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## Theory of technologies of geographical determinism in international relations

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**Abstract.** The rise of geographical determinism in the theory and practice of international relations has led to the emergence and constitution of a number of scientific spheres that determine decision-making of continental and world significance. The most well-known scientific knowledges in these areas are geopolitics, geoeconomics, and geostrategy. However,

the significance of the constitutional role of geographical determinism in the understanding and structure of international relations is not limited only to these systems of knowledge. Due to the use of geographical determinism technologies, state actors get additional opportunities to win the competition for the priority implementation of national interests in the international arena. Therefore, the development of the theory of technologies of geographical determinism is an attempt, firstly, to integrate particular theories of international relations based on geographical determinism, within the framework of a broad perspective of a universalizing vision, and secondly, to rethink international relations simultaneously based on geographical determinism and a technological approach. Increasing responsibility in the field of decision-making on the world stage in the context of new security challenges gives special importance to the development of the theory of technologies of geographical determinism. This theory provides a large scale for critical theoretical and practical understanding of international relations in the modern world, rehabilitates geography as a factor context of social relations in political and economic dimensions on the world stage, allows you to think and act geographically and technologically, that is, contextually and effectively. Geographical determinism is as multifaceted as the spaces in which international relations operate are heterogeneous. Technologies can strengthen or weaken it. Each state seeks to use geographical determinism to its advantage with the help of technologies and at the same time neutralize its negative impact on the implementation of national interests on the world stage. Technologies enable states to act effectively to achieve their goals. However, only taking into account geographical determinism this strategy can be effective and guarantee a secure future. Authors argue that Russia's neoimperialist geoeconomic technologies with an emphasis on energy carriers and underestimation of the importance of geographical determinism by European governments have created unprecedented problems for European countries in the field of energy and economic security. The theory of technologies of geographical determinism in international relations allowed authors to identify a number of technologies that have shown their efficiency in various geographical dimensions. They distinguish these technologies based on the specifics of various types of spaces as environments for deploying effective activities to realize the national interests of states in the international arena. Physical space allowed to distinguish technologies of land, sea, air and space. These are telurocratic, thalassocratic, aerocratic, and astrocratic technologies. The political space allowed to highlight geopolitical technologies. The economic space has become the basis for identifying and understanding various geoeconomic and geofinancial technologies. The cultural space served as the basis for the analysis of geocultural technologies. The strategic space allowed to consider geostrategic technologies, defining the technology of allied binding as the leading one. The space of imaginary geographical space made it possible to understand geopolitical propaganda technologies.

**Keywords:** *theory, technologies, international relations, geographical determinism, geopolitics, geoculture, geoeconomics, geofinance, imaginary geography, national interests, efficiency, security.*

## Теорія технологій географічного детермінізму в міжнародних відносинах

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**Анотація.** Піднесення географічного детермінізму в теорії та практиці міжнародних відносин призвело до виникнення та конститування низки наукових сфер, які визначають прийняття рішень континентального та світового значення. Найбільш відомими із таких сфер наукового знання є геополітика, геоэкономика та геостратегія. Але значущість конституюючої ролі географічного детермінізму в осмисленні та будові міжнародних відносин не обмежується лише вказаними системами знання. Завдяки використанню технологій географічного детермінізму державні актори отримують додаткові можливості для перемоги в конкурентній боротьбі за пріоритетну реалізацію національних інтересів на міжнародній арені. Тому розробка теорії технологій географічного детермінізму є спробою, по-перше, інтеграції окремих теорій міжнародних відносин, що базуються на географічному детермінізмі, в рамках широкої перспективи універсалізуючої візії, по-друге, переосмислення міжнародних відносин одночасно на основі географічного детермінізму та технологічного підходу. Підвищення відповідальності у сфері прийняття рішень на світовій арені в контексті нових безпекових викликів надають особливу значущість розвитку теорії технологій географічного детермінізму. Ця теорія дає великий масштаб для критичного теоретичного та практичного осмислення міжнародних відносин в сучасному світі, реабілітує географію як факторний контекст суспільних відносин в політичному та економічному вимірах на світовій арені, дозволяє мислити та діяти географічно та технологічно, тобто контекстуально та ефективно. Географічний детермінізм є багатограним настільки, наскільки неоднорідними є простори, в яких функціонують міжнародні відносини. Він може бути посилений чи послаблений завдяки технологіям. Так, розвинуті держави прагнуть використати на свою користь географічний детермінізм за допомогою технологій та одночасно нейтралізувати його негативний вплив щодо реалізації своїх національних інтересів на світовій арені. Технології дозволяють державам діяти ефективно для втілення своїх цілей. Але лише врахування географічного детермінізму може зробити цю ефективність стратегічною та гарантувати безпечне майбутнє. Автори доводять, що неоімперіалістичні гео економічні технології Росії з акцентом на енергоносіях та недооцінка значення географічного детермінізму урядами європейських держав створили нечувані проблеми країнам Європи в галузі енергетичної та економічної безпеки. Теорія технологій географічного детермінізму в міжнародних відносинах дозволила виділити низку технологій, які виявили свою ефективність в різних географічних вимірах. Ці технології були виокремлені на основі специфіки різних типів просторів як середовищ розгортання ефективної діяльності для реалізації національних інтересів держав на міжнародній арені. Фізичний простір дозволив виділити технології суші, моря, повітря та космосу. Це телурократичні, таласократичні, аерократичні та астрократичні технології. Політичний простір уможливив розрізнення геополітичних технологій. Економічний простір став основою для виокремлення та осмислення різноманітних гео економічних та геофінансових технологій. Культурний простір слугував підставою аналізу геокультурних технологій. Стратегічний простір дозволив розглянути геостратегічні технології, визначивши технологію союзницького зв'язування як провідну. Простір уявного географічного простору уможливив осмислення геополітичних пропагандистських технологій.

