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Science Diplomacy's Contribution to and Exploitation of International Relations

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Abstract: Science diplomacy is a novel academic concept. This project will analyse the positive function of science diplomacy in contemporary international relations and the use of science to achieve specific foreign policy objectives. This study aims to provide insight into the role of this science in external affairs work which analyses the impact of science diplomacy through a collection of journals, papers, news articles, and literature with the use of Document analysis. Even countries with mutually antagonistic political cultures may be able to approach international issues through concentrated scientific study due to the function of science diplomacy. Using the significance of science, the foreign service can influence or even meddle in the affairs of other nations. Therefore, scientific study diplomacy permits beneficial interactions between nations and the involvement of technologically and technologically powerful countries. The selection of science diplomacy is determined by the objectives of governments and diplomatic agencies.

Keywords: science, intergovernmental organization, diplomacy, cooperation

1. Introduction

What international affairs and science have in common is the uncertainty of the future. Scientists create new technologies without a complete comprehension of their intended applications. Otto Hann and Lise Meitner, two scientists, could not have foreseen that their 1938 discovery of nuclear fission in Berlin would result in the devastation of Hiroshima and Nagasaki seven years later. Diplomats are responsible for resolving global issues and protecting the security and interests of their respective nations. However, from the viewpoint of a diplomat, they cannot wholly forecast whether their plans and actions will address the problems facing their country. For instance, the appeasement promoted by Prime Minister Chamberlain and his Foreign Office did not result in fewer British losses during Hitler's invasion of the Nazi forces. However, the similarities between the two in the future demonstrate that science and diplomacy share features and interact. This paper will provide a rational analysis of the function of scientific diplomacy, which will proverb that science and diplomacy may complement one another, offering mutual advantages and facilitating global progress.

2. Diplomatic Connections Can Influence the Development of Science

The association of international affairs and diplomatic cooperation supports the advancement of science and technology worldwide. Scientific cooperation across borders is an essential connection

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to A Community of Shared Future for Humankind. To attain this objective in the future, the diplomatic services of each nation must take the appropriate steps to foster the growth of international scientific exchanges and advance academic achievement. Even in challenging geopolitical environments, scientists have a long history of maintaining contact with their international colleagues. With diplomatic facilities, experts from various nations may collaborate to advance research. There are historical examples of diplomacy driving scientific development. Matteo Ricci was a pioneer in the use of science as a tool of diplomacy, a model for missionaries to the Chinese Empire, and a significant influence on the development of science and technology in China. Through diplomacy in the service of science, a number of transnational cooperation organisations foster collaboration and goodwill between science and scientists from other nations. The Conseil européen pour la recherche nucléaire(CERN), also called European Organization for Nuclear Research, is an example of diplomacy in the service of science [1]. Several nations used a considerable lot of diplomacy for the advancement of research beginning in 1954, resulting in the formation of this international scientific and technology organisation [2]. A recent report shows that international relations are central to its work [3]. The Atlas is one of the most essential CERN experiments. According to the experiment's secretariat, researchers from 181 institutions and 43 nations are collaborating, making it one of the most significant scientific partnerships in the world. In the disciplines of the internet, medicine, and aerospace, CERN has aided human exploration of the planet. “Places like CERN contribute to the kind of knowledge that not only enriches humanity but also provides the wellspring of ideas that become the technologies of the future” [4]. It is impossible to deny the enormous contribution that international organisations such as CERN have made to humanity in science. However, CERN's achievement would not have been possible without the efforts of the whole European and even international diplomatic community. The success of CERN is a shred of extraordinary evidence and an example of diplomacy in the service of science.

3. The State of International Politics Restricts Scientific Advancement

However, everything is always a negative aspect, and science and diplomacy do not simply complement one another. Diplomatic limits are imposed on scientific advancement by the current global political environment. International relations may impact international scientific collaboration. At the cost of scientific objectives, diplomats prioritise so-called national interests above those of the human community. Due to the unpredictability of the future, diplomats tend to use a conservative approach to dealing with impending crises. However, conservative initiatives can guard national interests for the short term, but they are not conducive to the long-term development of science. The worldwide environment is fluid, and each country's foreign service must make decisions to protect national sovereignty and diverse economic interests. In addition to being forceful, these options also involve renunciation. These actions, which provide the appearance of global scientific collaboration, will have a significant impact on the growth of a community of human destiny and even the future of humanity. The scientific community spans boundaries and communities; scientists compete and cooperate, battling for individual and collective objectives. Due to these distinctive characteristics, science plays an exceptional role in international diplomacy and exchanges between cultural groups. In the following sections, we will examine each of the three instances in which the state impedes research and technology, political conspiracy theories impact science, and academic interchange is prohibited.

