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Science Diplomacy in the Arctic and Antarctic

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Abstract. The article studies the phenomenon of science diplomacy with regard to the Arctic and Antarctic. These two polar regions are similar because of high importance of international scientific activity and science diplomacy based on it. Science diplomacy is understood as a kind of synthesis of scientific and political-diplomatic activities, in which state and non-state actors can take part. The conditions for science diplomacy in the Arctic and Antarctic are very different due to the history of development, legal status and established practice of international relations in these regions. The challenges faced by international scientific activity and science diplomacy in the two regions are considered. It is shown that in the Arctic and Antarctic, science diplomacy as a political tool is objectively in demand and cannot be “cancelled” due to the political context. In the current situation, science diplomacy can contribute to de-escalation of the conflict in relations between Russia and the West. At the same time, science diplomacy is not a panacea for creating international relations based on the principles of peace and cooperation. Like any political instrument, it protects national interests and not only serves to solve global problems arising in the Arctic and Antarctic.

Keywords: *Arctic, Antarctic, science diplomacy, international scientific cooperation, international relations*

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Introduction

In the modern world, the concept of science diplomacy attracts many scientists and politicians due to the fact that global development trends “narrow” all known spaces of interaction between states. On the one hand, competition for control of land territories, air, water, cyberspace, natural resources, and transport routes is intensifying; on the other hand, mechanisms of international cooperation are becoming in demand. Scientific activity is becoming increasingly involved in politics as the time between a scientific idea and production has been significantly reduced, and science has become part of the production cycle. At the same time, the impact of human activity on nature has devastating consequences and requires scientifically based solutions and technologies.

The role of scientific activity is especially pronounced in two polar regions: the Arctic and Antarctic. This is due to their special status, since international treaties have explicitly stated the need for coordinated and scientifically based human activity in all areas, primarily because of the uniqueness and vulnerability of natural-ecological complexes. In addition, no state can carry out

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scientific programs in the polar zone alone, if only because of the need to exchange data received from vast areas.

However, science serves not only as a tool for obtaining new knowledge, but also as a basis for other types of joint activities of states. In other words, science is directly involved in the political processes taking place in the two polar regions. This phenomenon is called “science diplomacy”. In a certain sense, international politics in Antarctica (and before the Ukrainian crisis — in the Arctic) served as an example for building international relations subordinated to the idea of peaceful coexistence [1, Yao J.; 2, Young O., Yang J., Zarogski A.]. What is science diplomacy, what is its specificity in the Arctic and Antarctic, what are its problems and prospects? The article is devoted to searching for answers to these questions.

What is science diplomacy

The concept of science diplomacy has not been fully established either in Russian or foreign scientific discourse. In its most general form, it refers to the interaction between diplomacy and scientific activity in order to influence other states and societies. Many researchers consider science diplomacy as a type of public diplomacy [3, Gutenev M.Yu.]. Some researchers believe that in Russia, science diplomacy as a practice has emerged since 1996 [4, Reinhardt R.O.].

The basis of science diplomacy is international scientific and technical activity, which is built for the mutual benefit of participants. Science diplomacy helps to develop general rules of interaction both in the scientific and political spheres, as well as to coordinate the interests of states [5, Ilyina I.E., Malenko S.V., Vasilyeva I.N., Rebrova T.P., p. 15]. However, the participants of science diplomacy can be both state and non-state policy actors.

There are several possible dimensions of science diplomacy as a symbiosis of science and diplomacy [6].

Firstly, “science within diplomacy”, which involves advising state authorities in order to help them make science-based decisions. For their part, scientists also begin to understand the mechanisms of political decision-making better and can convey to management the social significance of scientific projects more accurately.

Secondly, “diplomacy for science” means that diplomacy supports scientific research. This is especially important for global problems, such as studying the effects of climate change.

Thirdly, “science for diplomacy” means that scientific cooperation helps to strengthen trust in the political sphere. This phenomenon is especially evident in the activities of scientific conferences and forums.

In terms of content, science diplomacy is implemented within the framework of several approaches. Of course, it is hardly necessary to speak about them in a pure form; they are rather analytical constructs representing “ideal types.”

According to the “technical” approach, science diplomacy is a set of scientific cognitive practices that are organized according to a network principle and unite scientists from different

countries and scientific institutions. Then science diplomacy creates a mechanism of international scientific cooperation that has no political basis [7]. The cooperation of numerous scientific groups in the Arctic and Antarctic is interpreted in this way. The “technical” understanding of science diplomacy prevails among scientists-“naturalists”; it is universal in nature, but does not reflect the full potential of this phenomenon.