*Ключові слова:* теорія, технології, міжнародні відносини, географічний детермінізм, геополітика, геокультура, геоэкономика, геофінанси, уявна географія, національні інтереси, ефективність, безпека.

## Introduction.

Geographical determinism is one of the most significant fundamental presumptions of modern international relations, which directs theoretical and practical studies of the political activity of states on the world stage. At present, geographical determinism explicitly or covertly permeates the national foreign policy doctrines of many large countries, influencing the understanding of their leadership and citizens of national interests in global and regional dimensions. The rise of geographical determinism in the theory and practice of international relations has led to the emergence and constitution of a number of scientific spheres that determine decision-making of continental and world significance. The most well-known of these areas of scientific knowledge are geopolitics, geo-economics, and geostrategy. Although, the significance of the constitutional role of geographical determinism in the understanding and structure of international relations is not limited only to these systems of knowledge. Moreover, geographical determinism affects the sphere of political and economic practice on the world stage, initiating the design and implementation of technologies as effective means of achieving national goals in the international are-

na. The fact is that in the modern world, knowledge shows its usefulness to the extent that it can be turned into technologies that are success factors and mechanisms that guarantee the greatest efficiency. Due to the use of technologies of geographical determinism, state actors get additional opportunities to win the competition for the priority implementation of national interests in the international arena. Therefore, the development of the theory of technologies of geographical determinism is an attempt, firstly, to integrate individual theories of international relations based on geographical determinism, within the framework of a broad perspective of a universalizing vision, and secondly, to revise international relations simultaneously based on geographical determinism and a technological approach. Increasing responsibility in the field of decision-making on the world stage in the context of new security challenges gives special importance to the development of the theory of technologies of geographical determinism.

**The aim of the article** is to highlight the features of the theory of technologies of geographical determinism in international relations and apply it as a methodological tool for identifying and describing the mechanisms and role of such technologies.

## Review of previous research.

Scientists who have studied or responded to geographical determinism to varying degrees can be divided into two main groups. The first group of scientists, to varying degrees and for various reasons, denies the legitimacy of geographical determinism, sometimes attaching deterministic significance to other factors. In particular, D.Acemoglu and J.Robinson criticizes geographical determinism, giving preference to institutions and the degree of their development in determining the fate of states (Acemoglu & Robinson, 2012). Geographical indeterminists include S.Hong (Hong, 2010), D.Acemoglu, J.Robinson, (Acemoglu & Robinson, 2012), M.Gilmartin (Gilmartin, 2009), A.Sluyter (Sluyter, 2003), G.Judkins, M.Smith, E.Keys (Judkins, et al., 2008) and others.

The second group is geographical determinists J. Diamond (Diamond, 1997; 2011; 2020), C.Gray (Gray, 1999), T.Marshall (Marshall, 2015), Z.Brzezinski (Brzezinski, 1997), E.Dolman (Dolman, 2005), E.Luttwak (Luttwak, 1990; 1994), P.Savona, C.Jean (Savona & Jean, 1996), M.Wigell (Wigell, 2016) and others. They continue the intellectual line of classical geographical determinists Parmenides, Aristotle, Jean Bodin, Charles Montesquieu, Henry Buckle, Alexander von Humboldt, Karl Ritter, and Friedrich Ratzel. No matter how much representatives of the second group of scientists realize to what extent their scientific concepts are based on geographical determinism, they tend to assign a significant role to space in the functioning of states, their international politics, foreign economic relations, transport and logistics projects, strategies for ensuring national interests in regional and global scale. In this connection, Colin Gray very aptly noted that «geographical influence is both everywhere yet discernibly nowhere» (Gray 1999, p.163). In his opinion, you may prefer one big geopolitical theory or not have one at all, but whether you like it or not, geography matters (Gray 1999, p.163).

It should also be recognized that it was the following statement of C.Gray that prompted us to this study: geography is «the driver of technology for tactics, logistics, and organization» (Gray, 1999, p.162).

## Research methodology.

The synthesis of geographical, deterministic and technological approaches to explaining international relations became the basis of our research. The geographical approach made it possible to understand international relations in spatial and territorial dimensions. The deterministic approach has led us to

focus our attention on deterministic factors as guiding conditions that determine the development of international relations. The technological approach made it possible to identify and describe specific technologies implemented in the field of international relations.

