ИСТОРИЯ ТРАНСПОРТНОЙ ГЕОГРАФИИ И ИССЛЕДОВАНИЙ В ЭТОЙ ОБЛАСТИ

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Аннотация: *В данной статье основное внимание уделяется возникновению и развитию географии транспорта, научно-исследовательским работам, связанным с этой областью, и их уникальности, а также подходам географов, внесших свой вклад в развитие этой области.*

Ключевые слова: *транспортная география, иерархическая модель, транспортные системы, транспортная мощность, плотность движения, транспортный поток.*

HISTORY OF TRANSPORT GEOGRAPHY AND RESEARCHES ON THE FIELD

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Annotation: This article focuses on the appearance and development of transport geography, the scientific researches related to this field and their unique features, and the approaches of geographers who contributed to the development of the field.

Key words: *transport geography, hierarchical model, transport systems, transport throughput, transport density, transport flow.*

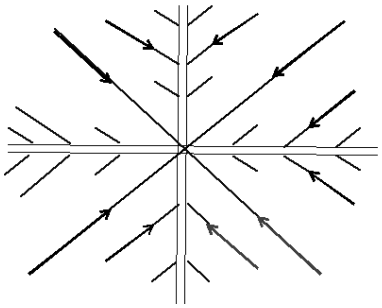
When considering any scientific issue, the appearance of this field, the stages of development, and the analysis of researches, published scientific works and articles in the direction of the field can be considered as a main factor for a deep learning with the studied object.

Transport geography, which is part of the network of economic and social geographical sciences and whose importance is increasing in recent years with urbanization, population growth, establishment of new settlements, construction of industrial enterprises, development of mineral territories, the establishment of numerous objects of social sphere, activeness of integration processes, also has its own history.

Transport geography is a branch of economic geography, a science that studies transport-geographical processes, transport systems, features of the location of them and the level of transport provision. The object of this science is the study of regional and territorial transport systems, transport flows, the distribution of special types of transport, the impact of transport processes on the development of the national economy from a regional point of view.

The term transport geography was introduced to the science in 1888 by the German scientist Götz. In most of the scientific literature, the beginning of modern transport geography is considered being associated with the researches of I. Kohl, A. Gettner, L. Lalanne and F. Ratsel.

After his visit to Russia, Johann Georg Kohl published a book entitled «**Transportation and settlement of people and their dependence on surface terrain**» and put forward the theory, on the example of Moscow, that the future development of the city would be based on the expense of skyscrapers and underground commercial centers. I. Kohl is considered the founder of the hierarchical transport model (illustration 1).



1. Hierarchical transport model by I. Kohl

Hierarchical transport model is a hierarchical organization of transport systems, which allows modeling the flow of transport activities, evaluating various options for the development of transport infrastructure and optimizing the operation of transport systems. Based on the importance of roads, I. Kohl divides them into 3 levels:

1. Roads of local importance connecting cities at the local level with the capital;

2. Roads of provincial significance that serve to connect cities in provinces or territories;

3. District roads connecting small and medium-sized cities and other settlements.

Léon Lalanne is another scientist who conducted significant research in this field, and in 1863 he proposed a cartographic method model for studying the density of transport networks.

Léon Lalanne analyzed the interrelationship of urban networks and the development of transport networks in national railways emerging in Europe and the United States, and stated that up to 6 or 12 transport routes should depart from each city, and these routes would create a triangular network of roads around the city center, which in turn would set the stage for a hexagonal network of roads.

Another scientist, Alfred Gettner, defined that the geographical structure of transport objects consisted in different parts of the globe.

At the same time, scientists such as K. Dove (1905) and K. Gassert (1913) calculated the density of transport networks in different countries, as well as studied the direction and size of traffic flows, taking into account transport capacity. Another

German scientist, professor of the University of Leipzig, Friedrich Ratzel, also had an indirect reference to the geography of transport.

In 1930-50, the American school of transport geography (E. Ullman, E. Taafe) was formed. E.Ulman shows the main purpose of transport geography by studying the direction and traffic flows of transport connections between different regions, the influence of natural conditions on the appearance and operation of transport systems, the place of transport in the development of the economy of the country and regions.

In the 1960s and 1970s, territorial analysis methods were used in the study of regional transport systems. In the 1980s and 1990s, a field called the geography of social transport emerged in the United States and Western Europe.