The second approach implies the use of science diplomacy as a political tool of the state, one of the “soft power” resources. In this case, scientific cooperation helps to create an attractive image of the state for its partners and strengthen its political status. This approach is typical for the policies of states in the Arctic and Antarctic, where scientific activity has a particularly high status, and in some cases is the only way of political self-affirmation of states.

Thus, mainly due to the development of scientific activities and the creation of the Polar Institute, Switzerland received observer status in the Arctic Council (AC) [8, Todorov A.A.]. China is rapidly increasing its political influence in the Antarctic, proving its inalienable rights not just to be there, but also to participate in the management of the continent. For this purpose, the tool of science diplomacy is used primarily. China ranks first in funding scientific activities, expecting to take leading political positions [9].

Within the third approach, science diplomacy becomes a type of public diplomacy, implying the involvement of both state and non-state political actors in the mechanisms of influence.

The use of science diplomacy as part of public diplomacy combines elements of the two previous approaches and echoes the practice of the Cold War, when science diplomacy was used to improve Russian-American relations with generally low levels of trust and cooperation in almost all other areas. It was then that the United States and the USSR established a bilateral Commission on Environmental Protection in the Arctic, and a number of experts see the usefulness of this approach in the context of a sharp deterioration in Russia-West relations after the start of the Special Military Operation in Ukraine in 2022 [7, p. 163].

Despite the obvious advantages of science diplomacy as a tool of cooperation, it should not be considered as an absolute and universal good. Like any instrument of influence in the field of international relations, science diplomacy serves the national interests of states [3, pp. 125–126]. In this capacity, it can have a destructive potential for international cooperation, since the interests of states do not coincide in everything, even within the existing cooperation. In this regard, an alternative view of the main dimensions of science diplomacy is indicative, opposed to the more common one (“science in diplomacy”, “science for diplomacy”, “diplomacy for science”). The alternative interpretation emphasizes the category of interest, linking science diplomacy to the protection of national, transboundary and global interest [10, Rogozhina K.A., p. 394].

Today, with regard to the Arctic, the concept of science diplomacy is mentioned in the government documents of the Russian Federation ¹. The importance of this area of cooperation is

¹ О стратегии научно-технологического развития Российской Федерации. Указ Президента России № 642 от 1 декабря 2016 [On the strategy of scientific and technological development of the Russian Federation. Decree of the President

emphasized by the Concept of Foreign Policy of the Russian Federation for 2023. The document states that in the conditions of destabilization of international relations, one of the Russian policy instruments will be the promotion of scientifically based, non-politicized international cooperation on the global agenda, including such areas as environmental protection and studying the consequences of climate change². Science diplomacy is an important policy tool for almost all states involved in Arctic politics.

Among international instruments, the Agreement on Enhancing International Arctic Scientific Co-operation is a striking example³. This document provides for mutual measures by the signatory states to remove various bureaucratic barriers to international cooperation, exchange of scientific data and experience, development of education, cooperation between Arctic and non-Arctic states. The agreement does not establish any restrictions, but only fixes the conditions for the broadest dialogue with the participation of both state and non-state political actors.

In Antarctica, science diplomacy as part of public diplomacy is supported by the entire Antarctic Treaty System, created around the Antarctic Treaty of 1959. The latter laid the foundation for the provision of freedom of scientific research and the maintenance of international cooperation, as well as measures for monitoring and verifying compliance with these requirements. Despite the existing disagreements on legal, political and economic issues, the Antarctic regime for a long time ensured the modernization of legal norms in response to changing circumstances and challenges, which implies the achievement of agreement and unification of approaches of states [11, Savenkov A.N., Rednikova T.V.].

In the long-term and global perspective, the demand for science diplomacy as a tool for cooperation in the Arctic and Antarctic is associated with the need to study both global problems (climate change, environmental conservation, sustainable development) and fundamental scientific questions about the origin and evolution of the planet.

Conditions for science diplomacy in the Arctic and Antarctic

The specifics of science diplomacy in the polar regions are related to the history of their development, economic and geographical conditions, the existing international legal status and the practice of interaction between states.

