor in the socioeconomic development of rural areas, *Reg. Issled.*, 2004, vol. 3, no. 1, pp. 48–54.
- Pavlov, K.V., Economic core of a region: Essence, composition and structure, *Izv. Ross. Akad. Nauk, Ser. Geogr.*, 2005, no. 6, pp. 17–25.
- Perrons, D., Regional models and peripherality: Modeling development in the remote region of the European Union, *Proceedings of the Conference on the Outermost Regions of the EU*, Brussels, 2006.
- Pfoser, A., Nested peripheralisation: Remarking the East-West border in the Russian-Estonian borderland, *East Eur. Politics Soc. Cult.*, 2017, vol. 31, no. 1, pp. 26–43. <https://doi.org/10.1177/0888325416665157>
- Ratti, R., Spatial and economic effect of frontiers. Overview of traditional and new approaches and theories of border area development, in *Theory and Practice of Transborder Cooperation*, Ratti, R. and Reichman, S., Eds., Switzerland: Bellinzona, 1993.
- Rodoman, B.B., “Polarized landscape”: Half a century later, *Reg. Res. Russ.*, 2021, vol. 11, pp. 315–326. <https://doi.org/10.1134/S2079970521030102>
- Rokkan, S., *Economy, Territory, Identity*, Beverly Hills: Sage, 1983, Schürmann, C. and Talaat, A., *Towards a European Peripherality Index. Final Report for General Directorate XVI Regional Policy of the European Commission*, Dortmund, 2000.
- Shuvalov, V.E., The concept of the border and the effect of borderland factor and their place in economic and geographical research, *Cand. Sci. (Geogr.) Dissertation*, Moscow: Moscow State Univ., 1980.
- Shuvalov, V.E., Geographical boundaries as a factor in region formation, *Sov. Geogr.*, 1983, vol. 24, no. 1, pp. 59–63.
- Shuvalov, V.E., Functions of borders and delimitation of the basic concepts of theoretical limology, *Reg. Res. Russ.*, 2023, vol. 13, no. 4, pp. 646–650.
- Sohn, C., Modelling cross-border integration: The role of borders as a resource, *Geopolitics*, 2014, vol. 19, no. 3, pp. 587–608. <https://doi.org/10.1080/14650045.2014.913029>
- Turovsky, R.F., *Tsentri i regiony: problemy politicheskikh otnoshenii* (Center and Regions: Problems of Political Relations), Moscow: Vyssh. Shk. Ekon., 2006.
- Wojcik, M., Dmochowska-Dudek, K., Jeziorska-Biel, P., and Tobiasz-Lis, P., Understanding strategies for overcoming peripherality: A Polish experience of transition, *Bull. Geogr. Socio-Econ. Ser.*, 2018, vol. 40, pp. 173–192. <https://doi.org/10.2478/bog-2018-0022>