S.V. Bernstein-Kogan, L.I. Vasilevsky, I.V. Nikolsky, N. N. Kazansky, S.B. Shlichter, S.A. Tarkhov, V.N. Bugromenko, B.L. Radnaev and G.A. Goltz can be listed as examples of famous scientists who carried out considerable researches in this branch in the Former Soviet Union and modern Russia.

Igor Vladimirovich Nikolsky developed theories and methodologies of economic geography (including transport geography) and socio-economic cartography between 1930 and 1960. He also authored the first textbook on transport geography in the former Soviet Union. Furthermore, The scientist prepared about 20 scientific works and instruction books related to this field.

Currently, in the Russian Federation, valuable scientific works based on transport geography are being written by S.A. Tarkhov. The scientific researches of the scientist are mainly related to the configuration of transport networks, their topology and evolution, the history of railways and public transport in Russia and other countries, the history of administrative-territorial division of Russia, and the study of transport geography. The scientist is the author of more than 200 scientific and public works (including more than 15 monographs). The scientific studies carried out by the scientist in the Former Soviet Union and the Russian Federation in the field of transport geography and the analysis of scientific literature are noteworthy. He proposes to divide the research conducted in this field into 4 classifications:

1. General and theoretical works;

2. The connection of transport with other territorial systems;

3. Comprehensive coverage of regional, interstate and international transport systems;

4. Geographical studies on specific types of transport.

S.A.Tarkhov also studied the evolutionary morphology of transport networks (2005). Polish scientists M. Potrykovskiy (1984), R. Romanskiy (2005) also conducted some researches on regional transport geography and its theory in their studies. I.V. Nikolsky (1978) founded the study of transport geography in the CIS countries, S.B. Shlichter studied the transport's factor of regional integration (1999), V.N. Bugromenko studied the role of transport in regional systems (1987), M.I. Galitsky, S. K.Danilov, A.I.Korneev studied the economic geography of transport (1965), N.F.Golikov studied infrastructural geography (1984), N.N.Kazansky studied the regional organization of communication routes (1980), and N.P.Kayuchkin can be described as the scientist who studied the geographical foundations of internalisation of the region in terms of transport (2003).

Moreover, "The Geography of Transport Systems" co-authored by Professor Jean-Paul Rodriguez of Hofstra University, Claude Comtois, Professor of the University of Montreal, Canada, and Brian Slack, Professor of Concordia University, Canada, provides extensive information on the basic concepts, methods, and the fields related to the application of the geography of transportation systems. Intended primarily for an undergraduate audience, it provides an overview of regional aspects of transport and focuses on how passenger and freight mobility are related to geography. The book is divided into ten chapters, each covering a specific conceptual dimension, including networks, modes, terminals, freight, urban transport and environmental impact, and is updated with the latest information.

With more than 160 up-to-date photos, figures, and maps, it presents transportation systems geography, transportation systems at a variety of scales, from global to local, and focuses on different environments such as North America, Europe, and East Asia.

Dr. Rodríguez's scientific interests primarily cover the areas of transportation and economics, because they are related to logistics and global freight distribution. Specific topics which he published widely include maritime transport systems and logistics, global supply chains, gateways and transport corridors.

Besides, in 2023, the article by the author published in the scientific journal MDPI titled "**The Role of Transportation Systems in the Development of More Sustainable Mobility**" discusses the transportation decarbonization, mobility as a service (MaaS), planning and management of public and urban transportation, shared mobility, micromobility, delivery to first- and last-mile, electric vehicles, battery-powered vehicles, hydrogen vehicles, rural and suburban transportation planning, and competent transportation services.

Fabio Borghetti is a post-doctoral researcher at Politecnico di Milano (Italy) in the School of Environmental and Land Management Engineering, whose main speciality is based on the assessment and evaluation related to the transport of dangerous goods, safety in road and rail tunnels, vulnerability and resilience of transport networks after relevant events, and the management in the transportation emergency. In addition, he participates in scientific research on the planning and optimization of transportation systems for people and goods.