In economic and geographical terms, the Arctic is mainly ice-covered water. Mineral resources are located on the shelf, as well as on the land territory, which has national borders. Un-

of Russia No. 642 of December 1, 2016]. URL: <http://www.kremlin.ru/acts/bank/41449>; Kontseptsiya mezhdunarodnogo nauchno-tekhnicheskogo sotrudnichestva Rossiyskoy Federatsii. Ministerstvo nauki i vysshego obrazovaniya Rossiyskoy Federatsii [Concept of international scientific and technical cooperation of the Russian Federation. Ministry of Science and Higher Education of the Russian Federation]. URL: <https://france.mid.ru/upload/iblock/7f8/7f8aadb5de45b3a58103046d70eabef2.Pdf> (accessed 12 December 2022).

² Kontseptsiya vneshney politiki Rossiyskoy Federatsii utverzhdena Prezidentom Rossiyskoy Federatsii V.V. Putinym 31 marta 2023 [The concept of foreign policy of the Russian Federation was approved by the President of the Russian Federation V.V. Putin. March 31, 2023]. URL: <https://www.mid.ru/ru/detail-material-page/1860586/#sel=164:2:ijj,164:16:Wca> (accessed 12 December 2022).

³ Agreement on Enhancing International Arctic Scientific Cooperation. URL: <https://oarchive.arctic-council.org/handle/11374/1916> (accessed 30 December 2022).

like Antarctica, the economic development of the Arctic has already begun, since part of its spaces is a sovereign part of the coastal states. Extraction of bioresources within the Exclusive Economic Zones (EEZ) is regulated by national and partially international legislation, while in the central part of the Arctic Ocean such activities, with the exception of scientific ones, are prohibited. The basis for the legal regulation of territorial disputes and economic activities on the shelf is the 1982 UN Convention on the Law of the Sea. Military activities of coastal states are carried out in the Arctic, which imposes certain restrictions on international cooperation.

The AC plays a leading role in the international governance of Arctic policy, representing coastal states that have rights to economic activity in their areas of jurisdiction, and observer states that do not have such rights. Within the framework of the AC, international scientific activities are coordinated. The latter is the only tool for non-Arctic states to increase their political influence in the region.

Antarctica is the ice-covered continent with adjacent seas. Mineral resources are found both on Antarctica itself and in the bottom of the adjacent seas. Unlike the Arctic, economic activity on the land part is prohibited, and the extraction of biological resources in the adjacent seas is limited. The legal status of Antarctica is ensured not by treaties under the auspices of the UN, but by a special system of treaties. The main agreement, the 1959 Antarctic Treaty, does not grant sovereignty rights in Antarctica to any state and explicitly prohibits economic and military activities, allowing only scientific research and cooperation. This has led to a legal conflict between the 1982 UN Convention on the Law of the Sea, from which the right to the shelf follows, and the prohibition of sovereign rights under the 1959 Antarctic Treaty.

The situation is complicated by the fact that the 1959 Antarctic Treaty only “freezes” claims to sovereign rights, since it does not cancel states’ claims to sovereignty in Antarctica made before joining the Treaty. But the Treaty does not prohibit states from claiming sovereign rights over Antarctica. This duality of the document (neither recognizes nor denies sovereignty) creates uncertainty in the interpretation of sovereignty within the legal status of Antarctica [12, Sampaio D.]. This means that as natural reserves are depleted on a global scale, the question of sovereignty in Antarctica and the division of maritime spaces will be raised. Discussions and political processes in this direction have already been launched.

The main governing institution in Antarctica is the Consultative Meetings, but only those states, which have gained authority for their scientific research, have a casting vote. Science became an instrument of politics even before the signing of the Antarctic Treaty in 1959, when in the political struggle over the future status of Antarctica, Great Britain, Chile and Argentina pointed out the scientific inconsistency of India’s arguments to reduce its political influence [1, Yao J., p. 1009].

Thus, in Antarctica, scientific cooperation is the main sphere of activity of states, enshrined in legislation, while economic and military activities are prohibited, which creates the best conditions for science diplomacy as an instrument of state policy. Moreover, scientific activity is the only way of territorial presence in Antarctica, creating an unprecedented situation in terms of inter-

national law. At the same time, this uniqueness and the potential benefits from economic development could lead to the destruction of the legal status of Antarctica.