## Material.

The fundamental basis of the theory of technologies of geographical determinism in international relations is the idea that the spatial and territorial advantages of state-political entities mainly determine the effectiveness of technologies for regulating (constituting and changing) international relations. The specificity and potential difference of spatial and territorial preferences determines the differences between each of the technologies of geographical determinism. Such potentials are a source and resource for the efficiency of various technologies of geographical determinism in building and correcting the architecture of international relations. Obviously, the main condition for converting spatial and territorial potentials into technologies is to understand them as advantages and include them in foreign policy doctrines as tools for realizing national interests on the world stage.

One of the key concepts of the theory of technologies of geographical determinism is, of course, geographical determinism, which also received the alternative name «environmental determinism» in some works (Peet, 1985; Sullivan, 2011). A number of authors believe that the concept of geographical determinism does not interpret correctly the logic of the development of socio-political reality and is discredited by racist associations and colonialist justifications (Gilmartin, 2009, p.117). J.Diamond attempts to defend the legitimacy of geographical determinism as a scientific approach (Diamond, 1997; 2011; 2020), but not very consistently and confidently. He was criticized for this uncertainty and lack of reasoning in his position (Sluyter, 2003; Judkins, et al., 2008; Hong, 2010, p.158; Acemoglu & Robinson, 2012, p.48-54, 466-467).

Disputes about geographical determinism are mostly caused by a tendency to absolutize in the understanding of determinism. As V. Marko demonstrated, determinism has many forms from hard to weak (Marko, 2017). As a rule, to justify their theories, scientists tended to maximize the rigidity of determinism down to a metaphysical understanding of it. However, the metamodern perspective allows us to consider sometimes determinism as possibilism, when a person has a number of opportunities from which to choose and include them in their technological arsenal. We

are not bent, like some scientists, to oppose geographical, cultural, economic and political determinism, believing that all these determinants can influence if they are successfully interwoven into the technological potential of the corresponding actor. However, geographical determinism gives us the opportunity to distinguish a special type of technology that draws its efficiency from the geographical capabilities that the actor has at his disposal. It is the development and improvement of technology that gives success to actors in the confrontation on the international stage. However, geographical conditions determine their relevant design and application in the context of the spatial and territorial organization of the world.

Determinism is the dependence of an actor, person, or institution on geographical, environmental, historical, cultural, economic, or political conditions for implementing an algorithm of actions aimed at the successful achievement of a goal. At the very least, we must interpret determinism as a conscious necessity and condition for the freedom to achieve successfully our goals. As a maximum, the deterministic approach requires decision makers to see resources in determinant factors that ensure high efficiency in the application of technologies for managing social and political relations.

The technological approach to social relations allows us to structure the world as an interaction and confrontation of different practices for implementing goals. High technology efficiency allows to save resources, achieve goals in less time, less effort, and with minimal risks of failure. From this point of view, technologies are effective means of managing social and political relations.

## Results.

The synthetic application of geographical, deterministic and technological approaches allowed us to outline the contours of the theory of technologies of geographical determinism in international relations, to interpret geographically oriented effective management practices in local, regional and global dimensions as technologies of geographical determinism.

T.Marshall, a modern ardent supporter of geographical determinism in international relations, considers various geographical features to be equivalent to the dominant factors that determine people's capabilities. These dominant geographical factors include natural barriers in the form of mountains or river network connections, climate, demographics, cultural regions, and access to natural resources. T.Marshall notes that these factors can determine

various aspects of modern civilization, influence political, military, trade, transport, humanitarian, linguistic and even religious technologies and strategies (Marshall, 2016, p.1-4).

First of all, technologies of geographical determinism can be distinguished on the basis of the specifics of space as an environment for deploying effective activities for the implementation of a certain kind of public interest. Space itself is the central and constitutive concept of classical geography as a science (Merriman, 2022, p.287). Physical space allows you to highlight land, sea, air, and space technologies. These are telurocratic, thalassocratic, aerocratic, and astrocratic technologies. The political space makes it possible to implement geopolitical technologies. Urban space provides grounds for highlighting urban technologies. The economic space is a dimension for the development of various geoeconomic and geofinancial technologies. Symbolic space acts as a ground for the development of symbolic and geographical technologies. A geographically determined cultural space allows us to distinguish a variety of geocultural technologies. In the context of spatial separation, geostrategic characteristics of geographical determinism technologies primarily act as their prospective assessment. Therefore, the technologies that allow to overcome the power of other technologies for a long time are more strategic.