Although more than 50 scientific works related to this field were published in Uzbekistan during the period between 1976 and 1990, most of them were associated with the topics such as economy, industry, transport, road construction, which means there are almost no scientific works directly related to the transport geography. Among these works, Sh.Sh. Rizaev's "**Modeling of Traffic Flows in Road Traffic Management**" published in 1976, Z.S. Abrorov's "**State and Development Possibilities of Uzbekistan's Road Transport**", "**Development of Uzbekistan-USS Transport**" published in 1978 by U. Tokhtakhanov, "The role of road transport in the development of agriculture" by D.T. Ruziev and G.M. Kasimov published in 1982, and M. Belenkiy's "**Important network of Uzbekistan's transport economy**" in 1984 can be mentioned as examples.

What's more, many scientists have conducted scientific research based on this topic. In this field, some studies have been carried out in our country, Uzbekistan. In particular, the scientific studies on the transport system in Uzbekistan were carried out in some researches, for example, "**Transport of Uzbekistan**" (1961) by S.M. Khodjaev, "**The development of road transport in Karakalpakstan**" by R.V. Nabiev (1964), "**Issues of the complex development of transport in the Tashkent district**" by M.N. Adilov (1964), "**Economic problems of the development and location of the transport network of Uzbekistan**" by D.I. Mengeldin (1971), "**Economic problems of the development and location of road transport in Uzbekistan**" by P.Kh. Makhmudov (1973) can be described as the scientific works carried out by such scientists.

The researches carried out during the years of independence (1990s) include "**The role and importance of the transport factor in the development and placement of production forces**" written by I.S.Ramazonova (1997), "**Economic reforms in railway transport**" by K.U.Uldjabaev (1999), "**Organization of freight in automobile transport**" by E.Karimov (2002), "**Geographic aspects of the development of Fergana Valley transport**" by A. Isaev (2009), "**Territorial organization and improvement of Uzbekistan's transport system**" by Z.K. Usmanov (2020).

As can be seen according to abovementioned statements, many scientific works have been carried out and thoroughly analyzed by foreign scientists in the field of transport geography. Additionally, scientific researches in this branch still continue being conducted today. There are only a few works done in this field in our country, Uzbekistan, and the existing ones are not related to a specific economic region or administrative-territorial area (***A. Isaev's scientific work in the Fergana Valley is an exception***). Based on this, there is a need and necessity for a comprehensive analysis of the specific characteristics of the development of the transport system involving a specific region (or country, district, economic district). As it were, the smaller and more specific the studied area is, the more thorough and perfect the study will be.

References:

1. Аброров З. С. Состояние и перспективы развития автотранспорта в Узбекистане. (Обзор). Т., УзН И И Н ТИ , 1977 (6) 31 с. с табл. (Науч.-исслед. ин-т науч.-техн. информации и техн.-экон. исследований Госплана У зС С Р).— Список лит.: с. 30 (14 назв.)— 20 см. 350 экз. 16 к.— [77-1879] п/оп

2.Баранский Н.Н. Экономическая география. Экономическая картография. М.: Географгиз, 1956.-С.168.

3. Бакланова Я. П и Шувалова В.Е Социально – экономическая география России. Владивосток. «Дальнаука», 2016. – С.61-69.

4. Беленький М. Транспорт Узбекистана — в ажная отрасль экономики.— Т.: о-во «Знание» УзССР, 1984.—27 с.; 21 см. — (В помощь лектору / О-во «Знание» УзССР. Эконом ика).— Б. ц. 500 экз.— [84-1975] и оп

5. Бугроменко В.Н. Транспорт в территориальных системах. М.: Наука, 1987. – С.111-112.

6. Голиков Н.Ф. География инфраструктуры. -К.1984. С.122.

7. Jean-Paul Rodrigue, Claude Comtois and Brian Slack The Geography of Transport Systems. - Taylor & Francis e-Library, 2006. 297

8. Isayev A.A. “Transport geografiyasi” Toshkent. «MUMTOZ SO‘Z» 2019. 152

9. Казанский Н.Н., Варламов В.С., Ганкин М.Х и др. География путей сообшения. -М.: Транспорт, 1980. –С.223.

10. Каючкин Н.П. Географические основы транспортного освоения территории.– Новосибирск: Наука, 2003.–С.166.

11. Каримов Э. Автомобилларда юк ташиш ва уни ташкил қилиш.-Т.: 2002.-Б.234.