However, in the case of the Arctic, military and economic activities have been going on for a long time, and the development of scientific cooperation and the growing influence of science diplomacy are the result of a coordinated position of the coastal Arctic states, which was accepted by other Arctic policy actors. Behind this, there is an objective need for the involvement of science in politics to implement the concept of sustainable development of the region and preserve the extremely vulnerable natural environment.

The demand for science diplomacy in the Arctic and Antarctic is related to the fact that any human activity in remote and harsh conditions requires the development and implementation of unique high-tech technologies and huge investments, which is beyond the power of any one state. This gives rise to the need for international scientific and technical cooperation and, as a consequence, science diplomacy as a coordination mechanism.

Problems and prospects of science diplomacy in the Arctic and Antarctic

In the Arctic, science diplomacy has shown its high efficiency, and it is actively used by all Arctic policy actors as a necessary component of the development and management of the Arctic territories. Although the term itself is not necessarily present in official rhetoric, activities that fall under the concept of science diplomacy are in the doctrinal documents governing the Arctic policies of many states⁴.

Science diplomacy is of particular value for non-Arctic states that do not have direct rights to exploit Arctic shelf resources. International scientific cooperation is carried out by the most authoritative Arctic governance organization through AC working groups. Based on the recommendations of the working groups on issues of sustainable development and environmental protection, policy recommendations are made to the Council's member states in accordance with the rule of consensus. The 2017 Agreement on Enhancing International Arctic Scientific Cooperation was adopted under the auspices of the AC to create the most favorable conditions for scientific cooperation and science diplomacy.

Non-Arctic states that are good at the art of "soft power" have significantly strengthened their positions in the Arctic. Thanks to their success in scientific activity, they achieved observer status in the AC, and full members of this council (USA, Canada, Russia, Norway, Finland, Sweden, Denmark) are forced to take them into account when making political decisions. These include Japan, Germany, Great Britain, France, Switzerland. But science diplomacy as "soft power" is also relevant for the coastal Arctic states. In particular, Russian experts believe that, first of all, thanks

⁴ See: The National Strategy for the Arctic Region. October 2022. URL: <https://www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf> (accessed 25 December 2022); Looking North: the UK and the Arctic. The United Kingdom's Arctic Policy Framework. February 2023. URL: <https://www.gov.uk/government/publications/looking-north-the-uk-and-the-arctic/looking-north-the-uk-and-the-arctic-the-united-kingdoms-arctic-policy-framework> (accessed 12 March 2023).

to science diplomacy, Russia can maintain control over its vast polar territories [7, Gutenev M.Yu., Sergunin A.A., pp. 161–162].

In the Arctic, problems for the development of scientific research and science diplomacy have their own specifics related to national security interests. Spatial restrictions on scientific activity are associated with the militarization of the region, especially in the Arctic zone of the Russian Federation and the American state of Alaska. Two-thirds of the Russian Federation's nuclear arsenal is located on the Kola Peninsula; the Sever strategic command and the 14th Army Corps, with two brigades at its core, are located here. Air bases, airfields, air/missile defense and coast guard forces are located along the northern coast and on island territories. The United States has NORAD infrastructure in Alaska, which provides air/missile defense solutions together with radars and air force bases in Canada and Greenland. It is quite natural that access for scientific research in these parts of the Arctic is closed. Other Arctic coastal states are also imposing similar restrictions. Citing national security considerations, they limit access not only to spaces, but also to some scientific data, from permafrost thawing dynamics to environmental pollution parameters [13, Sergunin A., Shibata A., pp. 49–50].

National jurisdiction over the Arctic space creates another obstacle for science diplomacy — bureaucratic procedures related to the issuance of visas, permits for research by foreign scientists and organizations, and the export of samples of natural resources. These procedures can take several months, especially in case of aggravation of political contradictions between states. The aforementioned 2017 Agreement on Enhancing International Arctic Scientific Cooperation helps to overcome these difficulties⁵. It encourages states to create conditions for mutually beneficial scientific cooperation on a bilateral basis, without restricting national legislation or security interests. The advantage of the agreement is its openness and flexibility, since it implies the interaction of states with the AC, international public organizations, indigenous organizations and non-Arctic states.