From a geopolitical point of view, states play a central role in implementing technologies of geographical determinism. States use such technologies to compete for power among themselves. The political and geographical paradigm, supplemented by globalizing ideas about international relations, assumes that each national unit is an integral part of the global whole. This means that the technologies of geographical determinism of one state necessarily influence the actions, reactions and counter technologies of other states. In this regard, we can talk about active and reactive technologies of geographical determinism. For example, if one state uses the export of natural resources as a technology of economic blackmail and the implementation of geopolitical goals, other states can use technologies to neutralize resource dependence against it. These may include demonopolization technologies in the form of introducing economic and legal restrictions (antimonopoly legislation). From the other hand, states can implement technologies for the development of alternative energy sources (green energy) or the development of new mineral deposits. Reactive technologies of geographical determinism are now becoming particularly important in the context of countering Russia's aggressive policy.



It should be emphasized that we see technologies of geographical determinism as new effective ways for states to gain more opportunities for development by relying on geographical determinants. From our point of view, power as a result of the action of technologies is in no way an imposed subordination and dependence. On the contrary, technological power is about building capacity to empower, overcoming old addictions, and reaching new frontiers. In other words, having more power for the state means moving forward in global competition and improving technologies for greater efficiency, thereby leading the way. In today's global world, power cannot in any way serve as a tool for restricting the spaces of life and freedom of others.

Our understanding of power as an empowerment does not mean that the governments of expansionist states do not see power as the ability to subordinate other state actors and limit their sovereignty through the use of geographical determinism technologies. Therefore, reactive technologies of geographical determinism that can resist the hegemonic intentions of such states are now at the forefront of importance. In this regard, it can be argued that now there is a confrontation between the technologies of geographical determinism of different spaces. Technological dominance in a priority space gives states control over other spaces.

Paradoxically, the maximum strategic goal of geographical determinism technologies is to overcome any geographical determinism. H.Mackinder believed that an important telurocratic technology is the railway, because it allows states to accelerate mobilization (Mackinder, 1904). Thus, modern transport technologies can overcome any obstacles to mobility, which Channel Tunnel (Eurotunnel) demonstrated by uniting the UK and France. However, the possibilities of geographical determinism technologies are not unlimited in overcoming geographical determinism. Only superpowers can allow the development of outer space, saturating it with technologies. Such technologies can be called astrocratic, since they are objectively aimed at gaining power through the development of outer space. Outer space provides the ability to control all other spaces, obtain accurate data on weapons, location, movement of the enemy, establish communication channels and coordinate accurate missile strikes on enemy targets thanks to satellite guidance systems.

One of the theorists of space geopolitics E.Dolman emphasized that astrocratic technologies (E.Dolman calls them astropolitical, because he considers them as a separate type of geopolitical means) change the political and military relations of traditional world and re-

gional states, implement control over the Global Space Network, strengthen strategic mobility, ensuring rapid redeployment of military means, effective and continuous monitoring of all fronts (Dolman, 2005, p.148). E.Dolman defines astropolitics as the study of the interaction between outer space, technology, and its impact on the development of political and military policy and strategy. He believes that the leading technology for astropolitics is one that allows space flights –rockets, satellites (Dolman, 2005, p.148). Although rather here we need to talk about a whole system of astropolitical (astrocratic) technologies.

Awareness of the importance of aerocratic technologies of geographical determinism was associated with the name of the general Giulio Douhet, who wrote the work "Command of the air" (Douhet, 1942) back in 1921. He believed that the air force was revolutionary because it operated in a third dimension, not limited by geography. The speed, ubiquity, and offensive power of aircraft gives them an advantage over ground forces. G.Douhet understood that achieving air supremacy was not the end itself, but a means that allowed the Air Force to fulfill its main task-to suppress the Will and ability of the enemy to wage war (Meilinger, 2000, pp. 9-10). In the late 1980s, aerocratic technologies were supplemented and enhanced by electronic communication technologies. With GPS and computers, controlling territories has become easy and cheap. GPS allows to target accurately missiles and bombers at a specific building, even at a specific part of the building, at a distance of 1,500 to 3,000 kilometers from the launch pad or mobile launch vehicle. GPS technology used in cruise missiles also demonstrates success in free-falling bombs targeting, a large number of which can be delivered by conventional or inconspicuous bombers.

The development of electronic communication technologies has led to the leveling of such a geographical determinant as distance. According to M.McLuhan, electronic communication technologies have turned the world into a global village. In other words, the geography of the globe of hard-to-overcome wide expanses, natural river, sea and mountain obstacles, state borders, divisions into continents and regions has shrunk to a global village (McLuhan, 1987, pp.253-254, 278). Although, this village is 'absolutely insures maximum disorder on all points' (Stearn, 1967, p.272) due to the difference in geocultures of different countries. M.McLuhan saw a threat to developed countries from backward countries. He also referred to Russia as a backward country, which, according to him, is tribalistic (McLuhan, 1987, p.350).

The idea of a global village and the prediction of M.McLuhan regarding the further development of electronic communication technologies was embodied in the existence of the Internet (McLuhan & McLuhan, 2017), which contributed to the entry of the globalization process into its active phase. As a result, it can be argued that modern international relations are determined by the integrity and unity of the world space, which includes individual spatial forms.