12. Коль И.Г. Москва 1837-1841. Записки путешественника. М.: Русская жизнь, 2005, С.311

13. Лаланн Л. Очерк теории железнодорожных сетей, основанной на наблюдении фактов и основных законов, определяющих сгущения населения //

Шупер В.А. Самоорганизация городского расселения. Приложение. — М.: Российский открытый университет, 1995.— С. 5-9.

14. Маҳаммадалиев, Р. Й., & Ниязов, А. А. (2021). Ўзбекистон Республикаси темир йўл транспортининг ривожланиши тарихи ва истиқболи. Academic research in educational, 2(2), 707-720. https://doi.org/10.24411/2181-1385-2021-00255

15. Набиев Р.В. Развитие автодорожного транспорта в Каракалпакии. Автореф.дисс.канд.эконом.наук.-Т.,1964.-С.19.

16. Никольский И.В., Самойленко З.В. О картографической оценке транспортного обслуживания территории // Оценочные карты природы, населения и хозяйства. – М.: МГУ, 1973. – С.193-199

17. Ниязов, А. А. (2021). Транспорт тизими – географик тадқиқотлар объекти сифатида. Academic Research in Educational Sciences, 2(1), 837-844.

18. Ратцель Ф. Политическая география (в изложении Л. Синицкого) // Геополитика: Хрестоматия / сост. Б. А. Исаев. СПб.: Питер, 2007. С.15-36.

19. Рамазонова И. С. Транспортный фактор в развитии и размещении производительных сил Узбекистана (на пример Ташкентского региона). Автореф. дисс. канд.экон.наук.-Т., 1997. С.23.

20. Ризаев Ш. Ш. Моделирование транспортных потоков в задачах управления дорожным движением. (05.13.01). Т., 1976. 18 с. с и л . (АН УзССР. Сов ет по упр., автом атик е и вычислит, технике Отд-ния механики и процессов упр.) — [76-1070] оп

21. Рузиев Д. Т., Касымов Г. М. Роль автомобильного тр ан спорта в развитии сельского хозяйства Узбекистана.— Т.: Фан, 1981.— 104 с.-; 21 см.— В надзаг.: Ташк. автомоб.-дор. ин-т. Библиогр.: с. 102-103.— 1 р. 1.000 экз.— [82-54] п

22. Тархов С.А. Эволюционная морфология транспортных сетей. – Смоленск – М.: Универсум, 2005. –С.382.

23. Тархов С.А., Семина И.А. География транспорта как отраслевая географическая наука // Актуальные проблемы географии и геоэкологии. 2009. Вып. 1 (5). URL: http://geoeko.mrsu.ru/2009—1/pdf/12_Tarhov.pdf.

24. Тархов С.А., Шлихтер С.Б. География транспортных систем: курс лекций. -М., 1995. – С.12.

25. Taylor Z. The diffusion of railway network in Poland as a space-time process // Geographia Polonica. 1984. - nr. 50. -P.75

26.Тўхтахонов У. Ўзбекистон ССР транспортининг ривожи.— Т.: «Ўзбекистон», 1978.—24 б.; 20 см.— (Фан ҳақида суҳбатлар; № 34).— 4 т. 6.423 экз.— [78-2251] п Тохтаханов У. Развитие транспорта в Узбекской Республике.

27.Ульман Э.География транспорта// Американская география: Современное состояние и перспективы. – М.: изд-во иностранной литературы, 1957, С.301, 321.

28.Ульджабаев К.У.Экономическая реформа на железнодорожном транспорте. - Т.: Мехнат,1999. с.39.

29. Usmanov Z.K. O’zbekiston transport tizimining hududiy tashkil etilishi va uni takomillashtirish. Avtoref. Falsafa fanlari doktori (PhD). S., 2020. B-45

30. Usmanov Z.K., O’zbekistonda transport tizimining rivojlanganlik darajasi va uning hududiy xususiyatlari. O’zbekiston Geografiya jamiyati axboroti 49 jild, 2017. B.50

31. Ходжаев. С.М. Транспорт Узбекистана.- Т., 1961. С.201.

32.Шлихтер. С. Б. Транспортный фактор региональной интеграции.–М., 1999.С.63

33.Шлихтер С.Б. География мировой транспортной системы. Взаимодействие транспорта и территориальных систем хозяйства: Учебное пособие. – М.: Изд-во Московского ун-та, 1995. С.3.

34. www.wikipedia.org