4. The Priority is the National Interest

International competition has led to a blockade of science and technology. Science and technology have become one significant indicator of the strength of comprehensive national power. Due to the

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unequal distribution of ideologies and interests, the rivalry between various nations seems to be unavoidable. Modern science and technology have a considerable impact on international relations, internal and foreign policy, as well as economic, political, educational, and cultural advancement. High technology is a critical competitive advantage, but due to the openness of scientific research, other nations can exploit it to advance their own development goals and to build their own militaries and economies. As a result, Governments and authorities naturally desire to protect science and technology since it is a crucial component of overall national power. The political issues concerning the International Space Station are an excellent example. The world's mainstream national participation in the space program has left one country out for reasons. Governments are putting new norms and constraints on international scientific collaboration, and they are contemplating themes that limit cooperation due to potential national security and defence consequences. According to James Oberg's report, the US has forbidden China from taking part in plans for the International Space Station because of concerns about Chinese rivalry in space. The US has used the issue of human rights to impede China's effort to join the space program, in contrast to the openness of the European Space Agency [5].

Political conspiracy theories frequently incorporate science and technology. Conspiracy theories even now make use of science. Science is an unambiguous target for national jockeying. When diplomacy tactics have failed to organise an adversary in order to accomplish practical results in science and technology, one strategy to impede scientific advancement is to take slow down the political conspiracy theory path. This can also be a technique to impede technological development. By implying that proponents resort to conspiracies by relying on prejudice or inadequate evidence, the public's mistrust will cause the advancement of science to slow down or even cease to exist progressively. "The importance of rigorous scientific inquiry and the engagement of scientists during health pandemics cannot be understated" [6]. During the 2019 outbreak, the US and China accused each other's virus labs of being the origin of the leak of a new coronavirus. This claim has not only dramatically enhanced the population's dread of the pandemic, but it has also gradually led to the public's mistrust of scientific institutions. According to the post from South China Moring Post: "While the world's leading scientists do not know for sure the origin of the coronavirus behind the Covid-19 pandemic, some Chinese officials and US politicians appear to know better" [7]. Evidently, officials on both sides, China and the United States, have utilised the scientific problem of the virus's origin as a weapon to attack the other government. This has deprived science of the feeling of grandeur that drives human advancement. Regardless of the position China and the United States choose on this matter, it will have a favourable impact on the virus's traceability and research.

The cessation of scientific collaboration results from the current global circumstances. International relations have an inextricable impact on international scientific organisations. Consequently, innovations that should have been developed through the partnership are destined to have an effect. A multinational coalition creates international organisations, such as CERN and other intergovernmental organisations. However, when member states of the organisation are at war, the organisation's day-to-day operations are undoubtedly affected. According to the CERN council in 2022, Russia's status as an observer state has been revoked. Russian scientific advancements were deemed "Military requirements" and excluded from studies [8]. At the same time, CERN suspended its cooperation with Joint Institute for Nuclear Research (JINR), which is a scientific organisation located in Russia [8]. By way of comparison, it is easy to see that CERN's behaviour today is inconsistent with its previous behaviour in the same historical context. During the Soviet invasions of Czechoslovakia and Afghanistan, CERN did not conduct any anti-Soviet scientific organisation campaigns. However, during the military confrontation between Russia and Ukraine, CERN took decisions comparable to those of the dignitaries of its member nations. John Ellis, a physicist who has worked at CERN for over forty years, also expressed the Council's disregard for the views of

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grassroots scientists in dealing with the Russian-Ukrainian conflict [9,10]. During the height of the Cold War, CERN maintained an open relationship with countries behind the Iron Curtain. At the same time, SESAME (Synchrotron Light for Experimental Science and Applications in the Middle East), a Jordan-based facility whose membership includes Iran, Israel, and Palestine, bridged profound political divides. It seems impossible to sustain ideal cross-border scientific collaboration in such a dynamic international environment. Compared with SESAME, "Science Diplomacy Building Bridges" is fallen [10,11].