It should be noted that the spread of electronic communication technologies has contributed to the development of geoeconomic technologies, which sometimes include geofinancial and geologistics. Geoeconomic technologies paradoxically consolidate the national economies of the world's states and cement a new geographical division of the world into super-technological states that receive a significant part of the world's income (core countries), and dependent states that are semi-peripheral and peripheral countries. The "godfather" of geoeconomics E.Luttwak actually attributed the use of tariffs and quotas, the hidden refusal of imports in the form of collusion of customs authorities to geoeconomic technologies as fuses for the free promotion of goods across national borders, competitive development of commercially important new technologies, predatory financing of their sales at the stage of their origin and manipulation of standards that determine their use (Luttwak, 1990), support for technologically advanced companies or entire industrial production, promotion of their products and standards on the world market, introduction of explicit and hidden trade barriers to protect domestic industry and increase jobs, stimulating local processing by increasing export duties on raw materials (Luttwak, 1994). According to E.Luttwak, geoeconomics is actually the seizure of new territories by the state through the use of soft power of the economic arsenal, it is rivalry by economic methods (Luttwak, 1994, p.138-139).

In his opinion, after the Cold War, with a general fear of nuclear weapons and while maintaining special relations between Western countries, the behavior of Leading States is mainly defined by "geoeconomics" as the embodiment of "the logic of conflict in the grammar of trade" (Luttwak, 1990). Such geoeconomics will require the development of economic defense and offensive techniques aimed at the main goal –to provide the best possible employment for the largest part of their population, and if necessary, to the detriment of the population of foreign countries. According to E.Luttwak, the main difference between geoeconomics and classical geopolitics should be determined by two points. First, the great

pluralism of the modalities of world politics, among which the military-power modality ceases to preside openly. Secondly, the fact that the first states were not only subjects of the world struggle, but also formed simultaneously its field of space, which acquired subjectivity. They competed with each other, seeking to infringe on the geographical position of one in favor of the other or subordinate it. Now states will have to fight on the field of the world economy, which they do not cover: a significant part of it is formed by private, including transnational capital, whose logic may not coincide with the geoeconomic tasks of nations (Luttwak, 1990; 1994).

In the mid-1990s, Italian scientists P.Savona and C.Jean released their book 'Geoeconomics. The domain of the economic space' (Savona & Jean, 1996). They argued that geoeconomics is based not only on logic, but also on the syntax of geopolitics and geostrategy, and in a broader sense –on the entire practice of conflict situations. The difference lies in the specific "grammar" of each tool. In their opinion, geopolitical logic in a special version is used in geoeconomics: as the "logic of flows" –resource and, in particular, financial. It must work hand in hand with a more traditional geopolitical industry –geostrategy, the specifics of which consist in relying not just on the factor of military force, but above all on the reasons of territorial political logic (Savona & Jean, 1996). In fact, according to C.Jean and P.Savona, geoeconomics is a set of technologies used by states to increase the competitiveness of their own system (country) in the international arena. They divided geoeconomic technologies into two groups. P.Savona and C.Jean designated the first group with the term high-tech Colbertism. This group consists of technologies that are focused on increasing the internal competitiveness of the system-country. These are technologies of geoeconomic competition, including institutional mechanisms, intelligence, means of attracting investment through tax incentives, scientific and infrastructure design technologies, and investments in human capital. The second group of technologies is methods of economic "war" in a narrow sense: that is, methods of using "niches" of freedom of action. These are technologies of non-tariff barriers, formally legal support for their own exports, technologies of allocations for expansion and protection of their own economy with the misuse of mechanisms for international regulation of strategic embargoes in order to obtain benefits for their own enterprises (Savona & Jean, 1996).

From our point of view, geoeconomics is the spread of state power on the territory of other national and political entities through economic technologies

of geographical determinism. The technologies of active introduction of production of the sixth technological order, technologies for increasing the export of high-tech products, technologies for large-scale use of alternative and non-traditional energy sources, technologies for the development of high-tech education, glocalization technologies are important among geoeconomic technologies, that is, strengthening the position of a state in the global division of labor and income, while strengthening the geoeconomic role at the regional level.

For better understanding of geoeconomic practices M. Wigell suggested to perceive them through the prism of geoeconomic strategies (Wigell, 2016). Based on leading geoeconomic strategies, geoeconomic technologies can be developed into four groups. Neo-imperialist, neo-mercantilist, hegemonic, and liberal-institutionalist geoeconomic technologies.