In the Arctic, science diplomacy of states can also lead to aggravation of political contradictions. This is primarily due to the sovereign rights of coastal states. Such risks are more typical for relations between Arctic and non-Arctic states because of their different legal status. Non-Arctic states, without direct rights to the extraction of Arctic resources, can increase their influence only through scientific activity and science diplomacy. Therefore, when China proposed in 2017 to build a permanent scientific station in Greenland, Denmark and the United States reacted negatively. The US perceived science diplomacy as a policy to strengthen the PRC's economic influence in Greenland, and Denmark worried that Beijing would begin to support Greenland's movement for autonomy [14, Ryzhova A.V., pp. 181–182].

The aggravation of the Ukrainian crisis and the start of the Special Military Operation in 2022 led to a sharp deterioration in relations between the Russian Federation and the West. There

⁵ Agreement on Enhancing International Arctic Scientific Cooperation. URL: <https://oaarchive.arctic-council.org/handle/11374/1916> (accessed 01 February 2023).

was an effect of “spillover” of political tension into the Arctic, which until then was considered a zone of peace and cooperation. As a result, at the initiative of Western countries, scientific cooperation with the Russian Federation in the Arctic was practically paralyzed through bilateral projects with the Arctic states, as well as most international organizations, including AC working groups, the Barents Euro-Arctic Council, the International Arctic Scientific Committee, and the Network University Arctic, European Commission [15, Kornhuber K., Vinke K., Bloom E.]. The process of implementing the Agreement on Strengthening International Arctic Scientific Cooperation, which involves the conclusion of bilateral agreements, was also stopped. These steps by Western countries were artificially politicized and did not comply with the norms of international law. From a legal point of view, the activities of the Agreement are in no way limited by the emerging state of military conflict [13, Sergunin A., Shibata A., pp. 73–75]. Since the resumption of joint scientific activities at the state level is extremely difficult, only a narrow niche remains for science diplomacy — interaction at the level of professional scientific organizations and individual scientific groups or scientists.

The withdrawal of scientific cooperation with the Russian Federation caused a mixed reaction in the West, especially among representatives of scientific groups and organizations involved in specific international cooperation projects in the Arctic. This concerns projects to study weather, polar ice and permafrost melting dynamics, ocean acidification, environmental pollution, marine biodiversity, and the effects of climate change. In the field of science diplomacy, the line is drawn that the study of these global long-term processes occurring in the Arctic should not be influenced by the political situation associated with the regional security problem [16, Bisen A.; 17, Konyshchev V.]. Breaking off scientific co-operation with the Russian Federation does not meet the interests of many non-Arctic states, including India, China, and Brazil. Some of them, such as Japan and the Republic of Korea, joined the anti-Russian sanctions under strong pressure from the United States.

Under these circumstances, the conditions for resuming the activities of AC working groups and other organizations are being discussed at the expert level: with the participation of Russia, but if political conditions are met; formation/transformation of cooperation organizations without the participation of the Russian Federation; creation of new organizations with the participation of Russia and non-Arctic states that have not joined the sanctions. For example, this can be done on the basis of BRICS. The G-20 forum, where Western countries do not have an overwhelming advantage, can also contribute to restoring cooperation with Russia in the Arctic [18, Bisen A.]. Just as it happened during the Cold War, in modern international relations, science diplomacy can become a “bridge” for a return to political dialogue between Russia and the West. The Arctic and Antarctic regions, due to their specificity, can become the places where “political warming” begins.

Although scientific activity and environmental protection remain top priorities in Antarctica, which determines the high status of science diplomacy, experts believe that the situation may change. This is evidenced by the ongoing attempts to develop a regime for the exploration of Ant-

arctic resources under the auspices of the Consultative Meeting of the Parties to the Antarctic Treaty of 1959, or using the UN platform.

But even the existing legal regime in Antarctica has accumulated flaws that cause problems in regulating Antarctic policy in terms of scientific research. Due to the tendencies to “revise” the Antarctic regime towards territorial division, as well as to the evolution of the system of international law, discussions on spatial restrictions on scientific research have started. Since the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities states that Antarctica has a shelf and deep seabed areas, the 1959 Antarctic Treaty is being interpreted differently. Some insist on complete freedom of marine and continental scientific research. Others, appealing to the 1982 UN Convention on the Law of the Sea, believe that the EEZ has a permitting regime for conducting research, in accordance with Article 246 of the Convention. For example, Australia believes that only participants of the 1959 Antarctic Treaty enjoy freedom of marine research in its EEZ, although the treaty speaks of freedom of research for all states [19, Gudev P.A., pp. 49–50].