5. Science-Academic Interaction That Takes Place Across International Borders Benefits Diplomacy

More importantly, science facilitates diplomatic contacts. Science may bridge the gap between adversarial nations through regular academic interactions. 'Nevertheless, they may become important incubators for international cooperation in a post-national world that faces ever new global problems' [12]. The required scientific collaboration will allow the regimes to establish fair diplomatic relations and build the groundwork for further future dialogue. To realise the joint growth of humanity's destiny, to maximise humanity's interests, and to give importance to the study of science, the diplomatic services of all nations must be in communication with one another, and science has, in some ways, influenced diplomacy. In a sense, science will be the beginning of diplomacy by engaging in this way. Collaboration in science to solve problems across borders and without borders, international scientific language and methods that make collaboration possible, collaboration in science to examine evidence that enables scientists to transcend ideology and build relationships, and diplomatic intervention to defuse politically explosive situations. Mt. Paektu Geoscientific Group (MPGG) The MPGG has successfully fostered research-based relationships between the regimes on the Korean peninsula. The Democratic People's Republic of Korea's consent to open a volcano on the China-DPRK border to the American Association for the Advancement of Science (AAAS) and Royal Geographical Society. The project not only "aims to understand the frequency and style of past eruptions and why a volcano of Mount Paektu's potential for cataclysmic devastation exists hundreds of kilometres west of the Ring of Fire, the Pacific Ocean–girdling seam between tectonic plates that drives much of the region's volcanism [13]", but also opening communication channels from low level to high level. The diplomatic community's participation in the programme would establish a common understanding of how to collaborate. Whether President Kim Jong Un and his counterparts will do their part to denuclearise the Korean Peninsula, the Paektu Project is an excellent beginning to connect the diplomacy between DPRK and other nations. Scientific collaboration can overcome even the most obstructive political complications. In some ways, science helps the diplomatic service to engage. The project on Mount Paektu exemplifies the value of adopting a bottom-up strategy for establishing a scientific collaboration relationship with North Korea. It is essential to recognise the scientific worth of similar initiatives and encourage and support them in order to contribute to the development of shared knowledge of how to cooperate. At the same time, larger methods should be established in order to create a framework for interdisciplinary scientific cooperation that incorporates many organizations. Expanding scientific cooperation in areas of mutual value with the DPRK would help build trust and solidify diplomatic gains. As diplomacy with the DPRK progresses, scientific collaboration should not be seen as an optional activity but as a vital feature of the expanding relationship and a consideration to be addressed by all parties when considering engagement goals. Integration of North Korean experts into the world scientific community provides substantial reciprocal advantages and should be sought with determination. There is a stage for science, and the leaders of scientific diplomacy must keep the audience interested. Just like Kistlakowsky's opinion about the scientist, who would have an important role to play in the future in the policy-making process [14].

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6. Conclusion

Foreign affairs impact the advancement of science and technology and may either advance or impede it due to the reason of national interest. Science also acts as a bridge to improve international relations. Due to its existence, communication has been able to start and grow among individuals from all walks of life worldwide. In the modern world, no single nation can solve any significant scientific challenge independently; thus, international collaboration in research and technology is essential. It is a contribution to the development and growth of all humanity. We might point to Structural Realism in International Relations Theory: International organisations have a function in non-security-related sectors, but their participation is constrained by the fact that in the field of security, Nations seek relative rather than absolute advantages, and the security conundrum cannot be addressed". The conservative behaviour of decision-makers to protect the interests of their nations is understandable. However, it is the long-term view that may make human beings' development more masculine. Above the interests of all countries is the scientific and technological development of the human community, which, this time, should be the goal that all countries protect and work together towards. In the course of human history, science has contributed far more to the advancement of human civilisation than international relations. In contrast to the result of science, which is long-lasting for the human being, international relations have been short-lived throughout human history. Diplomats' patriotism does safeguard national interests, but international relations are less significant than the growth of science as a field, considering its audience and long-term implications. Archimedes, though, was killed by the most severe kind of international relations: a total war; Archimedes' buoyancy formula has not been rendered obsolete by the evolution of international relations; it remains in use. Science has a longer-lasting effect on mankind than national interests. It is correct that diplomacy is primarily motivated by national interests. However, it is ethically untenable to disregard the millions of people in in need of improved living circumstances. The contradiction between peace promotion and the development of national strategic interests is at the core of the scientific diplomacy debate. Diplomacy and science have a symbiotic connection, and their presence should be used to promote each other rather than permitting international affairs to impede the advancement of research and so retard the continuity of human civilization. It can only be successful if scientists and science ambassadors collaborate to create partnerships with national policymakers and with public and commercial labs worldwide. Personal capacity development and science diplomacy training must foster mutual trust, respect, and comprehension. Two fields of study that at first glance seem to have nothing in common may be brought together via a skilful combination. Scientists and diplomats need to serve as each other's advisors in their respective spheres of influence. Diplomats must have a fundamental awareness of the rigours of scientific inquiry and the complexity of scientists' international affairs predicament. Collaboration between scientists and diplomats will ensure the survival of human civilisation, and scientists are truly members of the international community, often transcending national boundaries and identities.

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