Neo-imperialist geoeconomic technologies are used by states not only as a way to achieve economic goals, but also to create an informal economic empire in territories of regional proximity. With the help of neo-imperialist geoeconomic technologies, states impose various forms of economic control, forming a regional economic structure in such a way as to make the states of a particular region dependent on their own power. They used economic means, but geopolitical goal – the creation of neo-imperial relations with weaker neighbors in a certain respect and, thus, a significant restriction of their sovereignty in relation to the interests of the regional state implementing geoeconomic technologies. Neo-imperialist geoeconomic technologies include the use of economic force, coercion, imposition, and bribery. The technology of using economic force includes sanctions in the form of trade embargoes, financial blockades designed to cause real economic losses and force geoeconomically weaker states to agree with the will of the state implementing this technology (Wigell, 2016, p.142). The technology of economic coercion involves creating a conditional threat of applying such sanctions, changing the policy of a dependent state and pushing it to comply with the “recommendations” of a stronger geoeconomically state (Wigell, 2016, p.142). The technology of economic imposition is carried out in the case of a large asymmetry of geoeconomic interaction between states, when the consent of a weaker state does not require the use of either force or coercion. The technology of bribery is implemented in the form of prepaid rewards to key high-ranking officials of both the private and public sectors in neighboring countries in order to get the right solution. A striking example of

the use of the above-mentioned neo-imperialist geoeconomic technologies is Russian politics. The main component of the implementation of such technologies by Russia was the geostrategic use of its energy capacities. Russia actually considers neo-imperialist geoeconomic technologies based on manipulating the energy dependence of other states as a powerful economic means of strengthening its own geopolitical positions (Cohen, 2009; Liuhto, 2010; Stulberg, 2005). Russia uses the full range of neo-imperialist geoeconomic technologies with a particular focus on energy, including bribing politicians from a number of countries on the European continent. This clearly demonstrates that Russia is seeking to realize its political, not economic, interests through geoeconomic technologies.

Unlike neo-imperialist technologies, neo-mercantilist geoeconomic technologies are used not to implement some geopolitical project, but to achieve the goals of economic power. These technologies embody the values of foreign policy realism, which understands global political economy in terms of zero-sum competition for control of markets, technologies, and resources. States that use neo-mercantilist geoeconomic technologies define their national interests primarily in economic terms, selectively applying multilateralism with close attention to the problems of national economic security (Wigell, 2016, p.143).

The main goal of neo-mercantilist geoeconomic technologies is to maximize economic power and maximize the national economic development of the state. Neo-mercantilist geoeconomic technologies include the technology of ensuring producer dominance, the technology of strengthening industry orientation, the technology of expanding market share, the technology of restricting imports, and the technology of ensuring a sustainable surplus. The technology of ensuring producer dominance is focused on the priority of the manufacturer’s interests over the interests of consumers. The technology of strengthening industry orientation is designed to ensure the development of production capacities first for the domestic market, and then for export markets, with a special focus on strategic, high-tech industries with high added value. The technology of expanding market share increases the market share of corporations in the country due to relative profits in accordance with the expansion of their market share. Import restriction technology includes reducing import flows and foreign direct investment. The technology of ensuring a sustainable surplus is focused on the accumulation of foreign exchange reserves through a stable trade surplus and intervention in foreign exchange markets (Wigell 2016, p.143).

Due to neo-mercantilist geoeconomic technologies, the state accumulates wealth, seeks to improve the position of the country's economy in the international hierarchy in order to increase its own independence and negotiating position in the international and regional arena. However, the state that implements such technologies does not seek regional leadership and political dominance, but is geopolitically satisfied.

Unlike neo-mercantilist geoeconomic technologies, hegemonic geoeconomic technologies use economic power as a means of supporting regional leadership, usually without resorting to coercion. Unlike neo-imperialist geoeconomic technologies, hegemonic geoeconomic technologies are characterized by more diverse forms of dominance through common institutional mechanisms. They include the technology of providing private goods to neighboring states or regional public goods, which other states in the region will use free of charge, without sharing costs. Such technologies also include market strengthening technologies that provide material benefits and rewards to dependent states, such as trade facilitation, economic assistance and access to the hegemon market (Wigell, 2016, p.144-145).

The European Union (EU) implements hegemonic geoeconomic technologies in relation to neighboring countries. Without resorting to coercion, the EU uses its economic dominance to maintain hegemony towards its periphery. An important motivation is to ensure the security of the continent. Building on its significant economic structure, the EU is trying to export its policies to its neighbors –either in the form of expansion or through policies and programs. In implementing hegemonic geoeconomic technologies, the EU uses economic dominance, the dependence of the economy of neighboring countries on the internal market of the EU, the asymmetry between it and candidate countries, as well as the desire of neighboring countries for various forms of integration (Wigell 2016, p.145).

Liberal-institutionalist geoeconomic technologies are not used to achieve broader geopolitical goals, but primarily to achieve economic goals as they are. For such technologies, economic power is the ultimate goal. They include the technology of expanding interdependence and the technology of economic integration, aimed at achieving all levels of security and prosperity, realizing the national goals of the state in the field of economy and expanding multilateralism. The most striking example of a state focused on the implementation of liberal-institutionalist geoeconomic technologies is Germany (Wigell, 2016, p.145-146).

Geofinancial technologies play a special role among geoeconomic technologies. Geo finance is the main component of geoeconomics. In the field of geofinance, state sovereignty is most significantly undermined. In geofinancial terms, the state is nothing more than a recipient of capital that competes with other public, private, national and transnational entities. Therefore, the first place among geofinancial technologies is taken by technologies of reliability, trust, reputation, image, transparent legal policy and responsible administrative activities that provide guarantees of return on investment. In addition, successful geofinancial technologies of state functioning in economic crises play an important role.