A similar problem is emerging in prospective studies of Antarctic genetic resources. The fact is that the biological resources of the Southern Ocean (especially microorganisms), due to their characteristics, are considered promising raw materials for various industries. Then a question arises that has not yet been resolved in terms of its regulation: how to combine the established principle of freedom of research, exchange of genetic data and research results, on the one hand, and the study, extraction, patenting of technologies for the purpose of extracting private commercial profit, on the other hand [19, Gudev P.A., pp. 50–51].

Another problem is related to the fact that it is not always possible to separate scientific activities to study the Antarctic resource base from exploration of reserves of these resources, which already generates interstate conflicts. Such accusations against China are made by Australia, in the conditional sector of which there are several Chinese scientific stations [9, Balakin V.I., pp. 188–189]. The other side of the problem arises from the correlation of national and international legislation. In 1994, Great Britain adopted the Antarctic Act, in which Article 6 prohibits the exploration and extraction of mineral resources except cases when permission is given by the Minister of Foreign Affairs. This creates a loophole for performing other works under the guise of scientific one [20, Irkhin I.V.].

A controversial situation has also developed around the practice of creating marine protected areas (MPAs) in the high seas, under control of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The first was the MPA in the Ross Sea, established in 2016. The problem arises due to the fact that these areas are proposed to be placed under the control of individual states. Therefore, some experts defend the critical point of view that the creation of an MPA violates the 1982 UN Convention on the Law of the Sea (Article 89), since in fact, sovereignty is established on the high seas.

The creation of MPAs is also unjustified due to the restrictions imposed on fishing, which contradicts the CCAMLR principle of economically necessary and “rational use” of biological re-

sources, consistent with the generally accepted concept of sustainable development of the UN (Goal 14.7) [19, Gudev P.A., p. 54]. The position of Russia, Japan and China, interested in fisheries, proceeds from the fact that the further introduction of MPAs with a tendency to a complete ban on fishing has no scientific justification and does not correspond to the principle of public accessibility of Arctic resources [21, Kukharev N.N., Zaitsev A.K.]. The practice of introducing MPAs has already led to the actual closure of 70% of fishing grounds [19, Gudev P.A., p. 54].

However, even in this case, there is a directly opposing interpretation of the link between the UN concept of sustainable development and the establishment of MPAs. According to this view, the rationale for establishing protected areas is consistent with the goal of conserving biodiversity and protecting the environment (Goal 14.5). Supporters of MPAs also believe that the introduced restrictions on fishing preserve Antarctica as a common heritage of humanity (global commons) [22, Brooks C., Crowder L., Osterblom H.]. Thus, opposing points of view address different subsections of the same goal 14, named in the UN concept of sustainable development.

The problems of science diplomacy as a tool of international cooperation are related to the fact that states can use it to achieve unilateral benefits. Then national interests do not necessarily coincide with the mechanisms and conditions of international cooperation. In such cases, science diplomacy acts not as a “soft power” based on attractiveness to partners, but, for example, as a means of preparing for the economic development of Antarctica in the interests of a particular state.

As an illustration, the PRC is often cited, which since the early 2000s began to rapidly develop Antarctic policy. It is believed that the impetus was Australia’s claim to sovereign rights to almost half of Antarctica’s territory. In addition, like other states, China also had in mind the prospect of developing mineral resources. Some experts believe that the assertive policy of the PRC is aimed at preparing the most advantageous positions (mastering technologies, gaining knowledge, favorable location of research bases) by the time when the issue of access to various resources of Antarctica and adjacent seas will be resolved. Russian experts believe that the main task of Chinese scientific centers is not to conduct scientific research, but to explore mineral resources on the shelf and in deep sea areas. So far, the centers are being provided with appropriate equipment and accumulating experience [23, Komleva N.A., pp. 275–276].

According to experts, the PRC currently ranks 3rd in influence after the USA and the Russian Federation and 5th in investments in scientific programs. The peculiarity of the PRC’s position is that it considers the existing restrictions on the development of resources to be temporary, and access to resources is its primary task. At the same time, Beijing views the 1959 Treaty positively, since it is beneficial for China, which is just beginning its scientific research and is interested in receiving information from states that have much more experience [9, Balakin V.I.].

Another version of the discrepancy between national and global interests is provided by the example of Chile and Argentina. Conducting active science diplomacy and cooperating in a South-South format with South Africa and Australia, they simultaneously defend their sovereign

rights in Antarctica, and prove that this does not contradict the Antarctic Treaty of 1959. For this purpose, Chile and Argentina appeal to the 1982 UN Convention on the Law of the Sea and consider that not only the seas of the Southern Ocean fall within their EEZ (with the right to develop the shelf), but they also have sovereign sectors in Antarctica. Argentina has adopted a law, in which it has established its own sovereignty in Antarctica, based on the decision of the UN Commission on the Limits of the Continental Shelf [24, Dyakova L.V.; 25, Andreev A.S.].

The Special Military Operation 2022 had a negative impact on the development of scientific cooperation. In this sense, a landmark event for Antarctic interaction was the Consultative Meeting in Berlin on May 23 – June 2, 2022, when the Ukrainian and American delegations accused the Russian Federation of aggressive policies and negative impact on the implementation of Ukrainian Antarctic activities, and then demonstratively left the meeting [26, Lukin V.V., p. 40]. The demarche was of a purely political nature, having no relation to the scientific co-operation in the Antarctic, which is what the Consultative Meeting is engaged in. Further development of this tendency could lead to a split in Antarctica, where one of the poles will be China and the Russian Federation, which, according to Western experts, will negatively affect international scientific cooperation [27, Liu N.]. This idea of opposing the PRC and Russia to the rest of the world as a source of conflict in future international relations has already been put into circulation in relation to the Arctic. At the doctrinal level, the United States considers the convergence of the Russian Federation and China as a military threat, which is enshrined in the National Strategy for the Arctic Region, published in October 2022⁶. One can only hope that the level of confrontation in the demilitarized Antarctica will not be as noticeable.

Assessing the general evolution of Antarctic policy, V.V. Lukin noted that scientific activity and the international cooperation based on it are gradually fading into the background, giving way to problems of environmental protection and climate change. Although these topics are important, in practice, some states use them to protect their political interests [28, p. 112], taking advantage of the gaps in international law. In particular, the concept of MPAs in combination with the 1982 Law of the Sea Convention is used to consolidate territorial claims despite their “freezing” by the 1959 Treaty. This became possible because the Treaty, which appeared earlier than the mentioned convention, did not define the legal status of the southern seas [11, Savenkov A.N., Rednikova T.V., p. 13]. Such conflicts are not new to international law (it is enough to recall the status of Spitsbergen and coastal waters in the Arctic), but their resolution requires mutual consent of the parties.

Conclusion

The importance of science diplomacy as a political tool is caused by the objective circumstances of global development. In this sense, it cannot be “cancelled” by political decisions. The

⁶ The National Strategy for the Arctic Region. October 2022. URL: <https://www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf> (accessed 25 December 2022).

examples of the Arctic and Antarctic are only the most vivid examples of its opportunities, problems and prospects, which can be taken into account not only in the interests of regional policy, but also in the broader context of global development. In the polar regions, due to specific conditions, a unique synthesis of science and diplomacy occurs faster than in other regions of the world.

The tasks addressed by science diplomacy in the Arctic and Antarctic are quite similar, but the specifics of the problems are related to the status and history of the development of these spaces. Whereas in the Arctic, scientific activity and science diplomacy follow the economic and military development that has begun, in the Antarctic they are still on the exclusive priority positions. However, the growing temptation of economic development of the Antarctic in the near future will probably cause a serious revision of its legal status accompanied by the “battle of sovereignties.” The question arises: to what extent can the experience of science diplomacy in the Arctic be used in the Antarctic and vice versa? Of course, talking about direct transfer is not always advisable due to the difference in conditions of the two polar regions (legal, institutional, natural-geographical, as well as development).

Despite all the differences in the conditions for using science diplomacy in the Arctic and Antarctic, there is a common problem that ultimately rests on understanding the nature of this phenomenon. The problem lies in the internal contradiction inherent in science diplomacy: the coexistence of the national-state and global dimensions in the goal-setting of this activity. There is nothing unexpected in this; however, it can be noted that insufficient attention has been paid to this aspect in the scientific literature on the nature of science diplomacy. This gives rise to the illusion of science diplomacy as an absolute good with the inevitable prospect of international cooperation. But science, involved in politics as a tool, subsequently acquires ambiguity, which is reflected in the multiple paradigms of international relations theory: neorealism, neoliberalism and globalism. Accordingly, science diplomacy can be considered both as a tool for protecting national interests, and as a path to international cooperation, and as a way to resolve global problems.

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