A special area of power struggle in the international arena is geocultural technologies. Geoculture is a system of ideas, values, ideals, symbols, technologies, linguistic and religious traditions, and ways of interacting with the world related to a particular geographical region. Each civilization and civilization-community, each national and political entity has its own geoculture. It is very common to distinguish Western and Eastern cultures based on geographical features. Western culture is associated with the phenomena of Westernization as catching up with modernization and cultural imperialism as the imposition of a technologically and infrastructurally strong state of its culture on weak countries due to the inequality of information exchange. States in the modern world consider geoculture technologies as effective ways to spread their political, economic, and cultural influence through soft power to other territories.

Geoculture technologies have a kind of two-stage impact cycle. First, the cultural attractiveness of the state in the perception of recipients is formed, and then these recipients become supporters of the corresponding way of life and political allies. This contributes to the inflow of investment and labor to the country and its support in the international arena. The geographical determinism of geocultural technologies is particularly evident in the example of Italy's use of cultural heritage (artifacts of the Roman Empire) as a geocultural technology. An important geocultural technology is the distribution of mass consumption products that promote the culture of a particular state in the world. These are films, TV shows, books, fashionable clothes, musical works, unique food products, national cuisine establishments, alcoholic beverages, high-tech novelties of computer equipment, and mobile communication devices. Propaganda with the help of things of a certain geoculture works better than any other technology, because it acts secretly and introduces and teaches a certain way of life



according to the standards of a certain geographical area. So, the names of things from Mexican, Brazilian or Turkish TV shows often migrate to the lives of people from other continents, and McDonald's as a phenomenon has forever changed the culture of consumption around the world, not only in the field of food consumption. Promotion of certain geographical locations and regions in the tourist market is also a prominent geocultural technology that is associated with mass consumption.

Geocultural technologies also include educational exchanges. The institutionalization of this technology took place thanks to US Senator W. Fulbright in 1946, who linked its implementation with the global collective security organization, the elimination of xenophobia, cultural barriers and mutual understanding between nations (Congressional Record, 1945). It was assumed that the training of politicians, officials and promising students in foreign countries would form a new elite that would understand the policies of other states and their political culture, and the collective security system would be based on this understanding (Fulbright Act. Public Law 584; Johnson & Colligan, 1965). The technology of educational exchanges as an instrument of foreign policy is strategic in nature, since it is aimed at forming a foreign elite, which should become an ally of the state that implements this technology. It is quite clear that through such an elite, it is easier to carry out foreign policy management of weak states that do not have their own strategic plan for implementing national interests on the world stage. Because if they had their own strategic plan, it would be more difficult to manage them through a "tamed" and properly trained elite in line with other socio-cultural rules, standards and civilizational norms (Vysotskyi & Vysotska, 2020).

One of the most common geocultural technologies is the technology of creating educational and cultural centers through which influence is carried out on the foreign community. One of the first such centers was the American Cultural Center, which was opened in Germany in 1952. In turn, since 1958, Germany has been opening branches of the Goethe Institute abroad. Since 2004, China has been establishing branches of the Confucius Institute in other countries, the number of which now exceeds 540 (Vysotskyi & Vysotska, 2020).

An important geocultural technology is financing the translation of the national literature of the country implementing the geocultural impact into the national languages of the target countries. This technology has been most actively implemented by the United States

and China to spread its cultural influence around the world (Vysotskyi & Vysotska, 2020).

The largest number of geocultural technologies is implemented as the implementation of the tasks of cultural diplomacy. Geocultural technologies within the framework of cultural diplomacy include holding festivals and competitions to distribute cultural values in the target country, as well as music, sports, art and cinematic diplomacy. Cultural diplomacy as a complex of technologies is focused on bringing the cultures of peoples closer together, achieving mutual understanding and cultural consensus, and, at the same time, strengthening the cultural influence of the state and, as a result, its political and economic significance in the international arena.

Unlike geocultural technologies, which are aimed at attracting the hearts and minds of the foreign public, geostrategic technologies are associated with the control of strategic places, spaces, natural resources and paths. Accordingly, these technologies should be aimed at creating a network of alliances with large states and with leading regional states, at ensuring broad access to reputable international organizations (with the possibility of partial or full control), important trade routes, world markets, deposits of necessary minerals, strategic places, rivers, islands and seas.

As for the creation of alliances with states, it should be noted the technology of allied binding, which was pointed out by Z.Brzezinski in his book «The grand chessboard: American primacy and its geostrategic imperatives» (Brzezinski, 1997). It is carried out through the initiation of Union-treaty relations and multilateral structures in various spheres of the international community in response to existing or perceived threats. According to the Z.Brzezinski, the American hegemony in the world is actually supported by a complex system of unions and coalitions that literally entangles the whole world (Brzezinski, 1997, p.27). The North Atlantic Treaty Organization (NATO) connects the most developed and influential states in Europe with America, turning the United States into the main actor even in internal European affairs. Bilateral political and military ties with Japan link Asia's most powerful economy to the United States (Brzezinski, 1997, p.27). In addition, the United States has participated and is involved in the emergence and activities of various international organizations, in particular, the Trans-Pacific multilateral organizations, such as the Asia-Pacific Economic Cooperation forum (APEC). Various technologies of close cooperation with NATO, in particular the Partnership for Peace program, have become widespread in the former Soviet Union (Brzezinski, 1997, p.27). Also,

American geostrategic technologies have covered a global network of specialized organizations, especially international financial institutions: the International Monetary Fund (IMF) and the World Bank, whose clients are the whole world.

The successful implementation of geostrategic allied binding technology allows for other technologies that strengthen control. This is coalition-supporting technologies in the form of constant dialogue, skillful maneuvering, as well as consensus building within American-controlled relations in the field of collective security (NATO, military coalitions), economic cooperation (IMF, World Bank, APEC) and legal decision-making (International Court of Justice, international tribunal for the former Yugoslavia (ICTY)), ensuring international determination of its policy in the world.

In general, geostrategic technology of allied binding can be defined as key in managing global interdependence in the own national interests of individual states or managing global problems to strengthen power in the international arena. Some authors, in particular A. van Staden, also call the geostrategic technology of allied binding «effective multilateralism» (Staden, 2007, p.14). It can be assumed that monopolarity, bipolarity or multipolarity of international relations is associated with the implementation of geostrategic technology of allied binding. In general, we are talking about effective ways to subordinate the goals of international actors through their subordination to international organizations, which in turn act in line with the interests of a particular state (or a group of states connected by allied relations).

### **Discussion and conclusion.**

In recent decades, there has been a tendency among philosophers and scientists to underestimate spatial representations, to believe that they no longer have the same meaning as before (Kobayashi, 2007). It is important to emphasize here that proponents of imaginative geography (Said, 1979; Sharp, 2009) and critical geopolitics (Toal, 1996; Kelly, 2006), on the contrary, believe that geographical imagination and discourse about the fate of certain territories can affect international relations more than real physical geography. In fact, we can talk about a special geographical space –imaginary and discursive. International relations largely depend on this space. In particular, the importance of practical geopolitical considerations may depend on the stereotypes of the international community. In this regard, it is symptomatic that

the term “balkanization” and its connection with the Balkans, which negatively affected the entire region in the eyes of the world community, attributed to it a tendency to fragmentation of state territory and instability, although a number of peoples of the Balkan Peninsula had their own statehood before the seizure of their territories by various empires (Todorova, 2009, p.33).

International stereotypes in the imaginary and discursive geographical space have played a cruel joke on Ukraine. Since 1991, it has not been able to join either the EU or NATO, as it was considered as a zone of influence of Russia’s interests, and sometimes as a temporarily separated Russian territory (Marshall, 2015). In other words, the space of geographical discourse and imaginative geography can determine international relations more than objective geographical reality. At the same time, the imaginary and discursive geographical space can be the object of geopolitical propaganda technologies that operate with historical and ethnic images. Such geographically determined propaganda technologies in international relations are the technology of returning native lands and the technology of protecting (or reuniting) ethnic minorities living on the territory of other states. As a rule, these technologies are used by aggressive states to justify violations of international law.

As we can see, the theory of technologies of geographical determinism provides a large scale for critical theoretical and practical understanding of international relations in the modern world, rehabilitates geography as a factor space context of social relations in political and economic dimensions on the world stage, allows you to think and act geographically and technologically, in other words, contextually and effectively.

Geographical determinism is as multifaceted as the geographical spaces in which international relations operate are heterogeneous. It can be strengthened or weakened by technologies. Based on this, developed countries seek to use geographical determinism to their advantage with the help of technologies and at the same time neutralize its negative impact on the implementation of national interests on the world arena. Technologies enable states to act effectively to achieve their goals. Nevertheless, only taking into account geographical determinism can make this effectiveness strategic and guarantee a secure future. It is fair to say that Russia’s neo-imperialist geoeconomic technologies with an emphasis on energy carriers and underestimation of the importance of geographical determinism by European governments have created unprecedented problems

for European countries in the field of energy and economic security.

The theory of technologies of geographical determinism in international relations allowed us to identify a number of technologies that have shown their effectiveness in various geographical dimensions. We distinguish these technologies based on the specifics of various types of spaces as environments for deploying effective activities to realize the national interests of states in the international arena. Space is the central and constitutive concept of classical geography as a science. Physical space allowed us to distinguish technologies of land, sea,

air and space. These are telurocratic, thalassocratic, arocratic, and astrocratic technologies. The political space has made it possible to distinguish between geopolitical technologies. The economic space has become the basis for identifying and understanding various geoeconomic and geofinancial technologies. The cultural space served as the basis for the analysis of geocultural technologies. The strategic space allowed to consider geostrategic technologies, defining the technology of allied binding as the leading one. The space of imaginary geographical space made it possible to understand geopolitical propaganda technologies.

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